

ISOTURN INSERTS



W	N	M	G
1	2	3	4

08	04	08	E	GN
5	6	7	8	9

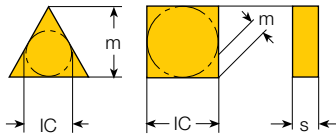
1. Shape

75°	E	80°	W
90°	S	55°	D
60°	T	35°	V
80°/100°	C	25°	Y
		55°	K
		80°	Q
			L

2. Clearance Angle

0°	N	7°	C
5°	B	11°	P
Other	O		

3. Tolerance



	m	s	IC
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
M	from ±0.08 to ±0.18 ⁽¹⁾	±0.13	from ±0.05 to ±0.13 ⁽¹⁾
U	from ±0.13 to ±0.38 ⁽¹⁾	±0.13	from ±0.08 to ±0.25 ⁽¹⁾

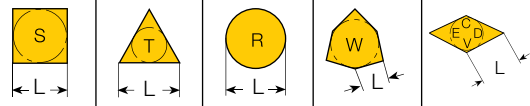
⁽¹⁾ Exact tolerance depends on insert size

IC	Tolerance in mm			
	On m		On IC	
	Class M	Class U	Class M	Class U
6.35	±0.08	±0.13	±0.05	±0.08
9.52	±0.08	±0.13	±0.05	±0.08
12.70	±0.13	±0.20	±0.08	±0.13
15.87	±0.15	±0.27	±0.10	±0.18
19.05	±0.15	±0.27	±0.10	±0.18
25.40	±0.18	±0.38	±0.13	±0.25

4. Type

A	Without chipbreaker, with hole
G	Chipbreaker on both sides, with hole
M, S	Chipbreaker on one side, with hole
R	Chipbreaker on one side, without hole
B, W	Countersink on one side, with hole
T, H	Chipbreaker on one side, with hole and countersink
P	Neg./pos. on one or both sides, with hole
Z, X	Special

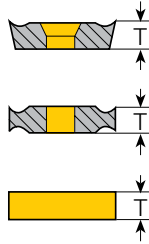
5. Cutting Edge Length



IC	mm	Symbol (L)							
		C	D	R	S	T	V	W	Q
5/32	3.97		04		03	06	06	02 ⁽¹⁾	
7/32	5.56	05				09			
1/4	6.35	06	07			11	11		
9/32	7.15						12		
	8.00			08					
3/8	9.52	09	11		09	16	16	06	09
	10.00			10					
	12.00			12					
1/2	12.70	12	15		12	22	22	08	12
5/8	15.88	16			15	27			
	16.00			16					
3/4	19.05	19			19	33		13	
	20.00			20					
	25.00			25					
1	25.40				25				

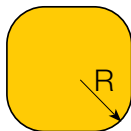
⁽¹⁾ WBM 06...

6. Thickness







- 01 = 1.59 mm
- T1 = 1.98 mm
- 02 = 2.38 mm
- 03 = 3.18 mm
- T3 = 3.97 mm
- 04 = 4.76 mm
- 06 = 6.35 mm
- 07 = 7.94 mm

7. Corner Radius



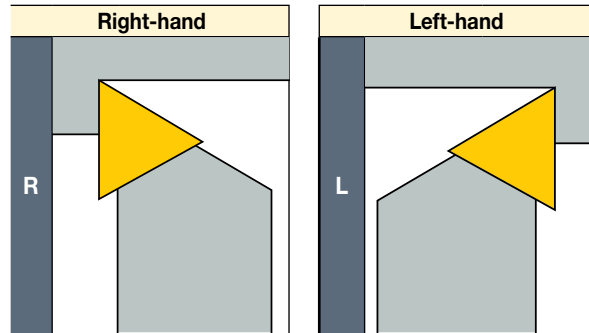
- 02 = 0.2 mm
- 04 = 0.4 mm
- 08 = 0.8 mm
- 12 = 1.2 mm
- 16 = 1.6 mm
- 20 = 2.0 mm
- 24 = 2.4 mm

8. Cutting Edge (Optional)

	F	Sharp
	E	Honed (Rounded)
	T	Chamfered (Negative Land)
	S	Chamfered + Honed

9. Chipformer Designation

SF	AS/AF	TF	NM
PF	../Z-RF/LF ⁽¹⁾	PP	TNM
NF	WF	GN	NR
SM	WG	NMS	RP
14	VL		



Selection Guide for Chipformers and Grades

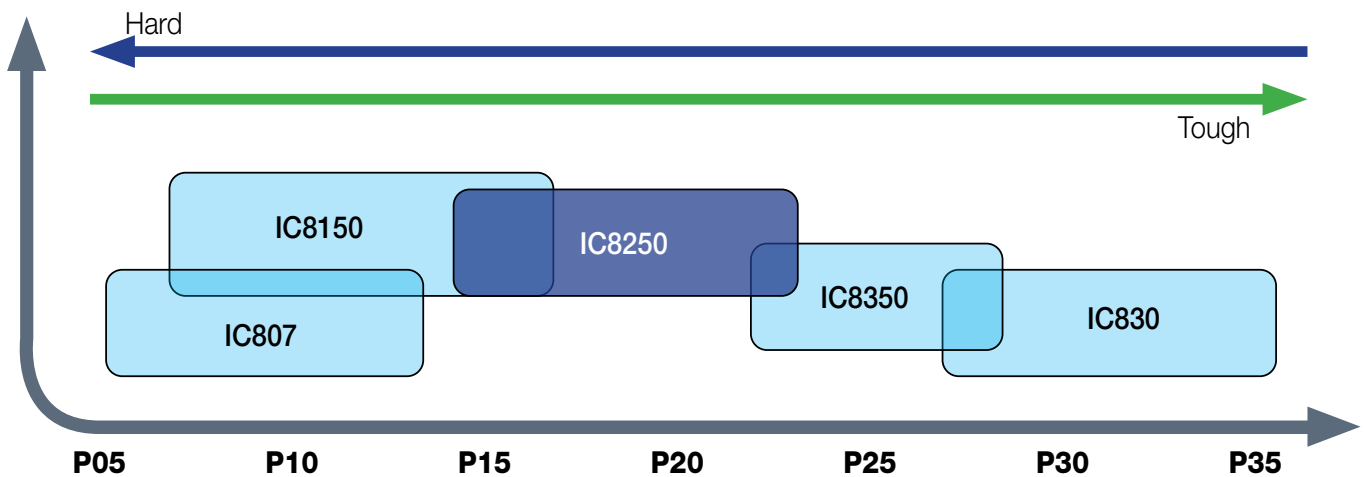
ISO P-Steel

		Finishing		Medium		Roughing		Heavy	
Negative	Tight		SF		M4PW		GN		H3P
	↑		F3P		TF		R3P		H4P
			NF		M3P		NR		H5P
	Open				GN				
					PP				

		Finishing		Medium	
Positive	Tight		F3P		SM
	↑		PF		M3P
			SM		
			14		
	Open				










■ First Choice







Recommended Carbide Grades



* For CBN and Ceramic grades for hardend steel see page (237)

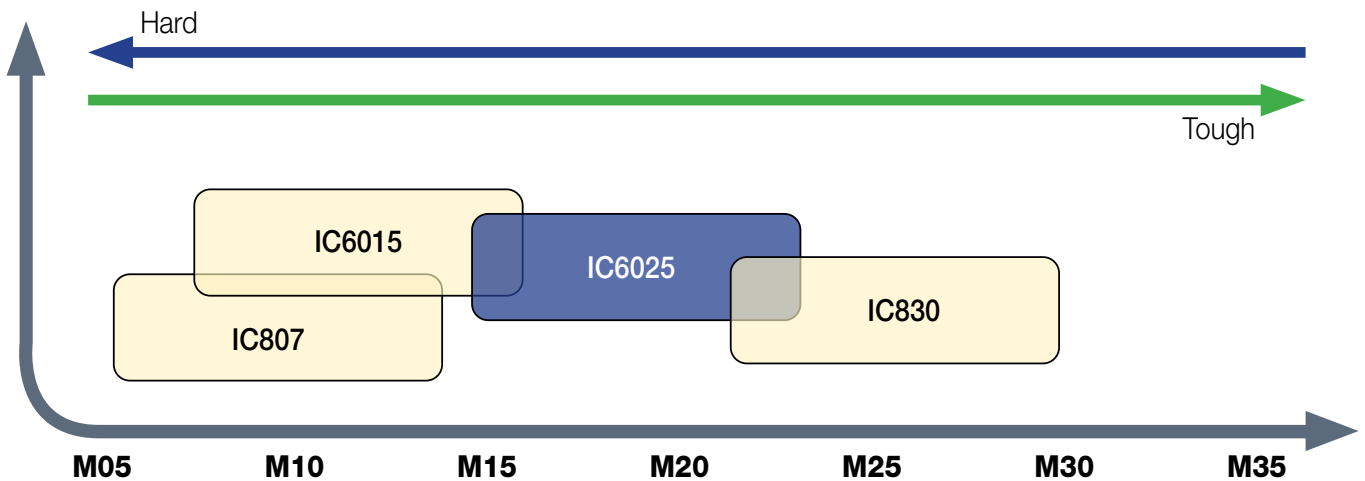
ISO M- Stainless Steel

		Finishing		Medium		Roughing	
Negative	Tight		SF		M4MW		GN
			F3M		TF		R3M
			NF		M3M		NR
	Open						

		Finishing		Medium	
Positive	Tight		SM		M3M
			PF		SM
			F3M		
	Open		14		

■ First Choice

Recommended Carbide Grades



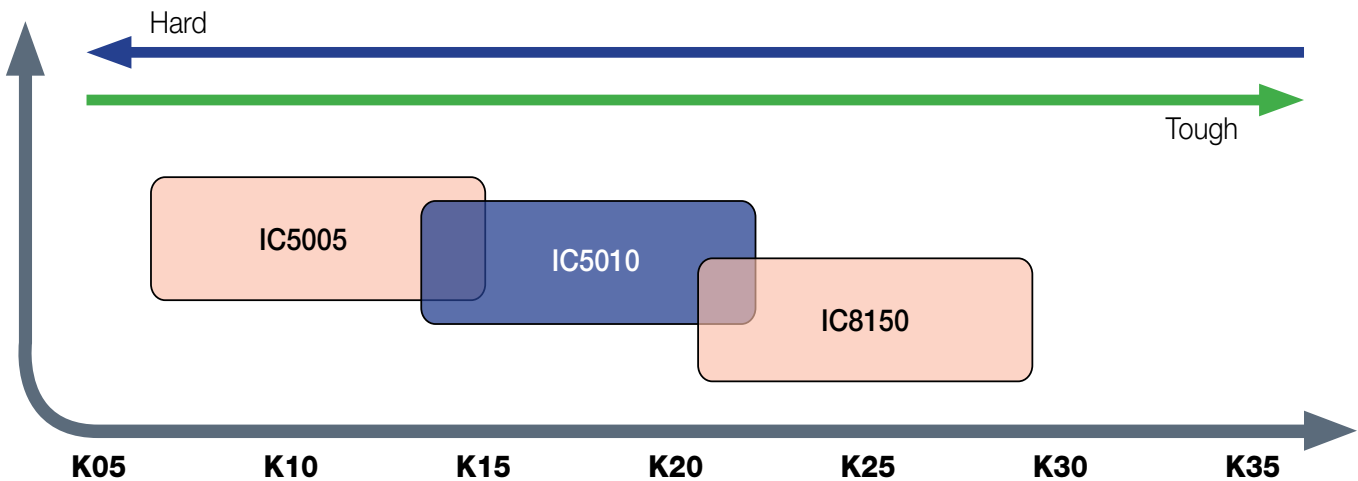
Selection Guide for Chipformers and Grades

ISO K-Cast Iron

		Finishing		Medium		Roughing	
Negative	Tight		M3P		GN		NR
	Open		GN		A		A
Positive	Tight		SM		SM		
	Open		14		14		

■ First Choice








Recommended Carbide Grades









* For CBN and Ceramic grades for hardend steel see page (237)

Selection Guide for Chipformers and Grades

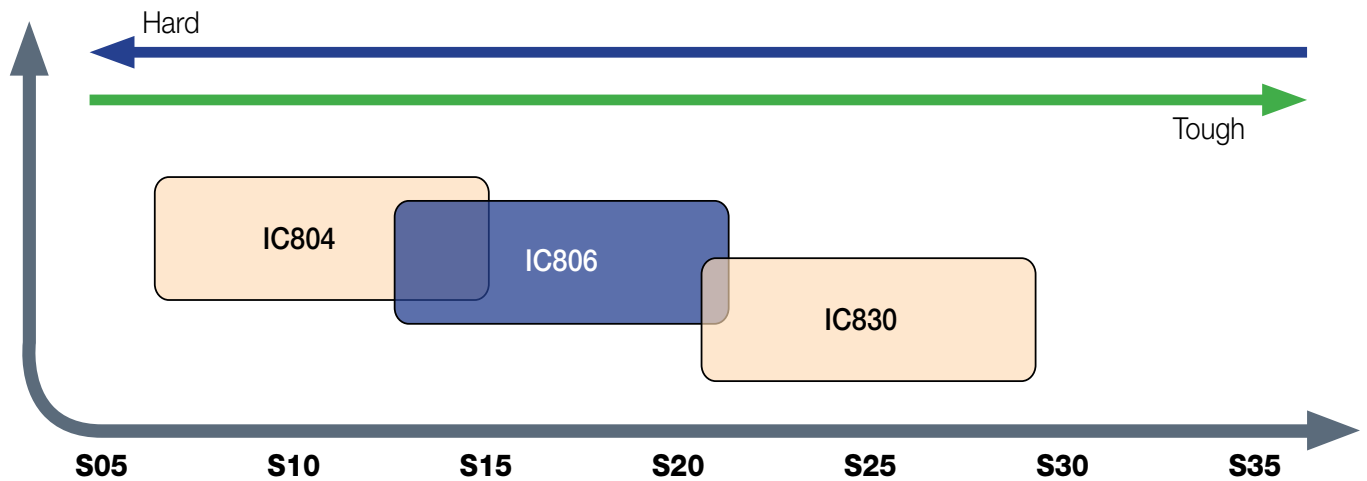
ISO S-High Temp. Alloys

		Finishing		Medium	
Negative	Tight		F3M		TF
			F3S		M3M
					EM-M
					VL
	Open				PP

		Finishing		Medium	
Positive	Tight		SM		M3M
			PF		SM
			F3M		
	Open		14		

 First Choice






Recommended Carbide Grades





* For CBN and Ceramic grades for hardend steel see page (237)

Selection Guide for Chipformers and Grades

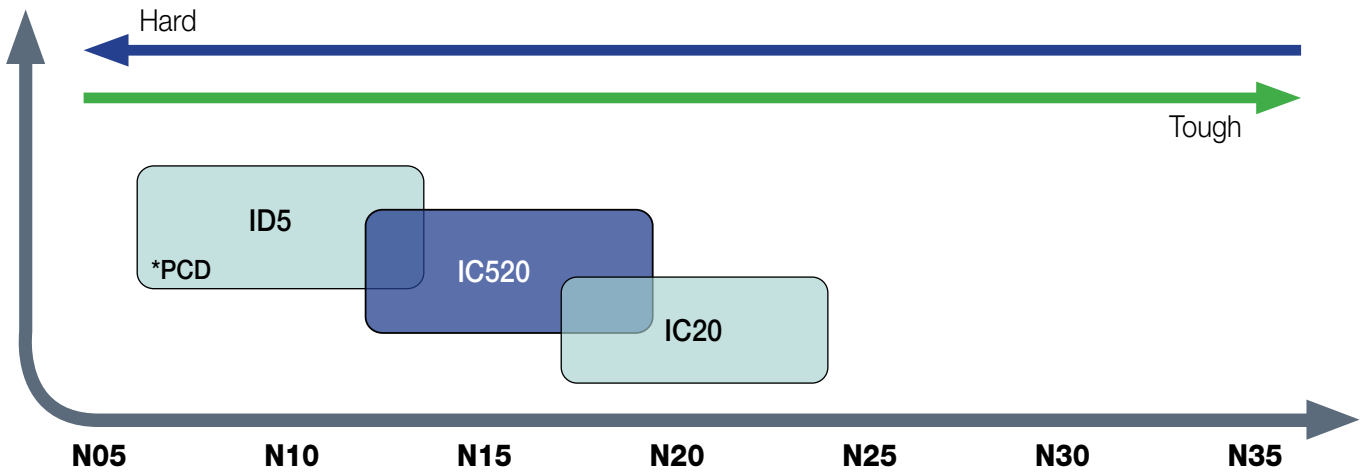
ISO N-Aluminum

		Finishing		Medium		Roughing	
Negative	Tight		NF		PP		NMS12
	Open		F3N		M3N		

		Finishing	
Positive	Tight		AS
	Open		

 First Choice

Recommended Carbide Grades

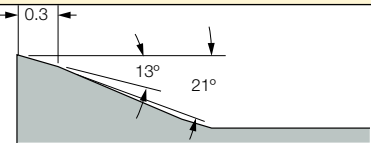

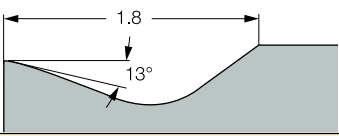

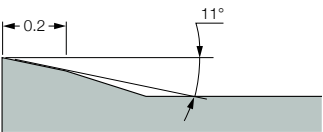
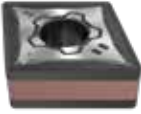
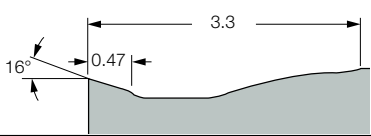

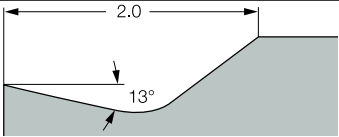



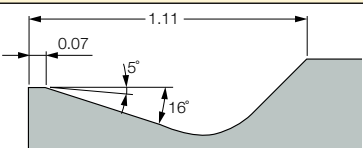

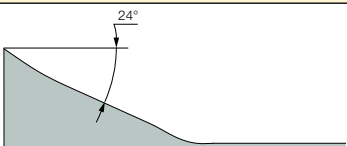

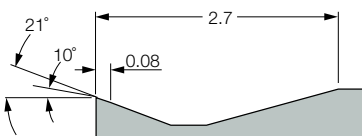

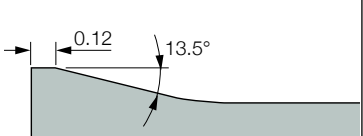



Chipformers

Negative Chipformers

SF Chipformer		
		<p>A unique super finishing chipformer that controls chip flow at very low feeds and cutting depths. Designed to reduce crater wear.</p>
F3P Chipformer		
		<p>Double-sided insert with a positive rake angle to reduce cutting forces for finish machining on steel.</p>
NF Chipformer		
		<p>Double-sided for semi-finishing and finishing applications. Low cutting forces are due to a very sharp edge and positive rake.</p>
F3M Chipformer		
		<p>Double-sided insert with a positive rake angle for finish machining on stainless steel. Its unique deflector geometry with a wavy surface prevents chip hammering.</p>
GN Chipformer		
		<p>Double-sided for general applications. Secure cutting edge for medium and semi-roughing on steel and cast iron.</p>
F3S Chipformer		
		<p>Chipbreaker with positive rake angle for finish machining superalloys and exotic materials.</p>
F3N Chipformer		
		<p>Polished and extra sharp positive insert for machining aluminum and non-ferrous materials for finishing applications.</p>
WF Chipformer		
		<p>Wiper geometry for high feed finishing on soft and gummy materials. Small depths of cut.</p>
M4PW Chipformer		
		<p>Double-sided for roughing applications. Feed range: 0.25 mm/rev to 0.8 mm/rev. Depth of cut from 2.00 to 10.0 mm.</p>
M3P Chipformer		
		<p>Double-sided insert for medium machining on steel with a reinforced cutting edge to increase tool life.</p>

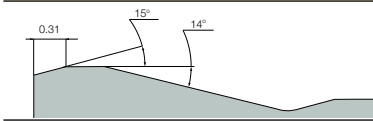
Negative Chipformers

M4MW Chipformer		
		Chipformer for heavy machining applications on stainless steel. The inserts feature a very positive radial helical cutting edge and a positive rake angle.
TF Chipformer		
		Double-sided positive rake angles to prevent strain hardening. The rake angle varies along the edge to a negative angle which prevents chipping. Special design reduces cratering. Used for carbon and alloy steel, stainless steel and high-temp alloys.
M3M Chipformer		
		Double-sided insert for medium machining on stainless steel with a reinforced cutting edge that prevents notch wear at tight radii to increase tool life.
VL Chipformer		
		High positive rake and a special edge preparation used for rough and finish turning on high temperature alloys. Excellent performance on parts such as automotive valves.
PP Chipformer		
		Double-sided, very positive rake, sharp- and positive radial edge for heat-resistant alloys, stainless steel, aluminum alloys and soft, low carbon steel.
A Chipformer		
		Flat inserts, used for short chipping materials such as cast iron.
EM-M Chipformer		
		Double-sided sharp cutting edge with a 16° positive rake angle for machining high temperature alloys at $a_p < 3$ mm.
M3N Chipformer		
		Polished and extra sharp positive insert for machining aluminum and non-ferrous materials for medium applications.
12 Chipformer		
		Single-sided for medium to rough machining on aluminum and soft materials.
R3P Chipformer		
		Chipbreaker for rough machining on steel with a positive rake angle and reinforced cutting edge for better performance and longer tool life.

NR Chipformer		
		<p>Double-sided sharp cutting edge with a 13° positive rake angle for machining high temperature alloys at $a_p < 6$ mm.</p>
R3M Chipformer		
		<p>Double-sided insert for rough machining on stainless steel with a unique deflector geometry to improve chip control. Includes a wavy surface to prevent chip hammering.</p>
T3P Chipformer		
		<p>Double-sided 6° negative flank trigone insert for high feed turning on steel.</p>
TNM Chipformer		
		<p>Double-sided trigon for roughing applications. Feed ranges: from 0.25 to 0.65 mm/rev. Depth of cut from 2 to 7 mm.</p>
EM-R Chipformer		
		<p>Double-sided sharp cutting edge with a 13° positive rake angle for machining high temperature alloys at $a_p < 6$ mm.</p>
HT/WG Chipformer		
		<p>Double-sided for roughing applications. Feed range: 0.25 mm/rev to 0.8 mm/rev. Depth of cut from 2.00 to 10.0 mm.</p>
HM Chipformer		
		<p>Feed range: 0.08 mm/rev to 0.75 mm/rev. Depth of cut from 1.5 mm to 8.0 mm.</p>
H3P Chipformer		
		<ul style="list-style-type: none"> • For heavy roughing applications • Low cutting force for low horse power machines • Excellent chip control due to changeable land and a flexible chip breaker
H4P Chipformer		
		<ul style="list-style-type: none"> • For heavy roughing applications • For large depth of cut and high feed • Strong cutting edge credit to a wide land and large land angle
H5P Chipformer		
		<ul style="list-style-type: none"> • For heavy roughing applications • For large depth of cut and high feed • Extremely strong cutting edge credit to a wide land and large land angle • Suitable for high cutting conditions

Negative Chipformers

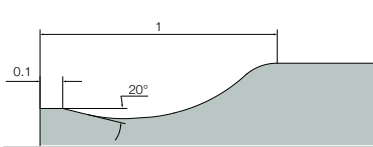
H6P Chipformer



Tangential insert with 4 cutting edges for high metal removal on steel up to 35 mm DOC

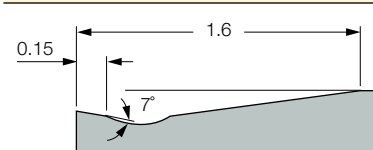
Positive Chipformers

F3P Chipformer



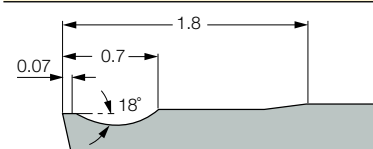
Super finishing and finishing applications, mainly on positive inserts.
Feed range: 0.03-0.20 mm/rev. DOC 0.25-3.0 mm.

PF Chipformer



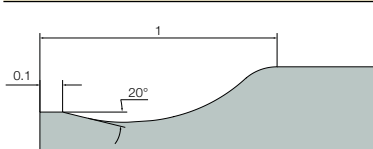
Super finishing and finishing applications, mainly on positive inserts.
Feed range: 0.03-0.20 mm/rev. DOC 0.25-3.0 mm.

SM Chipformer



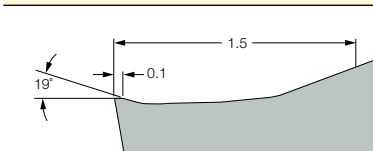
Finishing and boring applications. Feed range: 0.06-0.25 mm/rev. DOC 0.5-2.5 mm.

F3M Chipformer



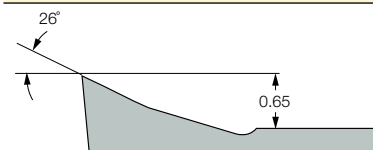
Chipbreaker with positive rake angle for finishing machining of stainless steel, also suitable for superalloys and exotic materials.

14 Chipformer



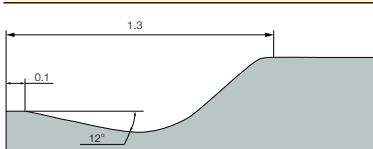
Semi-finishing and finishing. Medium feeds.

AS Chipformer



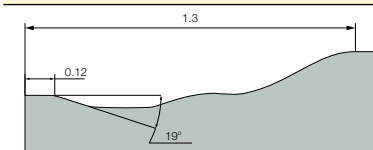
For general use machining on aluminum and soft materials.

M3P Chipformer



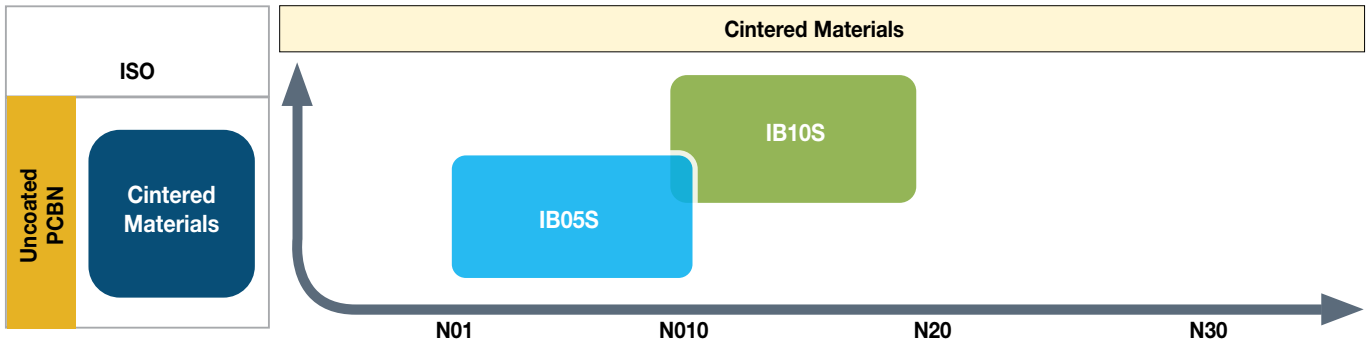
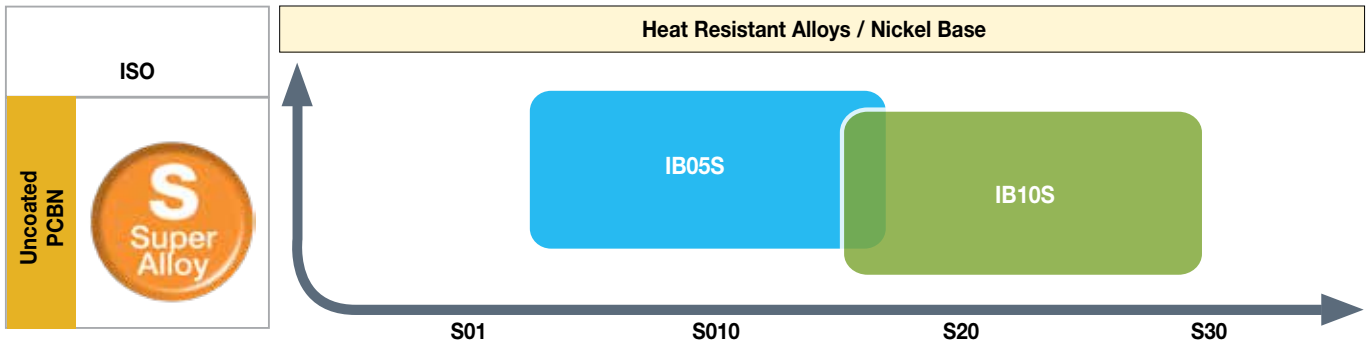
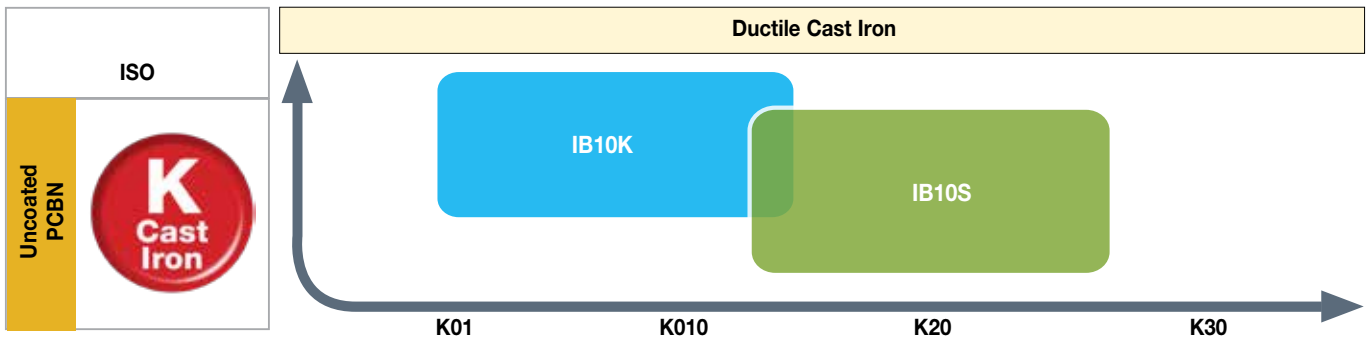
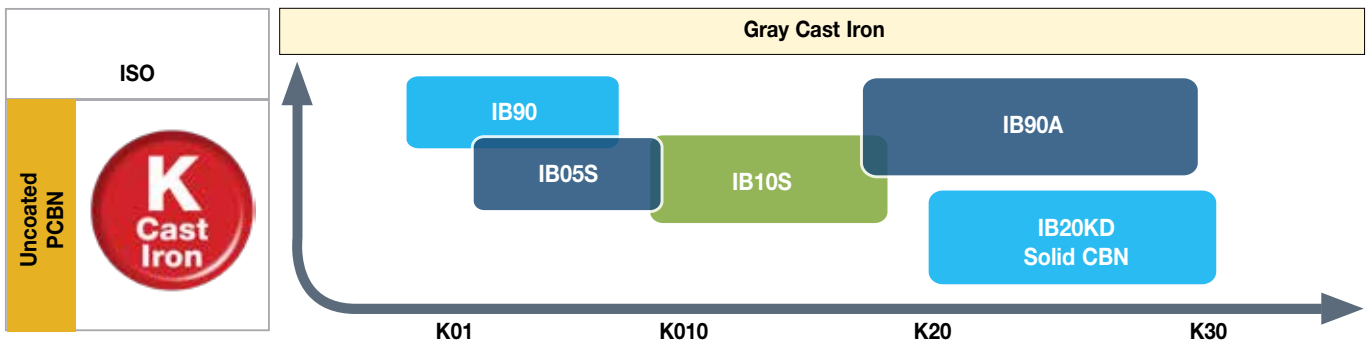
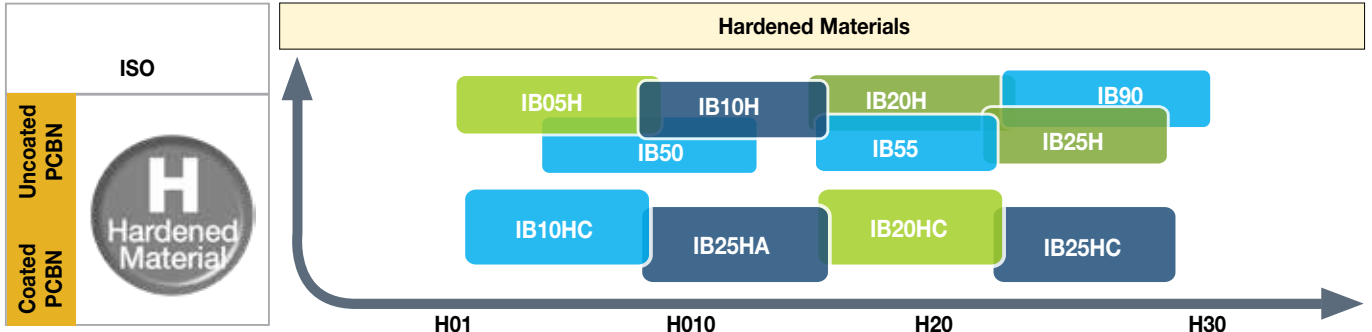
Chipbreaker with reinforced cutting edge and positive rake angles for medium machining steel conditions.

M3M Chipformer

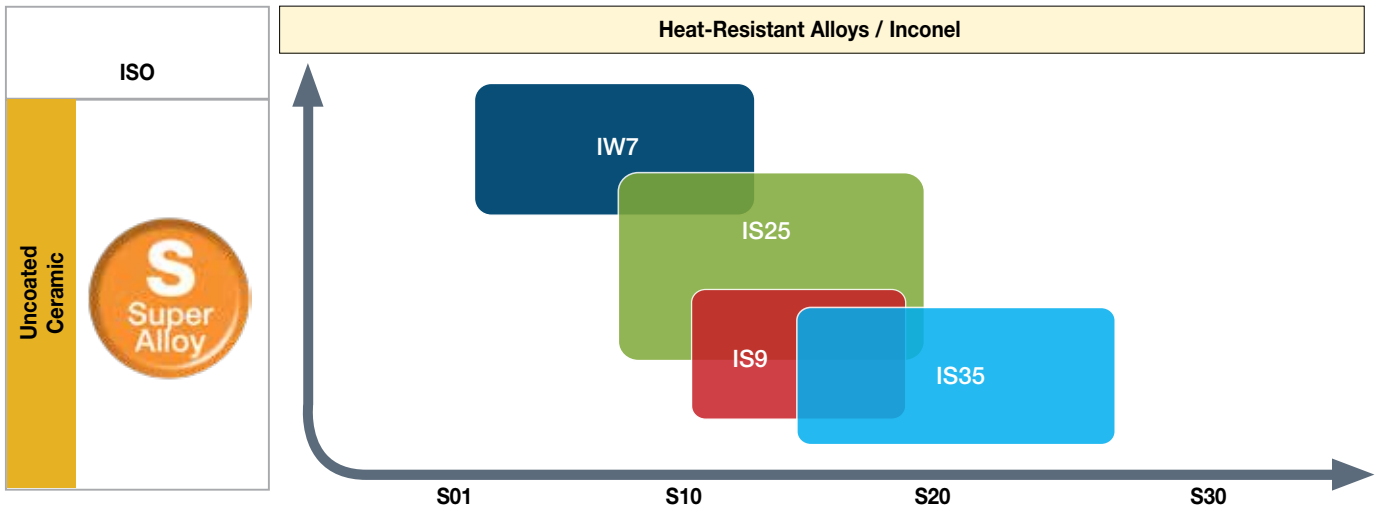
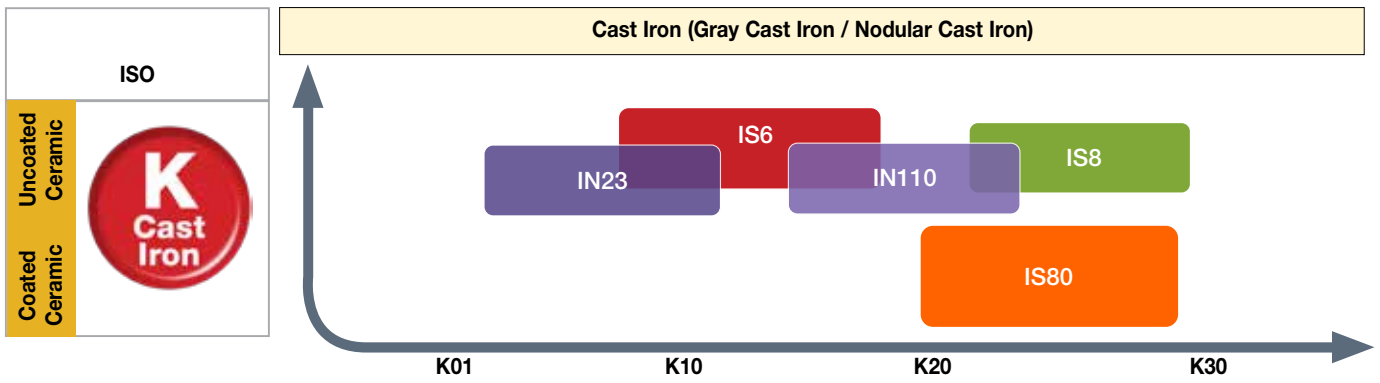
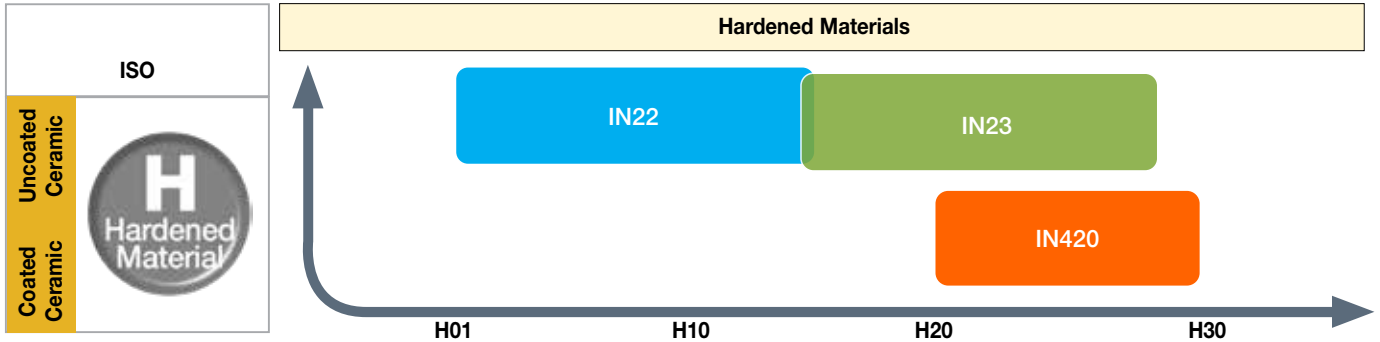


Chipbreaker with reinforced cutting edge and positive rake angles for medium machining stainless steel conditions.

PCBN Grades



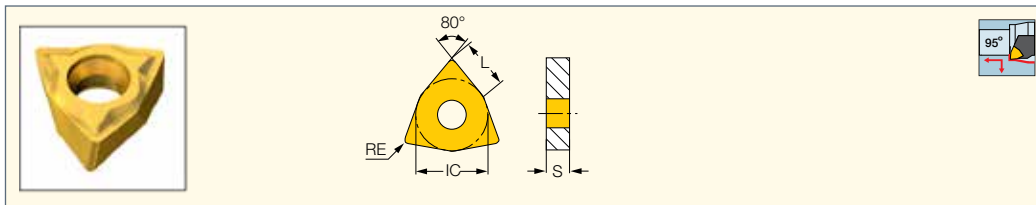
Ceramic Grades



Negative Inserts

ISOTURN
MINIPTURN
POSITIVE DOUBLE SIDED

WNGP-F2P
Double-Sided Trigon Inserts
for Super Finish Machining
Conditions on Alloyed Steel

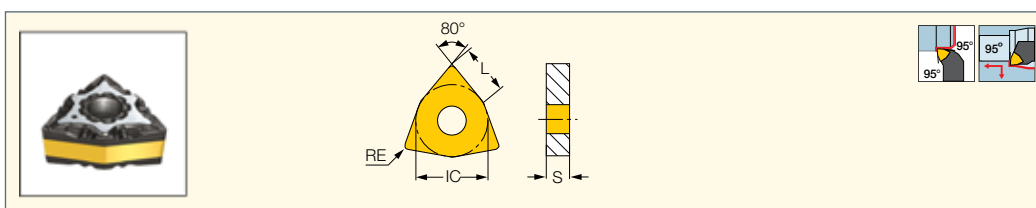


Designation	Dimensions					IC530N	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
WNGP 040302R/L-F2P	4.35	6.35	3.18	0.20	●	0.30-2.00	0.08-0.30	
WNGP 040304R/L-F2P	4.35	6.35	3.18	0.40	●	0.30-2.00	0.08-0.30	
WNGP 040308R/L-F2P	4.35	6.35	3.18	0.80	●	0.30-2.00	0.08-0.30	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E-SWLNRL/L-04 (103) • NQCH-SWLNRL/L-S-JHP (8) • PWLNRL/L-S (8)

ISOTURN

WNMG-F3P
Double-Sided Trigon Inserts
for Semi-Finishing and
Finishing Applications

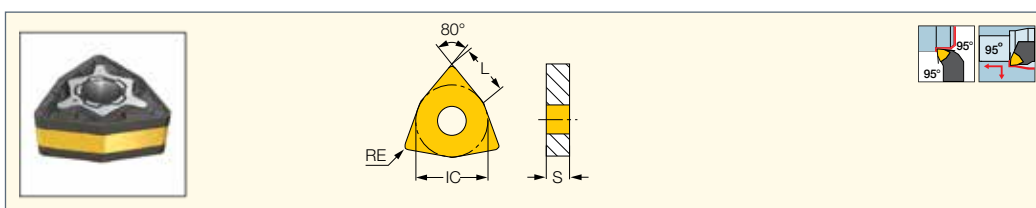


Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC880	IC8250	IC8150	IC20N	IC520N	IC807	a_p (mm)	f (mm/rev)
WNMG 060404-F3P	6.52	9.52	4.76	0.40	●	●	●	●	●	●	0.50-2.50	0.07-0.25
WNMG 060408-F3P	6.52	9.52	4.76	0.80	●	●	●	●	●	●	0.90-3.00	0.08-0.25
WNMG 060412-F3P	6.52	9.52	4.76	1.20	●	●	●	●	●	●	1.30-3.00	0.10-0.25
WNMG 080404-F3P	8.70	12.70	4.76	0.40	●	●	●	●	●	●	0.50-3.50	0.07-0.25
WNMG 080408-F3P	8.70	12.70	4.76	0.80	●	●	●	●	●	●	0.90-3.50	0.08-0.25
WNMG 080412-F3P	8.70	12.70	4.76	1.20	●	●	●	●	●	●	1.30-3.50	0.10-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-PWLNRL/L-X/G (104) • A/S-MWLNRL/L-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9)
• C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • HSK A63WH-MULNRL-L12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16)
• HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12)
• PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105) • DWLNRL/L-JHP-MC (10)

ISOTURN

WNMG-M3P
Double-Sided Trigon Inserts
for Medium Machining
Conditions on Steel



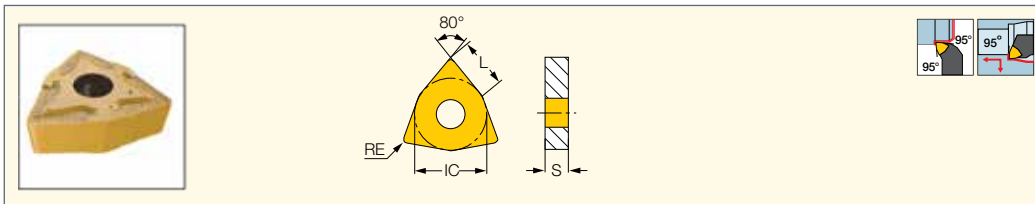
Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC5010	IC807	a_p (mm)	f (mm/rev)
WNMG 06T304-M3P	6.52	9.52	3.97	0.40	●	●	●			0.45-2.50	0.10-0.45
WNMG 06T308-M3P	6.52	9.52	3.97	0.80	●	●	●			0.50-3.00	0.15-0.50
WNMG 06T312-M3P	6.52	9.52	3.97	1.20	●	●	●			0.80-3.00	0.18-0.60
WNMG 060404-M3P	6.52	9.52	4.76	0.40	●	●	●		●	0.45-2.50	0.10-0.45
WNMG 060408-M3P	6.52	9.52	4.76	0.80	●	●	●		●	0.50-3.00	0.15-0.50
WNMG 060412-M3P	6.52	9.52	4.76	1.20	●	●	●		●	0.80-3.00	0.18-0.60
WNMG 080404-M3P	8.70	12.70	4.76	0.40	●	●	●		●	0.40-3.50	0.10-0.45
WNMG 080408-M3P	8.70	12.70	4.76	0.80	●	●	●		●	0.50-4.00	0.15-0.50
WNMG 080412-M3P	8.70	12.70	4.76	1.20	●	●	●		●	0.80-4.00	0.18-0.60
WNMG 080416-M3P	8.70	12.70	4.76	1.60	●	●			●	1.00-4.00	0.23-0.65

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-PWLNRL/L-X/G (104) • A/S-MWLNRL/L-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9)
• C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • E-PWLNRL/L-HEAD (105) • HSK A63WH-MULNRL-L12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16)
• HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12)
• PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105) • DWLNRL/L-JHP-MC (10)

ISOTURN

WNMG-CERMET

Double-Sided Trigon Cermet Grade Inserts for Semi-Finishing and Finishing Applications

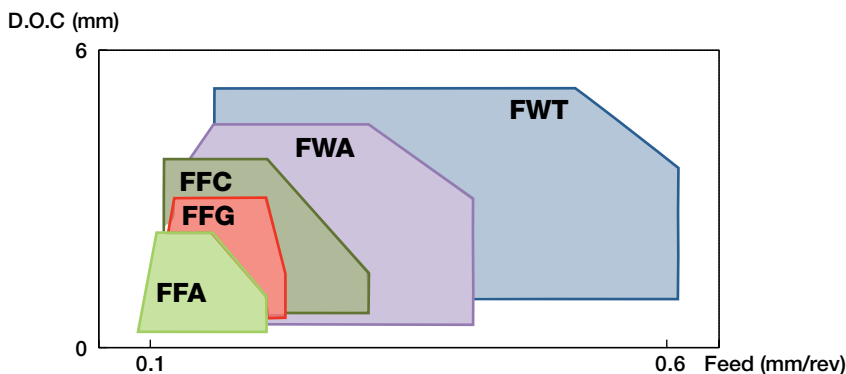


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC20N	IC520N	a _p (mm)	f (mm/rev)
WNMG 06T302-FFC	6.52	9.52	3.97	0.20	●	●	1.00-2.50	0.05-0.25
WNMG 06T304-FFC	6.52	9.52	3.97	0.40	●	●	1.00-2.50	0.05-0.25
WNMG 06T304-FFG	6.52	9.52	3.97	0.40	●	●	1.00-2.50	0.05-0.25
WNMG 06T304-FWA (1)	6.52	9.52	3.97	0.40	●	●	0.50-3.00	0.12-0.50
WNMG 06T308-FFC	6.52	9.52	3.97	0.80	●	●	1.00-2.50	0.05-0.25
WNMX 060404-FWA (1)	6.52	9.52	4.76	0.40	●	●	0.50-3.00	0.12-0.50
WNMG 06T302-FFA	6.52	9.92	3.97	0.20	●	●	0.30-1.50	0.05-0.16
WNMG 080404-FFC	8.70	12.70	4.76	0.40	●	●	1.00-2.50	0.05-0.25
WNMG 080408-FFC	8.70	12.70	4.76	0.80	●	●	1.00-2.50	0.05-0.25
WNMG 080408-FWT	8.70	12.70	4.76	0.80	●	●	1.40-5.00	0.15-0.60

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

(1) Insert with wiper geometry

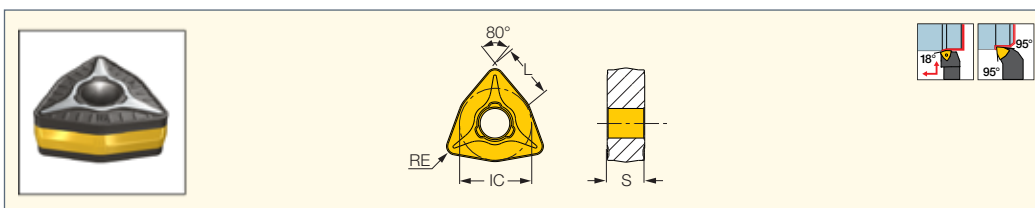
For tools, see pages: A/S-MWLN/L-W (103) • A/S-PWLN/L (104) • C#-MULNR/L-MW (16) • C#-PWLN/L-08-JHP (9) • DWLN/L (10)
 • E-PWLN/L-HEAD (105) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15)
 • MWLN/L-W (18) • PWLN/L (8) • PWLN/L-08-JHP (9) • PWLN/L-X (11) • PWLN/L-X-JHP (12) • S-DWLN/L (99) • S-MULNR-MW (105)
 • DWLN/L-JHP-MC (10)



DOVE IQ TURN HEAVY DUTY LINE FEEDTURN

WOMG-10-T3P-IQ

Double-Sided 6° Negative Side Flank Trigon Inserts for High Feed Turning of Steel



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC8350	IC8250	IC8150	a _p (mm) ⁽²⁾	f (mm/rev) ⁽¹⁾
WOMG 100716-T3P-IQ	10.86	15.88	7.94	1.60	●	●	●	1.00-2.80	1.50-3.00

• The specified machining recommendations in the above table are valid only for PWXOR/L-TF-IQ tools. For PWLOR/L-IQ tools: a_p= 3-7 mm, f_t= 0.3-0.8 mm/rev.

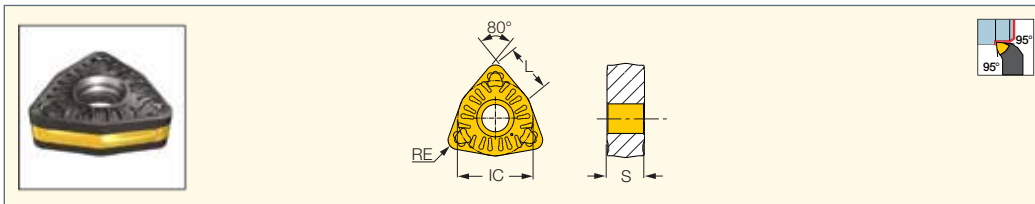
• For user guide, see pages 122-134, 236-248

(1) Fast feed cutting condition. For 95° app. See more info.

(2) Fast feed cutting condition. For 95° app. See more info.

For tools, see pages: PWLOR/L-IQ (18) • PWXOR/L-TF-IQ (19)

WOMG-13-R3P-IQ
Double-Sided 7° Negative
Side Flank Trigon Inserts for
Heavy Turning of Steel

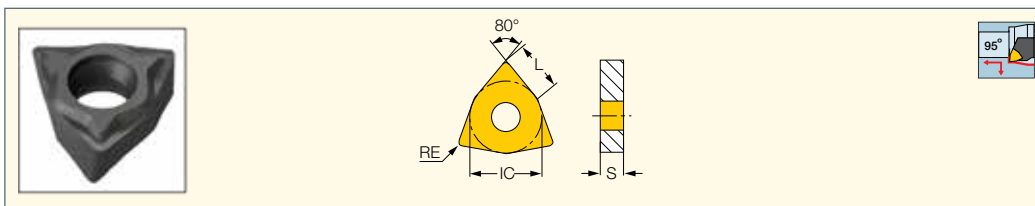


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	a _p (mm)	f (mm/rev)
WOMG 130612-R3P-IQ	13.03	19.05	6.35	1.20	●	●	3.50-8.00	0.30-0.80
WOMG 130616-R3P-IQ	13.03	19.05	6.35	1.60	●	●	4.00-8.00	0.40-0.85
WOMG 130624-R3P-IQ	13.03	19.05	6.35	2.40	●	●	4.00-8.00	0.40-1.00

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: C#-PWLOR/L-IQ (19) • PWLOR/L-IQ (18)

ISOTURN
MINIPTURN
POSITIVE DOUBLE SIDED

WNGP-F2M
Double-Sided Trigon Inserts
for Super Finish Machining
Conditions on Stainless Steel

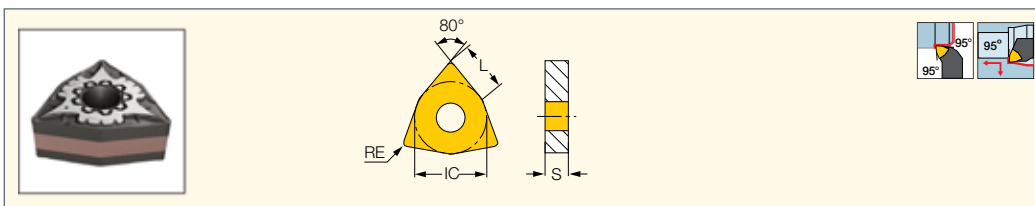


Designation	Dimensions				IC908	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
WNGP 040302R/L-F2M	4.35	6.35	3.18	0.20	●	0.30-2.00	0.08-0.30
WNGP 040304R/L-F2M	4.35	6.35	3.18	0.40	●	0.30-2.00	0.08-0.30
WNGP 040308R/L-F2M	4.35	6.35	3.18	0.80	●	0.30-2.00	0.08-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E-SWLNR/L-04 (103) • NQCH-SWLNR/L-S-JHP (8) • PWLNR/L-S (8)

ISOTURN

WNMG-F3M
Double-Sided Trigon
Inserts for Stainless Steel
Finishing Applications



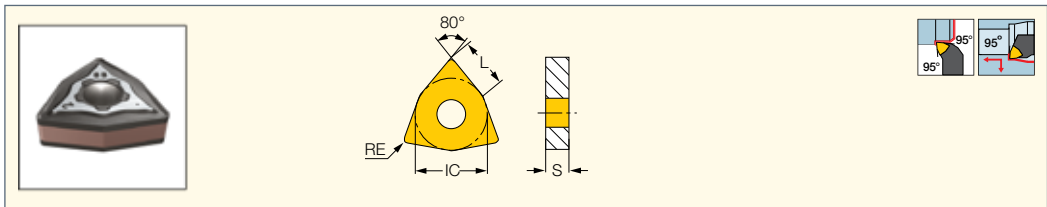
Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	a _p (mm)	f (mm/rev)
WNMG 060404-F3M	6.52	9.52	4.76	0.40	●	●	●	●	●	0.10-1.50	0.05-0.30
WNMG 060408-F3M	6.52	9.52	4.76	0.80	●	●	●	●	●	0.10-1.50	0.10-0.40
WNMG 060412-F3M	6.52	9.52	4.76	1.20	●	●	●	●	●	0.20-2.50	0.15-0.50
WNMG 080404-F3M	8.70	12.70	4.76	0.40	●	●	●	●	●	0.10-1.50	0.05-0.30
WNMG 080408-F3M	8.70	12.70	4.76	0.80	●	●	●	●	●	0.10-1.50	0.10-0.40
WNMG 080412-F3M	8.70	12.70	4.76	1.20	●	●	●	●	●	0.20-2.50	0.15-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-PWLNR/L-X/G (104) • A/S-MWLNR/L-W (103) • A/S-PWLNR/L (104) • C#-MULNR/L-MW (16) • C#-PWLNR/L-08-JHP (9)
• C#-PWLNR/L-X (13) • C#-PWLNR/L-X-JHP (14) • DWLNR/L (10) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16)
• HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLNR/L-W (18) • PWLNR/L (8) • PWLNR/L-08-JHP (9) • PWLNR/L-X (11) • PWLNR/L-X-JHP (12)
• PWLNR/L-X-JHP-MC (13) • S-DWLNR/L (99) • S-MULNR-MW (105) • DWLNR/L-JHP-MC (10)

ISOTURN

WNMG-M3M

Double-Sided Trigon Inserts for Machining Stainless and Low Carbon Steel



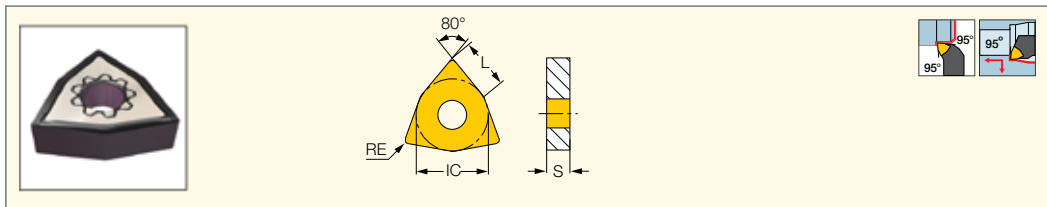
Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC804	a _p (mm)	f (mm/rev)
WNMG 060404-M3M	6.52	9.52	4.76	0.40	●	●	●	●	●		0.50-3.50	0.12-0.40
WNMG 060408-M3M	6.52	9.52	4.76	0.80	●	●	●	●	●		0.50-3.50	0.15-0.50
WNMG 060412-M3M	6.52	9.52	4.76	1.20	●	●	●	●	●		0.50-3.50	0.20-0.60
WNMG 080404-M3M	8.70	12.70	4.76	0.40	●				●		0.50-5.00	0.12-0.40
WNMG 080408-M3M	8.70	12.70	4.76	0.80	●	●	●	●	●	●	0.50-5.00	0.15-0.50
WNMG 080412-M3M	8.70	12.70	4.76	1.20	●	●	●	●	●		0.50-5.00	0.20-0.60
WNMG 080416-M3M	8.70	12.70	4.76	1.60					●		0.50-5.00	0.25-0.70

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PWLNRL-X/G (104) • A/S-MWLNRL-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL-MW (16) • C#-PWLNRL/L-08-JHP (9) • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • HSK A63WH-MULNRL-J12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16) • HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105) • DWLNRL/L-JHP-MC (10)

ISOTURN

WNMG-F3S

Double-Sided 80° Trigon Inserts for Titanium and Heat Resistant Materials for Finishing Applications



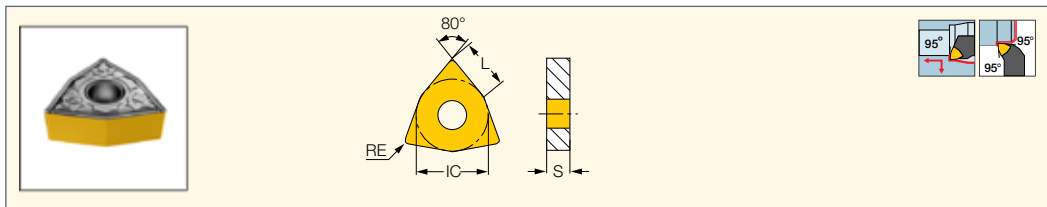
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC806	IC804	a _p (mm)	f (mm/rev)
WNMG 060404-F3S	6.52	9.52	4.76	0.40	●	●	0.10-1.50	0.05-0.30
WNMG 060408-F3S	6.52	9.52	4.76	0.80	●	●	0.10-1.50	0.10-0.35
WNMG 080404-F3S	8.70	12.70	4.76	0.40	●	●	0.10-1.50	0.05-0.30
WNMG 080408-F3S	8.70	12.70	4.76	0.80	●	●	0.10-1.50	0.10-0.35

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PWLNRL/L-X/G (104) • A/S-MWLNRL/L-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9) • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • DWLNRL/L-JHP-MC (10) • HSK A63WH-MULNRL-J12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16) • HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105)

ISOTURN

WNMG-SF

Double-Sided Trigon Inserts for Super Finishing



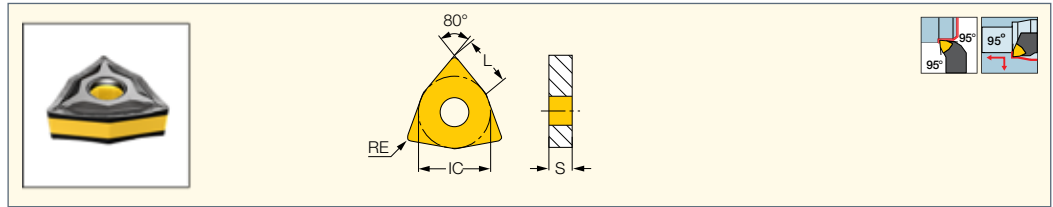
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC530N	IC520N	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 06T302-SF	6.52	9.52	3.97	0.20	●				0.30-1.50	0.02-0.15
WNMG 06T304-SF	6.52	9.52	3.97	0.40	●	●	●	●	0.30-1.50	0.05-0.15

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/S-MWLNRL/L-W (103) • A/S-PWLNRL/L (104) • DWLNRL/L (10) • E-PWLNRL/L-HEAD (105) • MWLNRL/L-W (18) • PWLNRL/L (8)

ISOTURN

WNMG-NF

Double-Sided Trigon Inserts for Semi-Finishing and Finishing Applications



Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data			
	L	IC	S	RE	IC8350	IC8250	IC908	IC30N	IC530N	IC10	IC8150	IC20	IC20N	IC520N	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 06T301-NF	6.52	9.52	3.97	0.10			•										0.20-1.00	0.05-0.15
WNMG 06T302-NF	6.52	9.52	3.97	0.20	•	•		•	•	•	•				•	•	0.30-1.50	0.08-0.17
WNMG 06T304-NF	6.52	9.52	3.97	0.40	•	•		•	•	•	•				•	•	0.40-2.50	0.07-0.25
WNMG 06T308-NF	6.52	9.52	3.97	0.80	•	•				•	•						0.60-3.00	0.08-0.25
WNMG 060402-NF	6.52	9.52	4.76	0.20											•	•	0.30-3.00	0.05-0.20
WNMG 060404-NF	6.52	9.52	4.76	0.40		•									•	•	0.60-3.00	0.08-0.25
WNMG 060408-NF	6.52	9.52	4.76	0.80							•						0.80-3.00	0.08-0.25
WNMG 080404-NF	8.70	12.70	4.76	0.40		•			•								0.40-3.50	0.07-0.25
WNMG 080408-NF	8.70	12.70	4.76	0.80		•			•								0.80-3.50	0.08-0.25
WNMG 080412-NF	8.70	12.70	4.76	1.20							•						1.20-3.50	0.08-0.25

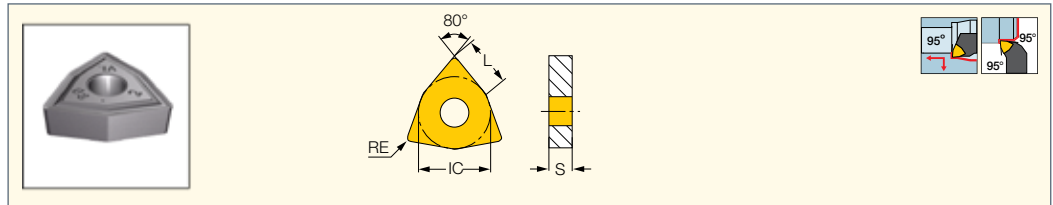
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PWLNRL-X/G (104) • A/S-MWLNRL-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9) • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • E-PWLNRL/L-HEAD (105) • HSK A63WH-MULNRL-J12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16) • HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105) • DWLNRL/L-JHP-MC (10)

ISOTURN

WNMG-VL

Double-Sided Trigon Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC908	IC806	IC907	a _p (mm)	f (mm/rev)
WNMG 06T308-VL	6.52	9.52	3.97	0.80	•			0.50-3.00	0.07-0.25
WNMG 080404-VL	8.70	12.70	4.76	0.40		•	•	0.30-3.00	0.05-0.15
WNMG 080408-VL	8.70	12.70	4.76	0.80	•	•		0.50-4.00	0.10-0.25
WNMG 080412-VL	8.70	12.70	4.76	1.20	•			1.00-4.50	0.12-0.25

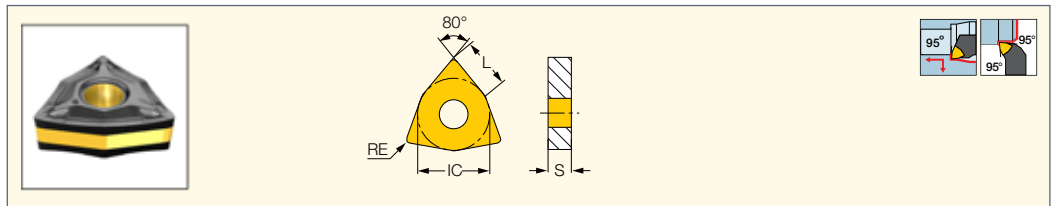
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-MWLNRL-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9) • DWLNRL/L (10) • E-PWLNRL/L-HEAD (105) • HSK A63WH-MULNRL-J12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16) • HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • S-DWLNRL/L (99) • S-MULNRL-MW (105) • DWLNRL/L-JHP-MC (10)

ISOTURN

WNMG-WG

Double-Sided Trigon Wiper Inserts for High Surface Finish at High Feed Turning



Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data			
	IC	L	S	RE	IC8250	IC530N	IC8150	IC20N	IC520N	IC428	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 06T304-WG	9.52	6.52	3.97	0.40	•	•	•	•	•					0.40-3.00	0.10-0.35
WNMG 06T308-WG	9.52	6.52	3.97	0.80	•		•		•			•	•	0.60-3.50	0.10-0.50
WNMG 060404-WG	9.52	6.52	4.76	0.40	•		•					•		0.40-3.00	0.10-0.35
WNMG 060408-WG	9.52	6.52	4.76	0.80	•		•					•		0.60-3.50	0.10-0.50
WNMG 080408-WG	12.70	8.70	4.76	0.80	•	•	•		•	•	•	•	•	1.00-3.50	0.10-0.50
WNMG 080412-WG	12.70	8.70	4.76	1.20	•		•			•	•			1.20-4.00	0.30-0.80

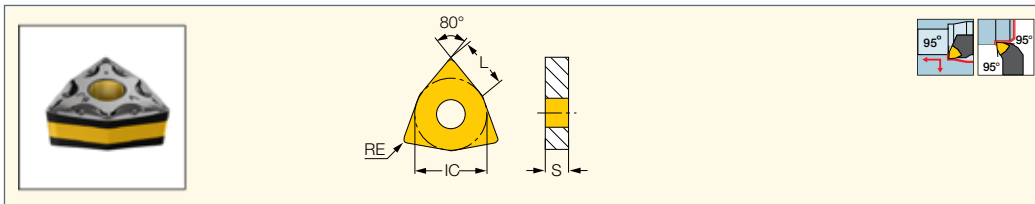
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PWLNRL/X/G (104) • A/S-MWLNRL/W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9) • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • E-PWLNRL/L-HEAD (105) • HSK A63WH-MULNRL-J12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16) • HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105) • DWLNRL/L-JHP-MC (10)

ISOTURN

WNMG-WF

Double-Sided Trigon
Wiper Inserts for Finishing
Operations at High Feeds



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC530N	IC8150	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 060402-WF	6.52	9.52	4.76	0.20				●	0.20-3.00	0.05-0.25
WNMG 060404-WF	6.52	9.52	4.76	0.40			●	●	0.50-3.00	0.05-0.30
WNMG 060408-WF	6.52	9.52	4.76	0.80				●	0.80-3.50	0.07-0.30
WNMG 080408-WF	8.70	12.70	4.76	0.80	●	●			0.80-3.50	0.07-0.35
WNMG 080412-WF	8.70	12.70	4.76	1.20		●			0.80-3.50	0.07-0.35

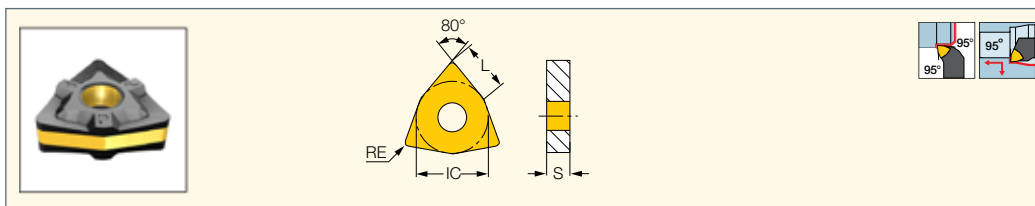
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages:** A-PWLNRL-X/G (104) • A/S-MWLNRL-W (103) • A/S-PWLNRL/L (104) • C#-MULNR/L-MW (16) • C#-PWLNRL/L-08-JHP (9)
 • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16)
 • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLNRL/W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12)
 • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNR-MW (105) • DWLNRL/L-JHP-MC (10)

ISOTURN

WNMG-PP

Double-Sided Trigon Inserts for
Machining Very Ductile Materials
at Medium Cutting Conditions



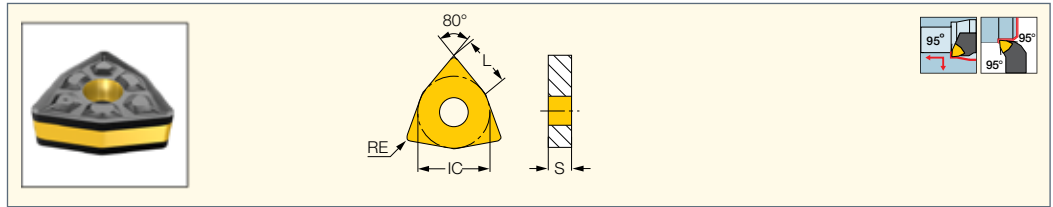
Designation	Dimensions				Tough ↔ Hard												Recommended Machining Data					
	L	IC	S	RE	IC28	IC830	IC8350	IC6025	IC8250	IC30N	IC530N	IC10	IC6015	IC8150	IC520M	IC20	IC20N	IC806	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 06T304-PP	6.52	9.52	3.97	0.40			●		●		●	●		●					●	●	1.00-3.00	0.14-0.30
WNMG 06T308-PP	6.52	9.52	3.97	0.80		●	●		●				●						●	●	1.00-3.00	0.14-0.30
WNMG 060404-PP	6.52	9.52	4.76	0.40			●		●										●	●	1.00-3.00	0.14-0.30
WNMG 060408-PP	6.52	9.52	4.76	0.80			●		●										●	●	1.00-3.00	0.14-0.30
WNMG 080404-PP	8.70	12.70	4.76	0.40		●	●	●	●		●	●	●						●	●	1.00-3.50	0.14-0.30
WNMG 080408-PP	8.70	12.70	4.76	0.80	●	●	●	●	●		●	●	●	●		●	●	●	●	●	1.00-4.00	0.14-0.30
WNMG 080412-PP	8.70	12.70	4.76	1.20					●	●					●						1.50-5.00	0.18-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages:** A-PWLNRL/L-X/G (104) • A/S-MWLNRL/L-W (103) • A/S-PWLNRL/L (104) • C#-MULNR/L-MW (16) • C#-PWLNRL/L-08-JHP (9)
 • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • E-PWLNRL/L-HEAD (105) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16)
 • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLNRL/W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12)
 • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNR-MW (105) • DWLNRL/L-JHP-MC (10)

WNMG-TF

Double-Sided Trigon Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions



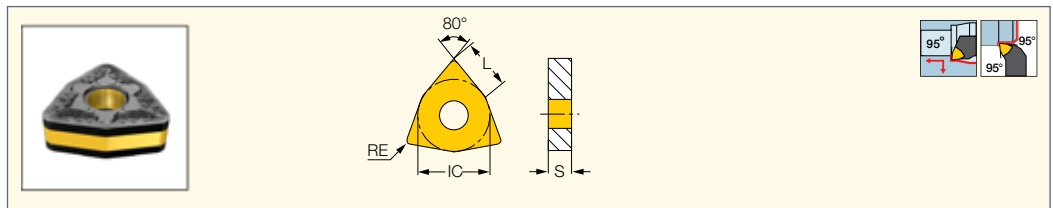
Designation	Dimensions				Tough ↔ Hard												Recommended Machining Data			
	L	IC	S	RE	IC830	IC8350	IC6025	IC8250	IC908	IC6015	IC8150	IC520M	IC20	IC20N	IC5010	IC806	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 06T304-TF	6.52	9.52	3.97	0.40	•			•					•				•	•	1.00-3.00	0.12-0.35
WNMG 06T308-TF	6.52	9.52	3.97	0.80	•			•					•	•			•	•	1.00-3.00	0.12-0.35
WNMG 06T312-TF	6.52	9.52	3.97	1.20													•	•	1.00-4.00	0.15-0.40
WNMG 060404-TF	6.52	9.52	4.76	0.40				•									•	•	1.00-3.00	0.12-0.35
WNMG 060408-TF	6.52	9.52	4.76	0.80	•			•									•	•	1.00-3.00	0.12-0.35
WNMG 060412-TF	6.52	9.52	4.76	1.20													•	•	1.00-4.00	0.15-0.35
WNMG 080404-TF	8.70	12.70	4.76	0.40	•		•	•		•	•		•			•	•	•	1.00-4.00	0.12-0.35
WNMG 080408-TF	8.70	12.70	4.76	0.80		•			•	•						•	•	•	1.00-4.00	0.12-0.35
WNMG 080412-TF	8.70	12.70	4.76	1.20	•		•	•	•	•			•			•	•	•	1.50-4.50	0.15-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PWLN/L-X/G (104) • A/S-MWLN/L-W (103) • A/S-PWLN/L (104) • C#-MULNR/L-MW (16) • C#-PWLN/L-08-JHP (9) • C#-PWLN/L-X (13) • C#-PWLN/L-X-JHP (14) • DWLN/L (10) • E-PWLN/L-HEAD (105) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLN/L-W (18) • PWLN/L (8) • PWLN/L-08-JHP (9) • PWLN/L-X (11) • PWLN/L-X-JHP (12) • PWLN/L-X-JHP-MC (13) • S-DWLN/L (99) • S-MULNR-MW (105) • DWLN/L-JHP-MC (10)

WNMG-GN

Double-Sided Trigon Inserts for General Applications



Designation	Dimensions				Tough ↔ Hard												Recommended Machining Data	
	L	IC	S	RE	IC830	IC928	IC8350	IC6025	IC8250	IC6015	IC8150	IC20	IC5010	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 06T304-GN	6.52	9.52	3.97	0.40	•				•		•	•					1.00-3.50	0.14-0.40
WNMG 06T308-GN	6.52	9.52	3.97	0.80	•				•		•	•					1.00-3.50	0.16-0.45
WNMG 06T312-GN	6.52	9.52	3.97	1.20					•								1.50-4.00	0.18-0.45
WNMG 060404-GN	6.52	9.52	4.76	0.40					•								1.00-3.50	0.14-0.40
WNMG 060408-GN	6.52	9.52	4.76	0.80					•								1.00-3.50	0.16-0.45
WNMG 060412-GN	6.52	9.52	4.76	1.20													1.50-4.00	0.18-0.45
WNMG 080404-GN	8.70	12.70	4.76	0.40	•				•		•	•			•	•	1.00-4.50	0.14-0.40
WNMG 080408-GN	8.70	12.70	4.76	0.80	•			•	•		•	•			•	•	1.00-4.50	0.16-0.45
WNMG 080412-GN	8.70	12.70	4.76	1.20	•			•	•		•	•		•	•		1.50-4.50	0.22-0.50
WNMG 080416-GN	8.70	12.70	4.76	1.60					•								2.00-6.00	0.25-0.60
WNMG 130612-GN	13.03	19.05	6.35	1.20					•								2.50-5.50	0.30-0.50
WNMG 130616-GN	13.03	19.05	6.35	1.60					•								2.50-6.00	0.30-0.50

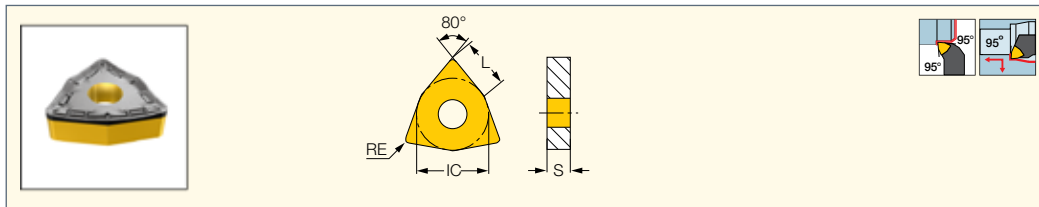
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PWLN/L-X/G (104) • A/S-MWLN/L-W (103) • A/S-PWLN/L (104) • C#-MULNR/L-MW (16) • C#-PWLN/L-08-JHP (9) • C#-PWLN/L-X (13) • C#-PWLN/L-X-JHP (14) • DWLN/L (10) • E-PWLN/L-HEAD (105) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLN/L-W (18) • PWLN/L (8) • PWLN/L-08-JHP (9) • PWLN/L-X (11) • PWLN/L-X-JHP (12) • PWLN/L-X-JHP-MC (13) • S-DWLN/L (99) • S-MULNR-MW (105) • DWLN/L-JHP-MC (10)

ISOTURN

WNMM-NM

Single-Sided Trigon Inserts for Roughing Applications



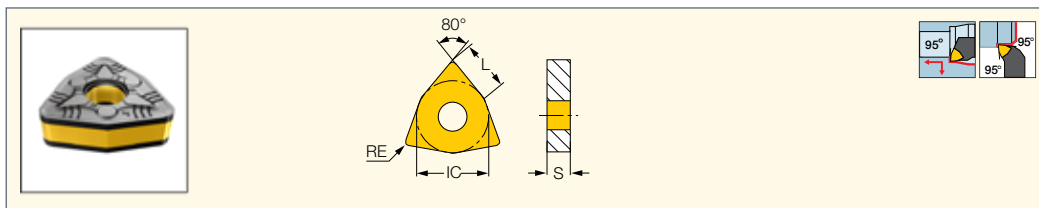
Designation	Dimensions					IC8250	Recommended Machining Data	
	L	IC	S	RE	a _p (mm)		f (mm/rev)	
WNMM 080408-NM	8.70	12.70	4.76	0.80	●	1.50-5.00	0.20-0.50	

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/S-MWLN/L-W (103) • A/S-PWLN/L (104) • C#-MULNR/L-MW (16) • C#-PWLN/L-08-JHP (9) • DWLN/L (10)
- HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLN/L-W (18)
- PWLN/L (8) • PWLN/L-08-JHP (9) • PWLN/L-X (11) • PWLN/L-X-JHP (12) • PWLN/L-X-JHP-MC (13) • S-DWLN/L (99) • S-MULNR-MW (105)
- DWLN/L-JHP-MC (10)

ISOTURN

WNMG-NR

Double-Sided Trigon Inserts with a Special Chipformer for Heavy Machining



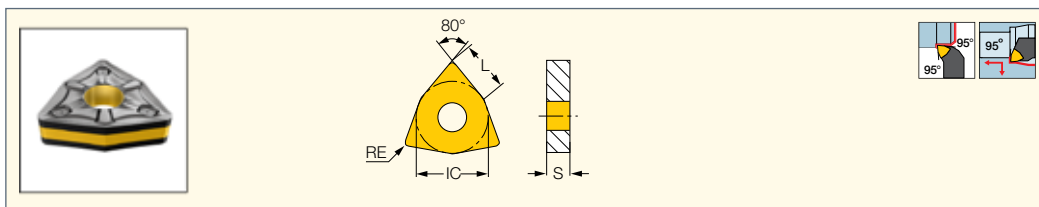
Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	IC5010	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 080408-NR	8.70	12.70	4.76	0.80	●		●	●	●	1.00-5.00	0.18-0.50
WNMG 080412-NR	8.70	12.70	4.76	1.20	●	●	●	●	●	2.00-5.00	0.23-0.55
WNMG 080416-NR	8.70	12.70	4.76	1.60	●	●				2.00-5.00	0.30-0.60

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/S-MWLN/L-W (103) • A/S-PWLN/L (104) • C#-MULNR/L-MW (16) • C#-PWLN/L-08-JHP (9) • DWLN/L (10)
- HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLN/L-W (18) • PWLN/L (8)
- PWLN/L-08-JHP (9) • PWLN/L-X (11) • PWLN/L-X-JHP (12) • PWLN/L-X-JHP-MC (13) • S-DWLN/L (99) • S-MULNR-MW (105) • DWLN/L-JHP-MC (10)

ISOTURN

WNMG-TNM

Double-Sided Trigon Inserts for Semi-Roughing and Roughing Applications

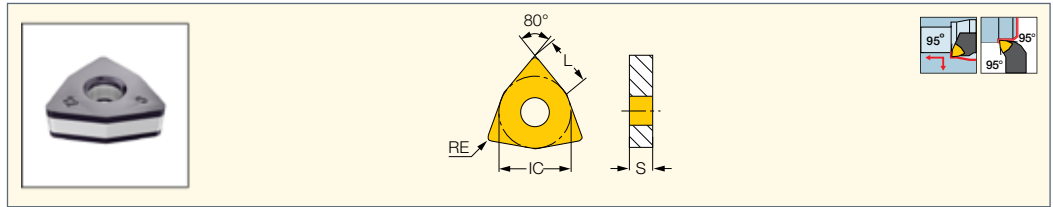


Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	IC880	IC8350	IC8250	IC807	IC907	a _p (mm)	f (mm/rev)
WNMG 080408-TNM	8.70	12.70	4.76	0.80			●			2.00-4.50	0.25-0.45
WNMG 080412-TNM	8.70	12.70	4.76	1.20			●			2.00-4.50	0.25-0.45
WNMG 130612-TNM	13.03	19.05	6.35	1.20		●	●	●	●	2.50-7.00	0.25-0.65
WNMG 130616-TNM	13.03	19.05	6.35	1.60		●	●			2.50-7.00	0.25-0.65
WNMG 130624-TNM	13.03	19.05	6.35	2.40	●		●			3.00-7.00	0.30-0.65

- This inserts should be used with SEAT IWSN 635M3 only!
- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/S-MWLN/L-W (103) • A/S-PWLN/L (104) • C#-MULNR/L-MW (16) • C#-PWLN/L-08-JHP (9) • DWLN/L (10)
- HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLN/L-13W (18)
- MWLN/L-W (18) • PWLN/L (8) • PWLN/L-08-JHP (9) • PWLN/L-X (11) • PWLN/L-X-JHP (12) • PWLN/L-X-JHP-MC (13) • S-DWLN/L (99)
- S-MULNR-MW (105) • DWLN/L-JHP-MC (10)

ISOTURN

WNMA/WNMA-WG
Double-Sided Trigon Inserts
for Short Chipping Materials
such as Cast Iron

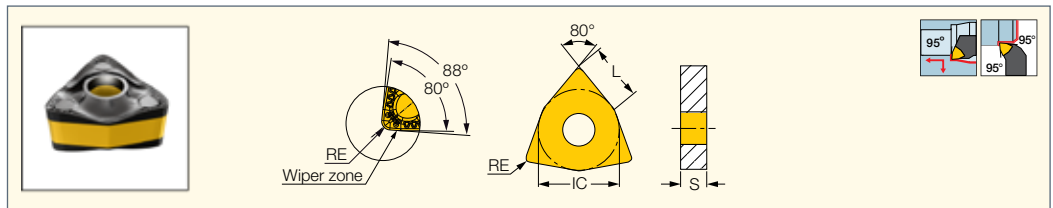


Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC8150	IC5010	IC428	IC5005	a _p (mm)	f (mm/rev)
WNMA 06T304	6.52	9.52	3.97	0.40		●	●	●	0.50-2.00	0.03-0.30
WNMA 06T308	6.52	9.52	3.97	0.80		●	●	●	1.00-3.00	0.03-0.40
WNMA 06T312	6.52	9.52	3.97	1.20			●	●	1.50-3.50	0.03-0.45
WNMA 060404	6.52	9.52	4.76	0.40		●		●	1.00-3.00	0.03-0.50
WNMA 060408	6.52	9.52	4.76	0.80		●	●	●	1.00-3.00	0.03-0.50
WNMA 060412	6.52	9.52	4.76	1.20		●		●	1.00-3.00	0.03-0.50
WNMA 080408	8.70	12.70	4.76	0.80	●	●	●	●	1.00-4.00	0.03-0.48
WNMA 080408-WG	8.70	12.70	4.76	0.80			●		1.00-3.50	0.10-0.60
WNMA 080412	8.70	12.70	4.76	1.20		●	●	●	1.50-4.00	0.03-0.55
WNMA 080416	8.70	12.70	4.76	1.60		●		●	2.00-5.00	0.03-0.55
WNMA 130616	13.03	19.05	6.35	1.60			●	●	3.00-8.00	0.03-0.80

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A-PWLNRL-X/G (104) • A/S-MWLNRL-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL-MW (16) • C#-PWLNRL/L-08-JHP (9)
- C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • E-PWLNRL/L-HEAD (105) • HSK A63WH-MULNRL-J12MWX2 (17) • HSK A63WH-MULNRL-MW (16)
- HSK A63WH-MUMNN-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-13W (18) • MWLNRL/L-W (18) • PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11)
- PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105) • DWLNRL/L-JHP-MC (10)

HELITURN LD

WNMX-M3/4PW
Double-Sided Trigon Inserts
with High Helical Cutting Edge
for High Metal Removal Rates

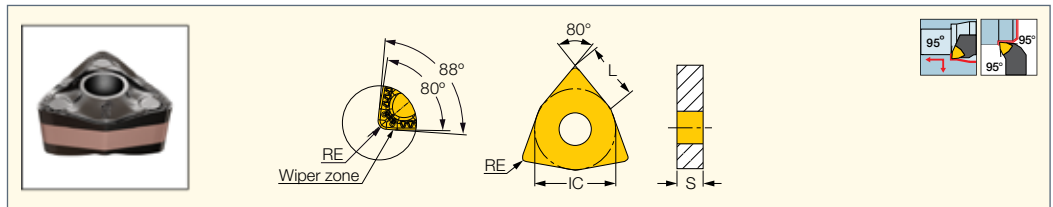


Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	IC	RE	S	L	IC830	IC8250	IC8150	IC520N	IC807	a _p (mm)	f (mm/rev)
WNMX 060604-M3PW	9.52	0.40	4.41	6.50	●	●	●		●	1.00-4.00	0.20-0.50
WNMX 060608-M3PW	9.52	0.80	4.41	6.50	●	●	●	●	●	1.50-4.00	0.25-0.60
WNMX 080708-M4PW	12.70	0.80	6.78	8.70		●	●		●	1.50-5.00	0.25-0.60
WNMX 080712-M4PW	12.70	1.20	6.78	8.70		●	●			2.00-5.00	0.30-0.80
WNMX 080716-M4PW	12.70	1.60	6.78	8.70		●	●			2.00-5.00	0.30-1.00

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A-PWLNRL-X/G (104) • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • DWLNRL/L-JHP-MC (10)
- PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13)

HELITURN LD

WNMX-M3/4MW
Double-Sided Trigon Inserts
for Machining Stainless Steel,
High Temperature Alloys and
Soft, Low Carbon Steel

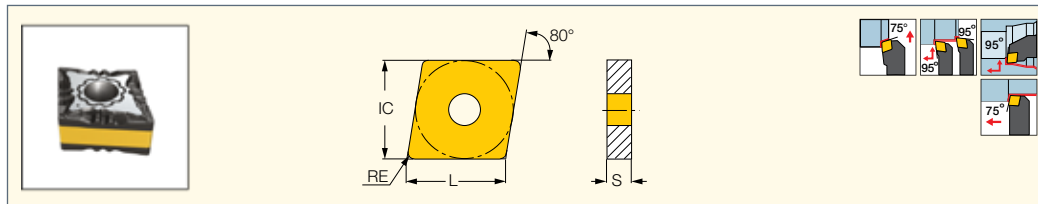


Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data	
	IC	RE	S	L	IC830	IC6025	IC8250	IC6015	IC8150	IC806	IC807	a _p (mm)	f (mm/rev)
WNMX 060604-M3MW	9.52	0.40	4.41	6.50	●	●		●				0.80-4.00	0.15-0.50
WNMX 060608-M3MW	9.52	0.80	4.41	6.50	●	●		●				1.00-5.00	0.20-0.60
WNMX 080704-M4MW	12.70	0.40	6.78	8.70			●		●	●	●	0.80-5.00	0.15-0.50
WNMX 080708-M4MW	12.70	0.80	6.78	8.70			●		●	●	●	1.00-5.00	0.20-0.60
WNMX 080712-M4MW	12.70	1.20	6.78	8.70			●		●	●	●	1.20-5.00	0.25-0.70

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A-PWLNRL-X/G (104) • C#-PWLNRL/L-X (13) • C#-PWLNRL/L-X-JHP (14) • DWLNRL/L (10) • DWLNRL/L-JHP-MC (10) • PWLNRL/L-X (11)
- PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13)

ISOTURN

CNMG-F3P
Double-Sided 80° Rhombic
Inserts for Semi-Finishing
and Finishing Applications



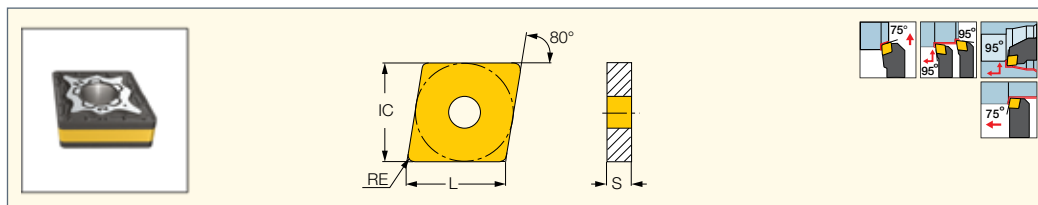
Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC8250	IC8150	IC20N	IC520N	IC807	ap (mm)	f (mm/rev)
CNMG 090404-F3P	9.67	9.52	4.76	0.40	●		●	●	●	●	●	0.50-3.50	0.07-0.25
CNMG 090408-F3P	9.67	9.52	4.76	0.80	●		●	●	●	●	●	0.90-3.50	0.08-0.25
CNMG 120404-F3P	12.90	12.70	4.76	0.40	●	●	●	●	●	●	●	0.50-3.50	0.07-0.25
CNMG 120408-F3P	12.90	12.70	4.76	0.80	●		●	●	●	●	●	0.90-3.50	0.08-0.25
CNMG 120412-F3P	12.90	12.70	4.76	1.20	●		●	●	●	●	●	1.30-3.50	0.10-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24)
 • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17)
 • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23)
 • S-DCLNR/L (99) • S-MULNR-MW (105) • AVC-PCLNR/L (96) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG-M3P
Double-Sided 80° Rhombic
Inserts for Medium Machining
Conditions on Steel



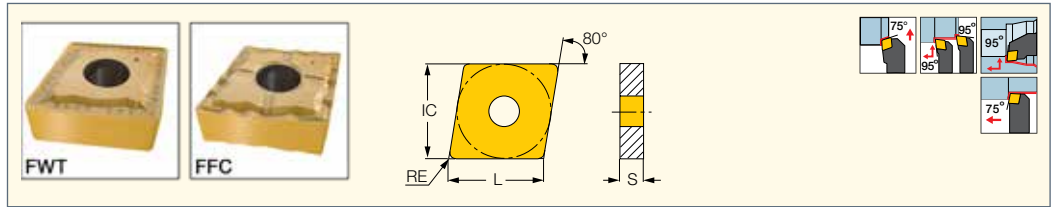
Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC5010	IC5005	IC807	ap (mm)	f (mm/rev)
CNMG 090404-M3P	9.67	9.52	4.76	0.40	●	●	●			●	0.40-4.00	0.10-0.30
CNMG 090408-M3P	9.67	9.52	4.76	0.80	●	●	●			●	0.50-4.50	0.15-0.50
CNMG 120404-M3P	12.90	12.70	4.76	0.40	●	●	●			●	0.40-5.50	0.10-0.30
CNMG 120408-M3P	12.90	12.70	4.76	0.80	●	●	●	●		●	0.50-5.50	0.15-0.50
CNMG 120412-M3P	12.90	12.70	4.76	1.20	●	●	●			●	0.80-5.50	0.18-0.60
CNMG 160612-M3P	16.12	15.88	6.35	1.20	●	●	●			●	0.80-7.20	0.18-0.60
CNMG 160616-M3P	16.12	15.88	6.35	1.60	●	●	●			●	0.80-7.20	0.18-0.60
CNMG 190608-M3P	19.30	19.05	6.35	0.80	●	●				●	0.50-8.60	0.15-0.50
CNMG 190612-M3P	19.30	19.05	6.35	1.20	●	●				●	0.80-8.60	0.18-0.60

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24)
 • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17)
 • MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23)
 • S-DCLNR/L (99) • S-MULNR-MW (105) • AVC-PCLNR/L (96) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG-CERMET
Double-Sided 80° Rhombic
Cermets Grade Inserts
for Semi-Finishing and
Finishing Applications

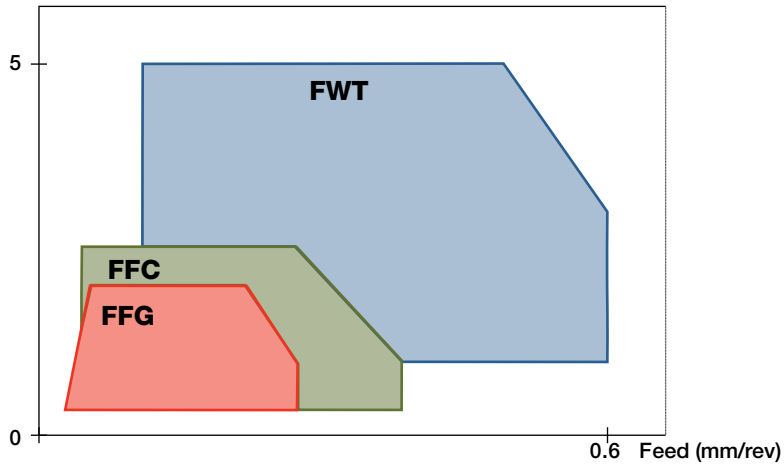


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC20N	IC520N	a _p (mm)	f (mm/rev)
CNMG 120402-FFG	12.90	12.70	4.76	0.20	•	•	0.40-3.50	0.07-0.25
CNMG 120404-FFC	12.90	12.70	4.76	0.40	•	•	0.50-3.50	0.07-0.25
CNMG 120408-FFC	12.90	12.70	4.76	0.80	•	•	1.00-2.50	0.05-0.25
CNMG 120408-FWT	12.90	12.70	4.76	0.80	•	•	0.00-5.00	0.15-0.00

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

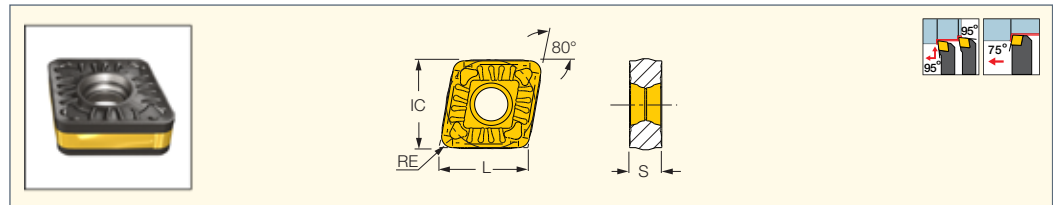
For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24)
• C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17)
• MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23)
• S-DCLNR/L (99) • S-MULNR-MW (105) • DCLNR/L-JHP-MC (25)

D.O.C (mm)



DOVE IQ TURN

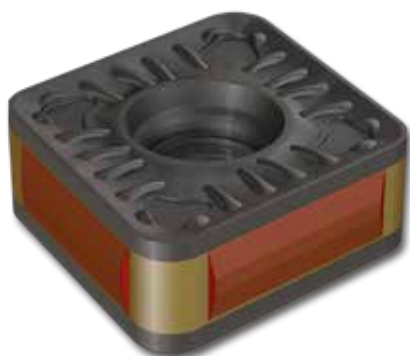
COMG-R3P-IQ
Double-Sided 7° Negative Side
Flank 80° Rhombic Inserts
for Heavy Turning of Steel



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	a _p (mm)	f (mm/rev)
COMG 160608-R3P-IQ	16.12	15.88	6.35	0.80	•	•	2.00-9.00	0.25-0.50
COMG 160612-R3P-IQ	16.12	15.88	6.35	1.20	•	•	2.00-9.00	0.30-0.60
COMG 160616-R3P-IQ	16.12	15.88	6.35	1.60	•	•	2.00-9.00	0.30-0.70
COMG 190612-R3P-IQ	19.34	19.05	6.35	1.20	•	•	3.00-12.00	0.30-0.80
COMG 190616-R3P-IQ	19.34	19.05	6.35	1.60	•	•	3.50-12.00	0.35-0.90
COMG 190624-R3P-IQ	19.34	19.05	6.35	2.40	•	•	3.50-12.00	0.35-0.90
COMG 250924-R3P-IQ	25.79	25.40	9.52	2.40	•	•	4.00-15.00	0.40-1.00

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-PCLOR/L-IQ (27) • PCBOR/L-IQ (27) • PCLOR/L-IQ (26)

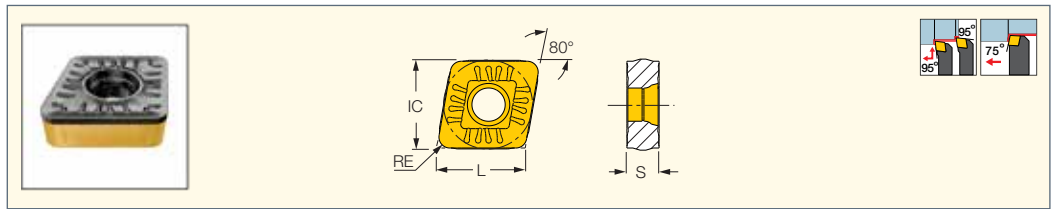


DOVE TAIL GEOMETRY



COMM-R3P-IQ

Single-Sided 7° Negative Side
Flank 80° Rhombic Inserts
for Heavy Turning of Steel



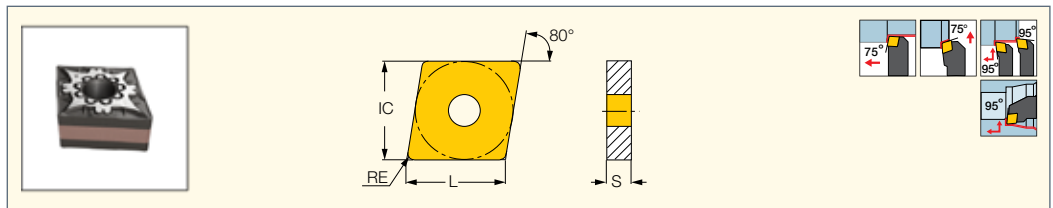
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	ap (mm)	f (mm/rev)
COMM 190624-R3P-IQ	19.34	19.05	6.35	2.40	●	●	3.50-12.00	0.35-1.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: C#-PCLOR/L-IQ (27) • PCBOR/L-IQ (27) • PCLOR/L-IQ (26)



CNMG-F3M

Double-sided 80° Rhombic
Inserts for Stainless Steel
Finishing Applications



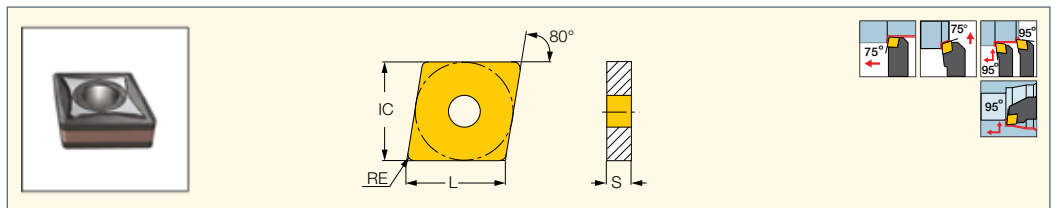
Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data		
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC4	IC804	ap (mm)	f (mm/rev)
CNMG 090404-F3M	9.67	9.52	4.76	0.40	●	●	●	●	●			0.10-1.50	0.05-0.30
CNMG 090408-F3M	9.67	9.52	4.76	0.80	●	●	●	●	●			0.10-1.50	0.10-0.40
CNMG 120404-F3M	12.90	12.70	4.76	0.40	●	●	●	●	●			0.10-1.50	0.05-0.30
CNMG 120408-F3M	12.90	12.70	4.76	0.80	●	●	●	●	●		●	0.10-1.50	0.10-0.40
CNMG 120412-F3M	12.90	12.70	4.76	1.20	●	●	●	●	●	●	●	0.20-2.00	0.15-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24)
• C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17)
• MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23)
• S-DCLNR/L (99) • S-MULNR-MW (105) • AVC-PCLNR/L (96) • DCLNR/L-JHP-MC (25)



CNMG-M3M

Double-Sided 80° Rhombic
Inserts for Machining Stainless
and Low Carbon Steel



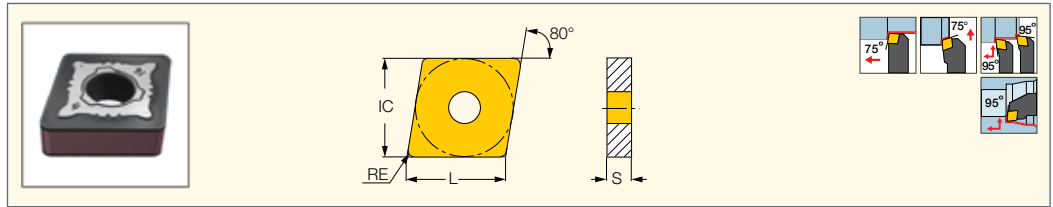
Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC804	ap (mm)	f (mm/rev)
CNMG 090404-M3M	9.67	9.52	4.76	0.40	●	●	●	●	●		0.40-4.00	0.12-0.40
CNMG 090408-M3M	9.67	9.52	4.76	0.80	●	●	●	●	●		0.50-4.50	0.15-0.50
CNMG 120404-M3M	12.90	12.70	4.76	0.40	●	●	●	●	●		0.50-5.00	0.15-0.50
CNMG 120408-M3M	12.90	12.70	4.76	0.80	●	●	●	●	●	●	0.50-5.00	0.15-0.50
CNMG 120412-M3M	12.90	12.70	4.76	1.20	●	●	●	●	●	●	0.50-5.00	0.20-0.60
CNMG 120416-M3M	12.90	12.70	4.76	1.60	●	●	●	●	●		0.50-5.00	0.25-0.70
CNMG 160608-M3M	16.12	15.88	6.35	0.80	●	●	●	●	●		0.50-7.00	0.15-0.50
CNMG 160612-M3M	16.12	15.88	6.35	1.20	●	●	●	●	●		0.50-7.00	0.20-0.60
CNMG 160616-M3M	16.12	15.88	6.35	1.60	●	●	●	●	●		0.50-7.00	0.25-0.70
CNMG 190608-M3M	19.34	19.05	6.35	0.80	●	●	●	●	●		3.00-10.00	0.30-0.70
CNMG 190612-M3M	19.34	19.05	6.35	1.20	●	●	●	●	●		3.00-10.00	0.35-0.80

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24)
• C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17)
• MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23)
• PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • AVC-PCLNR/L (96) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG-R3M

Double-Sided 80° Rhombic Inserts for Rough Machining of Stainless and Low Carbon Steel



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC806	a _p (mm)	f (mm/rev)
CNMG 160612-R3M	16.12	15.88	6.35	1.20	●	●		2.00-9.00	0.30-0.90
CNMG 160616-R3M	16.12	15.88	6.35	1.60	●	●		2.00-10.00	0.40-1.00
CNMG 160624-R3M	16.12	15.88	6.35	2.40	●	●		2.00-11.00	0.50-1.20
CNMG 190612-R3M	19.34	19.05	6.35	1.20	●	●	●	2.00-9.00	0.30-0.90
CNMG 190616-R3M	19.34	19.05	6.35	1.60	●	●	●	2.00-10.00	0.40-1.00
CNMG 190624-R3M	19.34	19.05	6.35	2.40	●	●	●	2.00-11.00	0.50-1.20

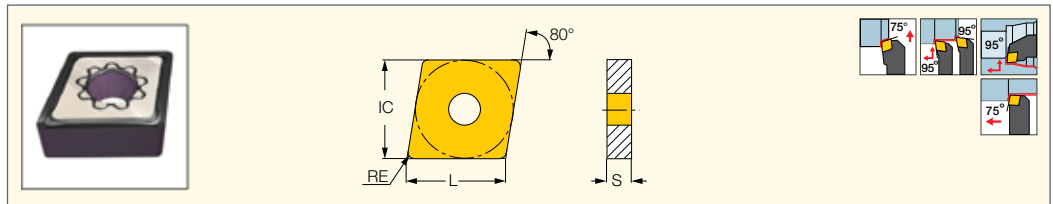
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-PCLNR/L-X (24) • DCBNR/L (26) • DCLNR/L (25) • MCLNR/L (21) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-X (22) • A/S-PCLNR/L-X/G (102)

ISOTURN

CNMG-F3S

Double-Sided 80° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC806	IC804	a _p (mm)	f (mm/rev)
CNMG 090404-F3S	9.67	9.52	4.76	0.40	●	●	0.10-1.50	0.05-0.30
CNMG 090408-F3S	9.67	9.52	4.76	0.80	●	●	0.10-1.50	0.05-0.30
CNMG 120404-F3S	12.90	12.70	4.76	0.40	●	●	0.10-1.50	0.05-0.30
CNMG 120408-F3S	12.90	12.70	4.76	0.80	●	●	0.10-1.50	0.05-0.30

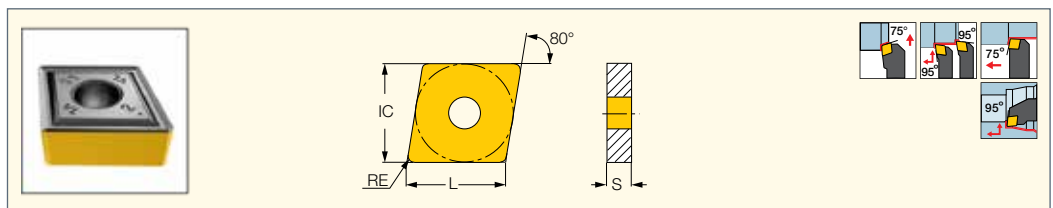
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • AVC-PCLNR/L (96) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • DCLNR/L-JHP-MC (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105)

ISOTURN

CNMG-VL

Double-Sided 80° Rhombic Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC806	IC804	a _p (mm)	f (mm/rev)
CNMG 120404-VL	12.90	12.70	4.76	0.40	●	●	0.30-3.00	0.05-0.15
CNMG 120408-VL	12.90	12.70	4.76	0.80	●	●	0.50-4.00	0.10-0.25

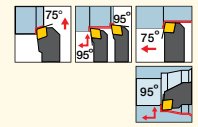
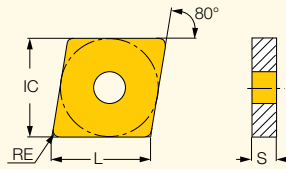
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG/CNGG-SF

Double-Sided 80° Rhombic Inserts for Super-Finishing; Controls Chip Flow at Very Low Feeds and Depths of Cut



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC6015	IC520N	IC428	IC907	a _p (mm)	f (mm/rev)
CNMG 120402-SF	12.90	12.70	4.76	0.20		●	●		0.30-2.00	0.03-0.25
CNMG 120404-SF	12.90	12.70	4.76	0.40	●				0.30-2.00	0.05-0.25
CNGG 120401-SF	12.90	12.70	4.76	0.10				●	0.20-1.50	0.03-0.15
CNGG 120402-SF	12.90	12.70	4.76	0.20				●	0.30-2.00	0.03-0.20
CNGG 120404-SF	12.90	12.70	4.76	0.40				●	0.30-2.00	0.03-0.20

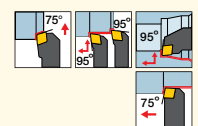
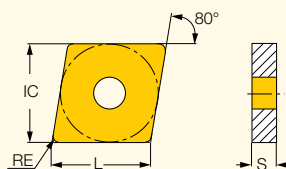
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
 • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15)
 • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99)
 • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG-NF

Double-Sided 80° Rhombic Inserts for Semi-Finishing and Finishing Applications



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data				
	L	IC	S	RE	IC8250	IC530N	IC6015	IC8150	IC20N	IC807	IC907	a _p (mm)	f (mm/rev)
CNMG 120404-NF	12.90	12.70	4.76	0.40	●	●	●	●	●	●	●	0.40-3.50	0.08-0.25
CNMG 120408-NF	12.90	12.70	4.76	0.80	●							0.80-3.50	0.08-0.25

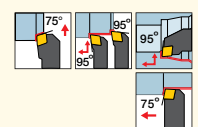
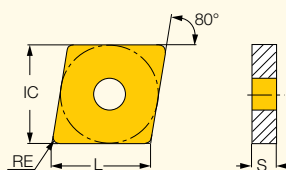
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
 • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15)
 • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99)
 • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG-WF

Double-Sided 80° Rhombic Wiper Inserts for Finishing Operations at High Feeds

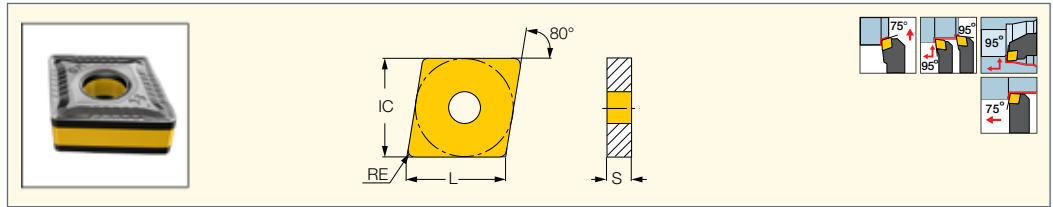


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	a _p (mm)	f (mm/rev)
CNMG 120408-WF	12.90	12.70	4.76	0.80	●	●	0.80-3.50	0.10-0.35

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
 • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15)
 • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99)
 • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

CNMG-WG/NRW
 Double-Sided 80° Rhombic
 Wiper Inserts for High Feed
 Turning and High Surface Finish

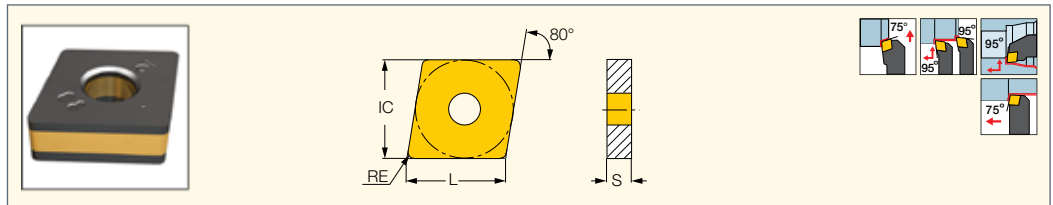


Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	IC520N	IC428	IC5005	IC807	IC907	ap (mm)	f (mm/rev)
CNMG 120408-WG	12.90	12.70	4.76	0.80	●	●	●	●	●	●	●	0.80-3.50	0.10-0.50
CNMG 120412-WG	12.90	12.70	4.76	1.20	●	●						1.50-4.00	0.30-0.80
CNMG 120416-NRW	12.90	12.70	4.76	1.60	●	●						2.00-4.50	0.30-0.80

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
 • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15)
 • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99)
 • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

CNMA
 Double-Sided 80° Rhombic
 Inserts for Short Chipping
 Materials such as Cast Iron



Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data	
	L	IC	S	RE	IC8150	IC20	IC5010	IC428	IC5005	IC807	IC907	ap (mm)	f (mm/rev)
CNMA 120404	12.90	12.70	4.76	0.40			●	●	●			1.00-4.00	0.03-0.34
CNMA 120408	12.90	12.70	4.76	0.80	●	●	●	●	●			1.00-4.00	0.05-0.43
CNMA 120408F (1)	12.90	12.70	4.76	0.80						●	●	1.00-4.00	0.05-0.50
CNMA 120412	12.90	12.70	4.76	1.20	●	●	●	●	●			1.50-4.50	0.08-0.60
CNMA 120416	12.90	12.70	4.76	1.60			●	●	●			2.00-6.00	0.30-0.60
CNMA 160612	16.12	15.88	6.35	1.20			●		●			2.00-10.00	0.10-0.80
CNMA 160616	16.12	15.88	6.35	1.60			●		●			2.00-10.00	0.30-0.60
CNMA 190612	19.30	19.05	6.35	1.20		●		●	●			2.00-10.00	0.10-0.80
CNMA 190616	19.30	19.05	6.35	1.60				●	●			2.50-10.00	0.30-1.00

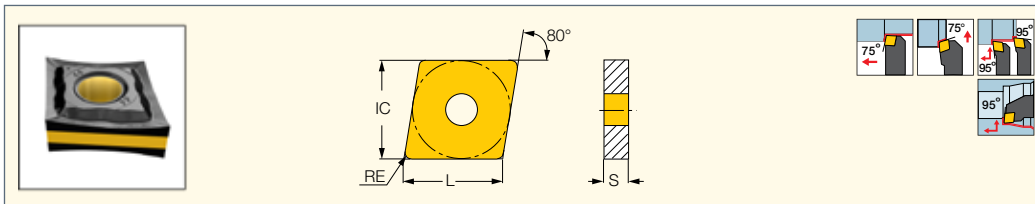
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

(1) Sharp edge

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24)
 • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • DCLNR/L-JHP-MC (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16)
 • HSK A63WH-MUMNN-MW (17) • MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21)
 • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105)

ISOTURN

CNMG/CNGG-PP
 Double-Sided 80° Rhombic
 Inserts for Machining Very
 Ductile Materials at Medium
 Cutting Conditions



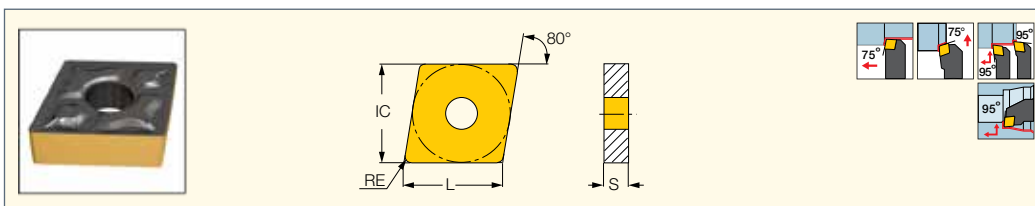
Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data				
	L	IC	S	RE	IC28	IC880	IC8850	IC6025	IC8250	IC10	IC6015	IC8150	IC428	IC806	IC807	IC907	IC804	ap (mm)	f (mm/rev)
CNMG 120404-PP	12.90	12.70	4.76	0.40		•	•	•	•	•	•				•	•		1.00-4.00	0.14-0.30
CNMG 120408-PP	12.90	12.70	4.76	0.80	•	•	•	•	•	•	•	•	•	•	•	•		1.00-4.00	0.14-0.30
CNMG 120412-PP	12.90	12.70	4.76	1.20					•									1.50-4.00	0.18-0.40
CNMG 190612-PP	19.30	19.05	6.35	1.20											•	•		2.00-8.00	0.30-0.60
CNGG 120401-PP	12.90	12.70	4.76	0.10												•		0.40-2.00	0.05-0.20
CNGG 120402-PP	12.90	12.70	4.76	0.20												•		0.40-2.50	0.08-0.25
CNGG 120404-PP	12.90	12.70	4.76	0.40												•		0.80-3.00	0.10-0.30
CNGG 120408-PP	12.90	12.70	4.76	0.80										•		•		1.00-4.00	0.10-0.30
CNGG 120412-PP	12.90	12.70	4.76	1.20												•		1.00-4.00	0.10-0.30
CNGG 190612-PP	19.30	19.05	6.35	1.20												•		2.00-9.00	0.30-0.60

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG/CNGG-TF
 Double-Sided 80° Rhombic
 Inserts for Machining a
 Wide Range of Materials at
 Medium Cutting Conditions



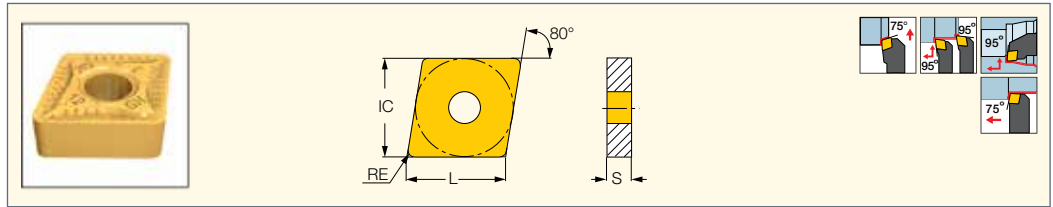
Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data			
	L	IC	S	RE	IC830	IC8350	IC6025	IC8250	IC908	IC6015	IC8150	IC20	IC20N	IC806	IC807	IC907	ap (mm)	f (mm/rev)
CNMG 090304-TF	9.70	9.52	3.18	0.40				•			•						1.00-3.00	0.12-0.35
CNMG 090308-TF	9.70	9.52	3.18	0.80	•			•			•						1.00-4.00	0.12-0.35
CNMG 120404-TF	12.90	12.70	4.76	0.40	•		•	•		•				•	•	•	1.00-4.00	0.12-0.35
CNMG 120408-TF	12.90	12.70	4.76	0.80	•	•	•	•	•	•	•	•	•	•	•	•	1.00-4.00	0.12-0.35
CNMG 120412-TF	12.90	12.70	4.76	1.20	•		•	•	•	•	•			•	•	•	1.50-4.50	0.15-0.40
CNMG 160608-TF	16.12	15.88	6.35	0.80											•	•	1.00-6.00	0.12-0.35
CNMG 160612-TF	16.12	15.88	6.35	1.20				•									1.50-6.00	0.15-0.45
CNMG 190612-TF	19.30	19.05	6.35	1.20				•									1.50-6.50	0.20-0.55
CNGG 120408-TF	12.96	12.70	4.76	0.80												•	1.00-4.00	0.12-0.35

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • DCLNR/L-JHP-MC (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105)

ISOTURN

CNMG-GN
Double-Sided 80° Rhombic
Inserts for General Applications



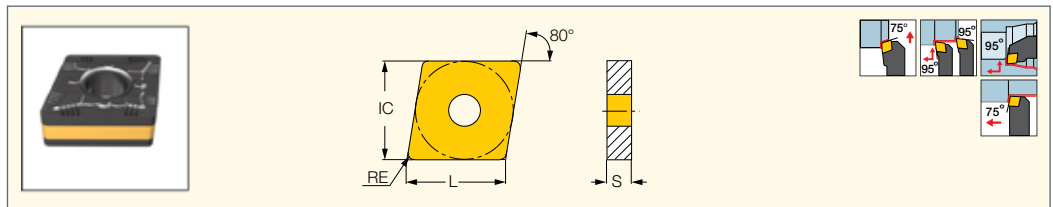
Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data			
	L	IC	S	RE	IC830	IC8350	IC6025	IC8250	IC6015	IC8150	IC20	IC5010	IC428	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
CNMG 120404-GN	12.90	12.70	4.76	0.40	•	•		•		•	•		•				1.00-4.00	0.14-0.40
CNMG 120408-GN	12.90	12.70	4.76	0.80	•	•	•	•	•			•		•	•	•	1.00-4.50	0.16-0.45
CNMG 120412-GN	12.90	12.70	4.76	1.20	•	•		•		•			•	•	•	•	1.50-5.00	0.22-0.50
CNMG 160612-GN	16.12	15.88	6.35	1.20	•			•		•		•					2.00-7.00	0.22-0.60
CNMG 160616-GN	16.12	15.88	6.35	1.60				•									2.00-7.00	0.22-0.75
CNMG 190608-GN	19.30	19.05	6.35	0.80				•									1.50-8.00	0.20-0.70
CNMG 190612-GN	19.30	19.05	6.35	1.20	•	•		•		•							2.00-7.98	0.25-0.70

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • DCLNR/L-JHP-MC (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105)

ISOTURN

CNMG-NR
Double-Sided 80° Rhombic
Inserts with a Special Chipformer
for Heavy Machining



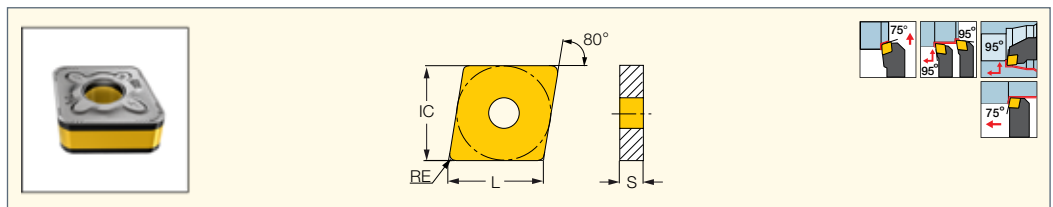
Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data		
	L	IC	S	RE	IC830	IC8350	IC6025	IC8250	IC6015	IC8150	IC5010	IC428	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
CNMG 120408-NR	12.90	12.70	4.76	0.80		•	•	•	•	•	•	•	•	•	•	1.00-5.00	0.15-0.50
CNMG 120412-NR	12.90	12.70	4.76	1.20	•	•		•		•	•		•			1.00-5.00	0.23-0.55
CNMG 120416-NR	12.90	12.70	4.76	1.60				•		•						1.00-5.00	0.30-0.60
CNMG 160608-NR	16.12	15.88	6.35	0.80		•		•								1.50-6.00	0.25-0.50
CNMG 160612-NR	16.12	15.88	6.35	1.20		•		•						•	•	2.00-7.00	0.30-0.60
CNMG 160616-NR	16.12	15.88	6.35	1.60	•	•		•		•		•	•	•	•	2.50-7.00	0.30-0.70
CNMG 190608-NR	19.30	19.05	6.35	0.80		•		•								3.50-8.00	0.30-0.72
CNMG 190612-NR	19.30	19.05	6.35	1.20		•		•						•	•	3.50-8.00	0.30-0.80
CNMG 190616-NR	19.30	19.05	6.35	1.60	•	•		•		•				•	•	4.00-10.00	0.40-0.85
CNMG 190624-NR	19.30	19.05	6.35	2.40				•								4.00-10.00	0.40-1.20
CNMG 250924-NR	25.79	25.40	9.52	2.40				•								6.00-12.00	0.40-1.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMG-MR
Double-Sided 80° Rhombic
Inserts for Rough Turning on
Stainless Steel and Soft Materials



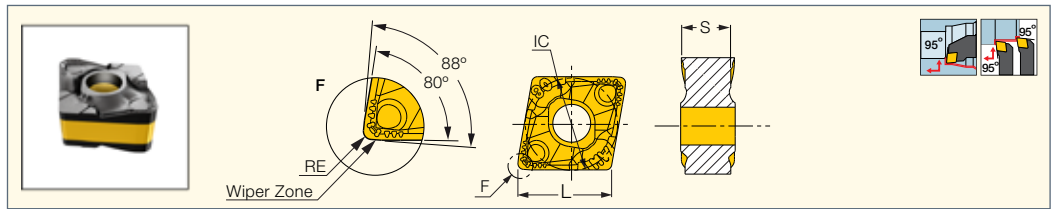
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC8350	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
CNMG 160612-MR	16.12	15.88	6.35	1.20	•		•	•	2.00-10.00	0.30-0.90
CNMG 190612-MR	19.03	19.05	6.35	1.20	•	•	•	•	2.00-10.00	0.30-0.90

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-PCLNR/L-X (24) • DCBNR/L (26) • DCLNR/L (25) • MCLNR/L (21) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-X (22) • A/S-PCLNR/L-X/G (102)

HELITURN LD

CNMX-M3/4PW
Double-Sided 80° Rhombic
Inserts with a High Helical
Cutting Edge for High
Metal Removal Rates

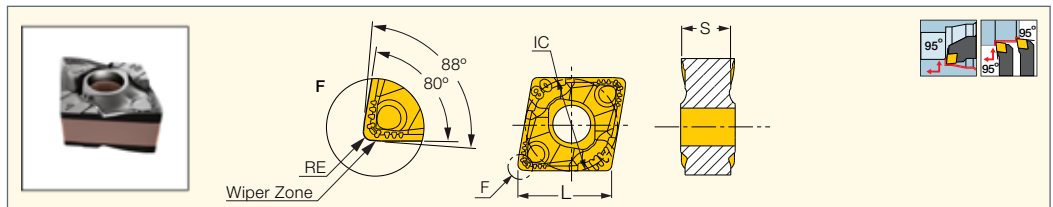


Designation	Dimensions				Tough ↔ Hard								Recommended Machining Data	
	L	IC	S	RE	IC830	IC8350	IC8250	IC8150	IC20N	IC520N	IC807	IC907	ap (mm)	f (mm/rev)
CNMX 090604-M3PW	9.67	9.52	4.40	0.40	●		●	●					1.00-4.50	0.20-0.50
CNMX 090608-M3PW	9.67	9.52	4.40	0.80	●		●	●	●				1.50-5.00	0.25-0.60
CNMX 120708-M4PW	12.90	12.70	6.78	0.80		●	●	●			●	●	1.50-6.00	0.25-0.60
CNMX 120712-M4PW	12.90	12.70	6.78	1.20		●	●	●			●	●	2.00-6.00	0.30-0.80
CNMX 120716-M4PW	12.90	12.70	6.78	1.60		●	●	●			●	●	2.00-6.00	0.30-1.00
CNMX 160712-M4PW	16.12	15.88	6.40	1.20			●	●			●		2.00-8.00	0.30-0.80
CNMX 160716-M4PW	16.12	15.88	6.40	1.60			●	●			●		2.00-8.00	0.30-1.00

- PCLNR/L...X and A...PCLNR/L-X are most recommended as they were designed especially for this insert
- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/S-PCLNR/L-X/G (102) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCLNR/L (25) • DCLNR/L-JHP-MC (25)
- PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23)

HELITURN LD

CNMX-M3/4MW
Double-Sided 80° Rhombic
Inserts with a High Helical
Cutting Edge for High Metal Removal
Rates of Stainless Steel

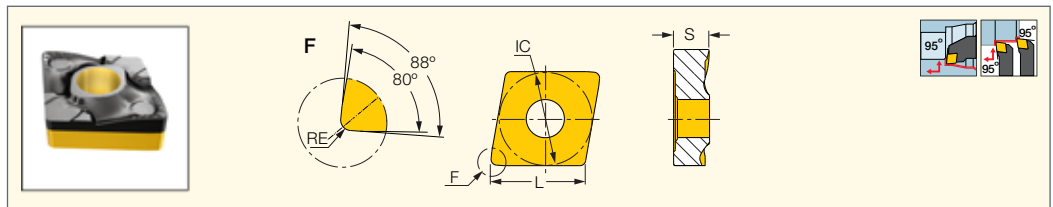


Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC8150	IC806	IC807	ap (mm)	f (mm/rev)
CNMX 090604-M3MW	9.67	9.52	4.40	0.40	●	●	●				0.80-4.00	0.15-0.45
CNMX 090608-M3MW	9.67	9.52	4.40	0.80	●	●	●				1.00-5.00	0.20-0.60
CNMX 120704-M4MW	12.90	12.70	6.78	0.40		●	●		●	●	0.80-5.00	0.15-0.45
CNMX 120708-M4MW	12.90	12.70	6.78	0.80	●	●	●	●	●	●	1.00-6.00	0.20-0.60
CNMX 120712-M4MW	12.90	12.70	6.78	1.20		●	●	●	●	●	2.00-6.00	0.30-0.80

- PCLNR/L...X and A...PCLNR/L-X are most recommended as they were designed especially for this insert
- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/S-PCLNR/L-X/G (102) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCLNR/L (25) • DCLNR/L-JHP-MC (25)
- PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23)

HELITURN LD

CNMM-M4PW
Very Positive Radial Insert
with a Helical Cutting Edge
and Positive Rake for Heavy
Machining Applications



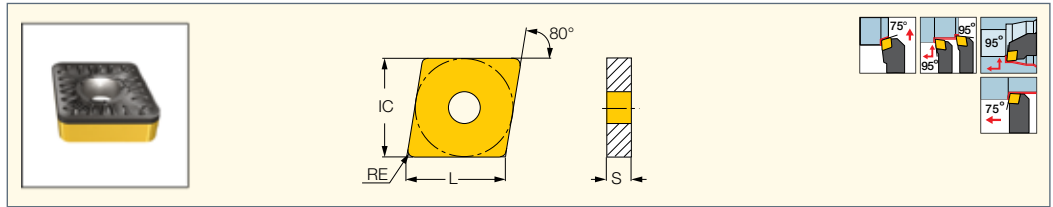
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	L	IC8250	IC8150	ap (mm)	f (mm/rev)
CNMM 120408-M4PW	12.70	4.76	0.80	12.90	●	●	1.50-5.00	0.24-0.59

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
- DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNR-MW (17) • MULNR/L-12MW (15)
- PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99)
- S-MULNR-MW (105) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMM-R3P

Single-Sided 80° Rhombic Inserts for Rough Turning Applications on Steel



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	ap (mm)	f (mm/rev)
CNMM 120408-R3P	12.90	12.70	4.76	0.80	●	●	●	0.70-7.50	0.20-0.55
CNMM 120412-R3P	12.90	12.70	4.76	1.20	●	●	●	1.00-7.50	0.25-0.70
CNMM 120416-R3P	12.90	12.70	4.76	1.60	●	●	●	1.50-7.50	0.30-0.90
CNMM 160608-R3P	16.12	15.88	6.35	0.80	●	●	●	2.00-9.50	0.20-0.55
CNMM 160612-R3P	16.12	15.88	6.35	1.20	●	●	●	2.00-9.50	0.30-0.70
CNMM 160616-R3P	16.12	15.88	6.35	1.60	●	●	●	2.00-9.50	0.30-0.90
CNMM 190612-R3P	19.34	19.05	6.35	1.20	●	●	●	3.00-12.00	0.25-0.80
CNMM 190616-R3P	19.34	19.05	6.35	1.60	●	●	●	3.50-12.00	0.30-0.90
CNMM 190624-R3P	19.34	19.05	6.35	2.40	●	●	●	3.50-12.00	0.30-1.20
CNMM 250924-R3P	25.79	25.40	9.52	2.40	●	●	●	4.00-15.00	0.40-1.20

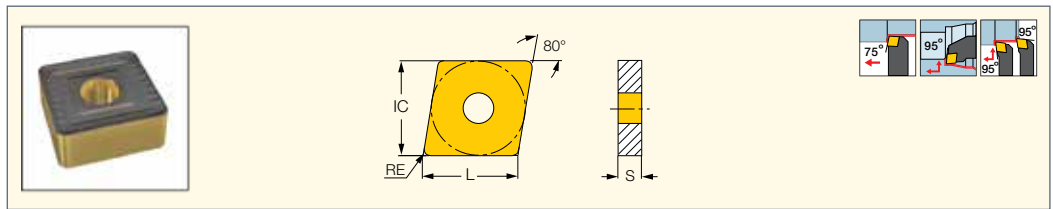
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MCLNR/L (21) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

ISOTURN

CNMM-H3P

Insert with a Strong Cutting Edge for Extra Rough Turning



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	ap (mm)	f (mm/rev)
CNMM 190624-H3P	19.34	19.05	6.35	2.40	●	●	4.00-9.00	0.55-1.20
CNMM 250924-H3P	25.79	25.40	9.52	2.40	●	●	5.00-12.00	0.55-1.30

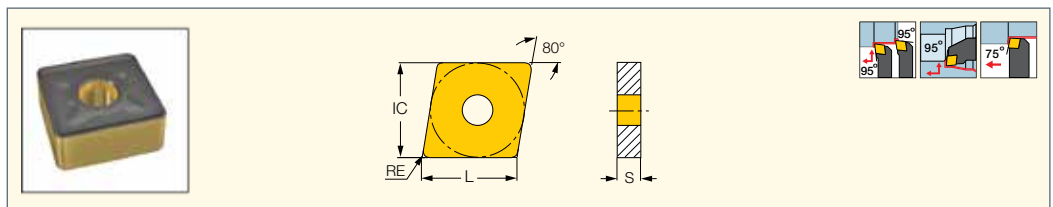
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • DCBNR/L (26) • DCLNR/L (25) • MCLNR/L (21) • PCBNR/L (22) • PCLNR/L (20)

ISOTURN

CNMM-H4P

Insert with a Strong Cutting Edge for Extra Rough Turning



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	ap (mm)	f (mm/rev)
CNMM 190624-H4P	19.34	19.05	6.35	2.40	●	●	4.00-12.00	0.50-1.10
CNMM 250924-H4P	25.79	25.40	9.52	2.40	●	●	5.00-15.00	0.55-1.50

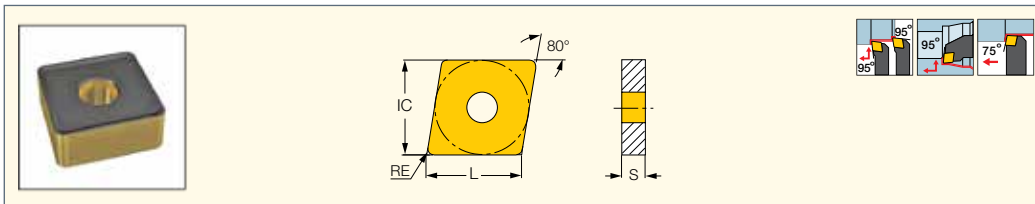
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • DCBNR/L (26) • DCLNR/L (25) • MCLNR/L (21) • PCBNR/L (22) • PCLNR/L (20)

ISOTURN

CNMM-H5P

Single-Sided 80° Rhombic Insert with a Strong Cutting Edge for Extra Rough Turning



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	a _p (mm)	f (mm/rev)
CNMM 250924-H5P	25.79	25.40	9.52	2.40	●	●	5.00-15.00	0.55-1.50

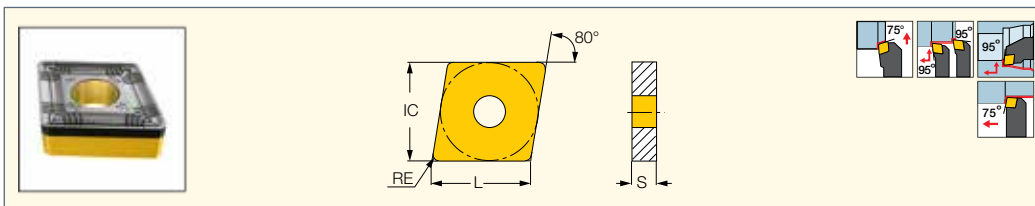
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: PCLNR/L (20)

ISOTURN

CNMM-NR

Single-Sided 80° Rhombic Inserts for Rough Turning Applications



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8150	IC907	a _p (mm)	f (mm/rev)
CNMM 190616-NR	19.03	19.05	6.35	1.60	●	●	2.00-10.00	0.40-1.00

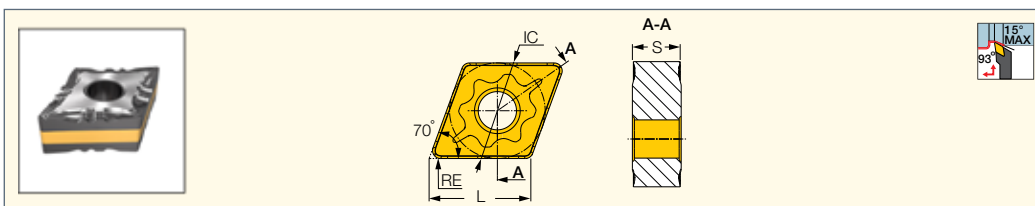
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: DCBNR/L (26) • DCLNR/L (25) • MCLNR/L (21) • PCBNR/L (22) • PCLNR/L (20)

ISOTURN

XNMG-F3P

Double-Sided 70° Rhombic Inserts for Semi-Finishing and Finishing Applications



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
XNMG 090404-F3P	10.14	9.53	4.76	0.40	●	●	●	●	0.50-3.50	0.07-0.25
XNMG 090408-F3P	10.14	9.53	4.76	0.80	●	●	●	●	0.90-3.50	0.08-0.25
XNMG 120404-F3P	13.52	12.70	4.76	0.40	●	●	●	●	0.50-3.50	0.07-0.25
XNMG 120408-F3P	13.52	12.70	4.76	0.80	●	●	●	●	0.90-3.50	0.08-0.25

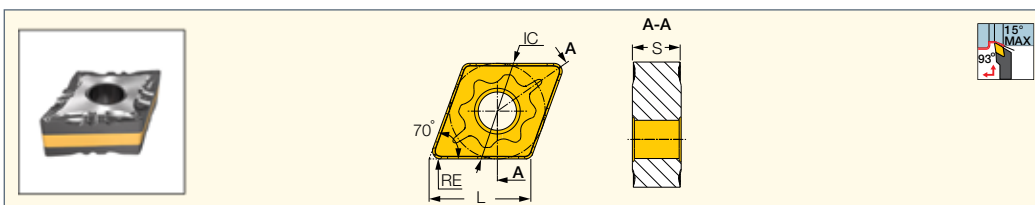
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: DXJNR/L-X-JHP-MC (27)

ISOTURN

XNMG-M3P

Double-Sided 70° Rhombic Inserts for Medium Machining Conditions on Steel



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
XNMG 090404-M3P	10.14	9.53	4.76	0.40	●	●	●	●	0.50-3.50	0.07-0.25
XNMG 090408-M3P	10.14	9.53	4.76	0.80	●	●	●	●	0.90-3.50	0.08-0.25
XNMG 120404-M3P	13.52	12.70	4.76	0.40	●	●	●	●	0.50-3.50	0.07-0.25
XNMG 120408-M3P	13.52	12.70	4.76	0.80	●	●	●	●	0.90-3.50	0.08-0.25

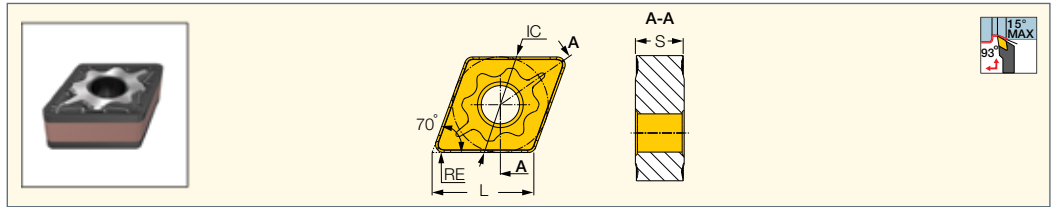
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: DXJNR/L-X-JHP-MC (27)

ISOTURN

XNMG-F3M

Double-sided 70° Rhombic Inserts for Stainless Steel Finishing Applications



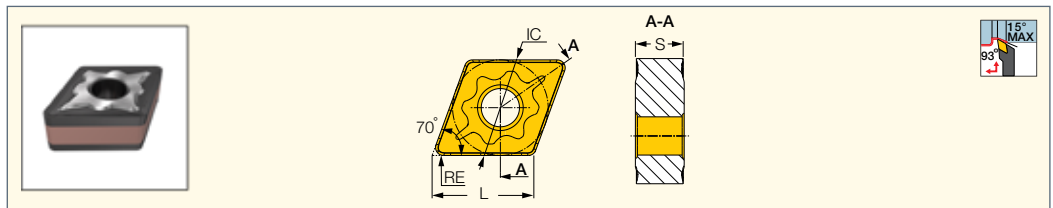
Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	a _p (mm)	f (mm/rev)
XNMG 090404-F3M	10.14	9.53	4.76	0.40	●	●	●	●	●	0.10-1.50	0.05-0.30
XNMG 090408-F3M	10.14	9.53	4.76	0.80	●	●	●	●	●	0.10-1.50	0.10-0.40
XNMG 120404-F3M	13.52	12.70	4.76	0.40	●	●	●	●	●	0.10-1.50	0.05-0.30
XNMG 120408-F3M	13.52	12.70	4.76	0.80	●	●	●	●	●	0.10-1.50	0.10-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: DXJNR/L-X-JHP-MC (27)

ISOTURN

XNMG-M3M

Double-Sided 70° Rhombic Inserts for Machining Stainless and Low Carbon Steel



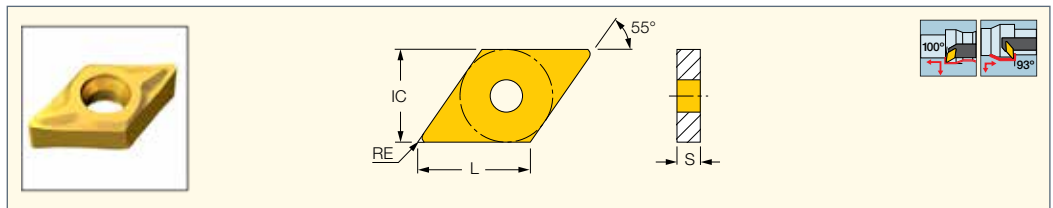
Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	a _p (mm)	f (mm/rev)
XNMG 090404-M3M	10.14	9.53	4.76	0.40	●	●	●	●	●	0.40-4.00	0.12-0.40
XNMG 090408-M3M	10.14	9.53	4.76	0.80	●	●	●	●	●	0.50-4.50	0.15-0.50
XNMG 120404-M3M	13.52	12.70	4.76	0.40	●	●	●	●	●	0.50-5.00	0.15-0.50
XNMG 120408-M3M	13.52	12.70	4.76	0.80	●	●	●	●	●	0.50-5.00	0.15-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: DXJNR/L-X-JHP-MC (27)

ISOTURN

MINIPTURN

POSITIVE DOUBLE SIDED
 DNGP-F2P
 Double-Sided 55° Rhombic Inserts for Semi-Finishing and Finishing Applications on Alloyed Steel



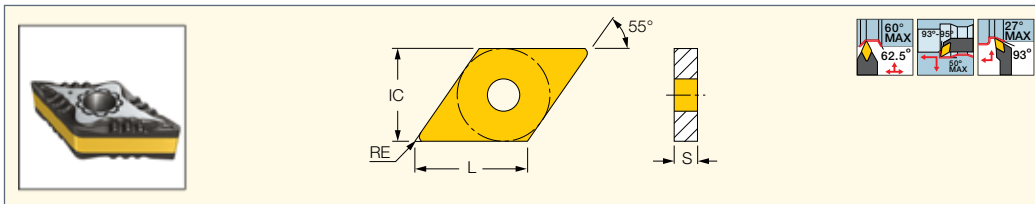
Designation	Dimensions				IC530N	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
DNGP 070302R/L-F2P	7.70	6.35	3.18	0.20	●	0.30-2.00	0.08-0.30
DNGP 070304R/L-F2P	7.70	6.35	3.18	0.40	●	0.30-2.00	0.08-0.30
DNGP 070308R/L-F2P	7.70	6.35	3.18	0.80	●	0.30-2.00	0.08-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E-SDXNR/L-07 (107) • A/E-SDZNR/L-07 (107) • NQCH-SDJNR/L-S-JHP (28) • PDJNR/L-S (28)

ISOTURN

DNMG-F3P

Double-Sided 55° Rhombic Inserts for Semi-Finishing and Finishing on Steel



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
DNMG 110404-F3P	11.63	9.52	4.76	0.40	●	●	●	●	0.80-3.00	0.07-0.25
DNMG 110408-F3P	11.63	9.52	4.76	0.80	●	●	●	●	1.00-3.50	0.08-0.25
DNMG 110412-F3P	11.63	9.52	4.76	1.20	●	●	●	●	1.40-4.00	0.10-0.25
DNMG 150404-F3P	15.50	12.70	4.76	0.40	●	●	●	●	0.80-3.00	0.07-0.25
DNMG 150408-F3P	15.50	12.70	4.76	0.80	●	●	●	●	1.00-3.50	0.08-0.25
DNMG 150412-F3P	15.50	12.70	4.76	1.20	●	●	●	●	1.40-4.00	0.10-0.25
DNMG 150604-F3P	15.50	12.70	6.35	0.40	●	●	●	●	0.80-3.00	0.07-0.25
DNMG 150608-F3P	15.50	12.70	6.35	0.80	●	●	●	●	1.00-3.50	0.08-0.25
DNMG 150612-F3P	15.50	12.70	6.35	1.20	●	●	●	●	1.40-4.00	0.10-0.25

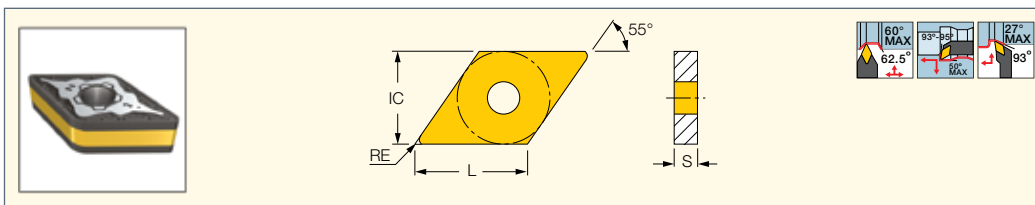
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-M3P

Double-Sided 55° Rhombic Inserts for Medium Machining Conditions on Steel



Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC5010	IC5005	IC807	a _p (mm)	f (mm/rev)
DNMG 110408-M3P	11.63	9.52	4.76	0.80	●	●	●			●	0.50-5.00	0.15-0.50
DNMG 110412-M3P	11.63	9.52	4.76	1.20	●		●			●	0.80-5.00	0.18-0.60
DNMG 150408-M3P	15.50	12.70	4.76	0.80	●	●	●	●	●	●	0.50-6.00	0.15-0.50
DNMG 150412-M3P	15.50	12.70	4.76	1.20	●					●	0.80-6.00	0.18-0.60
DNMG 150608-M3P	15.50	12.70	6.35	0.80	●	●	●			●	0.50-6.00	0.15-0.50
DNMG 150612-M3P	15.50	12.70	6.35	1.20	●	●	●			●	0.80-6.00	0.18-0.60

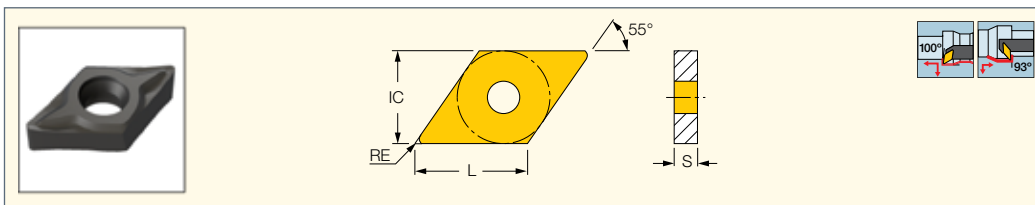
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L (97) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • DDJNR/L-JHP-MC (30)

ISOTURN

DNGP-F2M

Double-Sided 55° Rhombic Inserts for Semi-Finishing and Finishing on Stainless Steel



Designation	Dimensions				IC908	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
DNGP 070302R/L-F2M	7.70	6.35	3.18	0.20	●	0.30-2.00	0.08-0.30
DNGP 070304R/L-F2M	7.70	6.35	3.18	0.40	●	0.30-2.00	0.08-0.30
DNGP 070308R/L-F2M	7.70	6.35	3.18	0.80	●	0.30-2.00	0.08-0.30

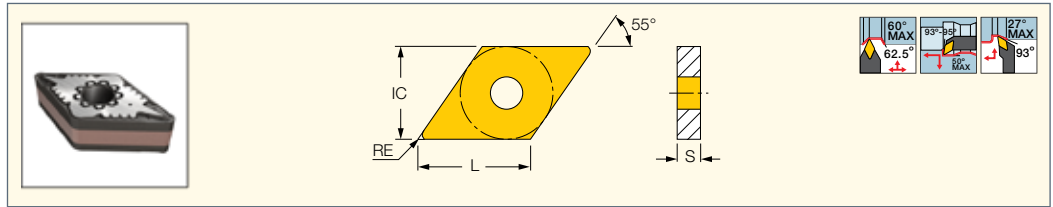
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E-SDXNR/L-07 (107) • A/E-SDZNR/L-07 (107) • NQCH-SDJNR/L-S-JHP (28) • PDJNR/L-S (28)

ISOTURN

DNMG-F3M

Double-Sided 55° Rhombic Inserts for Finish on Turning Stainless and Low Carbon Steel



Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC804	a _p (mm)	f (mm/rev)
DNMG 110404-F3M	11.63	9.52	4.76	0.40	●	●	●	●	●		0.10-1.50	0.05-0.32
DNMG 110408-F3M	11.63	9.52	4.76	0.80	●	●	●	●	●		0.10-1.50	0.10-0.42
DNMG 110412-F3M	11.63	9.52	4.76	1.20	●	●	●	●	●		0.15-2.00	0.15-0.52
DNMG 150404-F3M	15.50	12.70	4.76	0.40	●	●	●	●	●	●	0.10-1.50	0.05-0.30
DNMG 150408-F3M	15.50	12.70	4.76	0.80	●	●	●	●	●		0.10-1.50	0.10-0.40
DNMG 150412-F3M	15.50	12.70	4.76	1.20	●	●	●	●	●		0.20-2.50	0.15-0.50
DNMG 150604-F3M	15.50	12.70	6.35	0.40	●	●	●	●	●		0.10-1.50	0.05-0.30
DNMG 150608-F3M	15.50	12.70	6.35	0.80	●	●	●	●	●		0.10-1.50	0.10-0.40
DNMG 150612-F3M	15.50	12.70	6.35	1.20	●	●	●	●	●		0.20-2.50	0.15-0.50

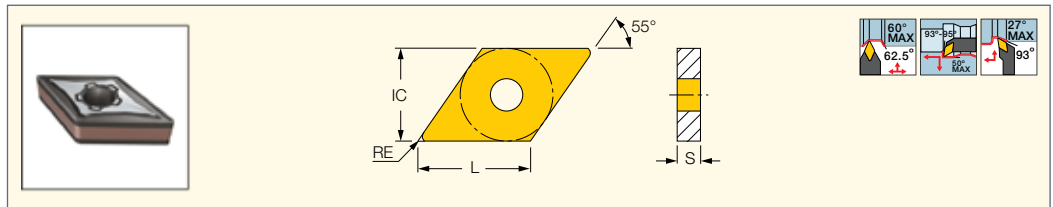
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-M3M

Double-Sided 55° Rhombic Inserts for Machining Stainless and Low Carbon Steel



Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC804	a _p (mm)	f (mm/rev)
DNMG 110404-M3M	11.63	9.52	4.76	0.40	●	●	●	●	●		0.50-3.50	0.12-0.40
DNMG 110408-M3M	11.63	9.52	4.76	0.80	●	●	●	●	●		0.50-4.00	0.15-0.50
DNMG 110412-M3M	11.63	9.52	4.76	1.20	●	●	●	●	●		0.50-4.00	0.20-0.60
DNMG 150408-M3M	15.50	12.70	4.76	0.80	●	●	●	●	●	●	0.50-5.00	0.15-0.50
DNMG 150412-M3M	15.50	12.70	4.76	1.20	●	●	●	●	●		0.50-5.00	0.20-0.60
DNMG 150608-M3M	15.50	12.70	6.35	0.80	●	●	●	●	●		0.50-5.00	0.15-0.50
DNMG 150612-M3M	15.50	12.70	6.35	1.20	●	●	●	●	●		0.50-5.00	0.20-0.60

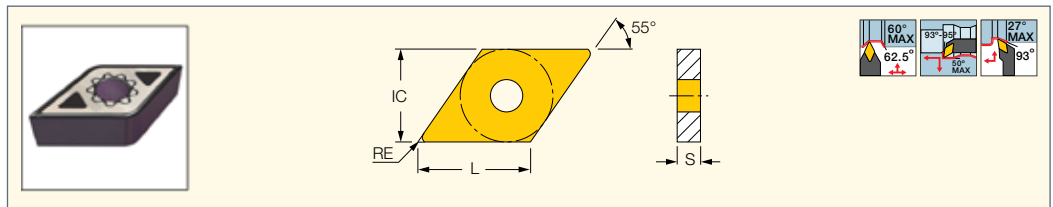
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-F3S

Double-Sided 55° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC806	IC804	a _p (mm)	f (mm/rev)
DNMG 110404-F3S	11.63	9.52	4.76	0.40	●	●	0.10-1.50	0.05-0.32
DNMG 110408-F3S	11.63	9.52	4.76	0.80	●	●	0.10-1.50	0.10-0.40
DNMG 150404-F3S	15.50	12.70	4.76	0.40	●	●	0.10-1.50	0.05-0.32
DNMG 150408-F3S	15.50	12.70	4.76	0.80	●	●	0.10-1.50	0.10-0.40
DNMG 150604-F3S	15.50	12.70	6.35	0.40	●	●	0.10-1.50	0.05-0.32
DNMG 150608-F3S	15.50	12.70	6.35	0.80	●	●	0.10-1.50	0.10-0.40

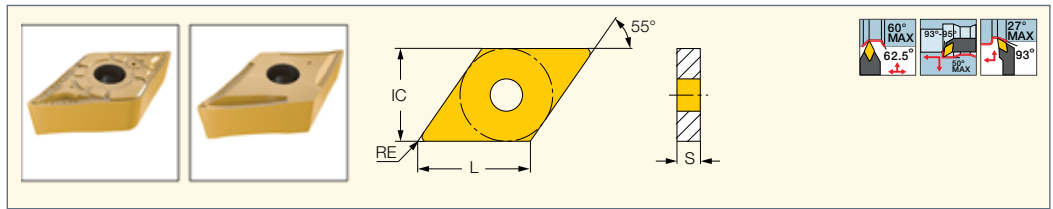
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L (97) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • DDJNR/L-JHP-MC (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106)

ISOTURN

DNMG-CERMET

Double-Sided 55° Rhombic
Cermet Grade Inserts
for Semi-Finishing and
Finishing Applications



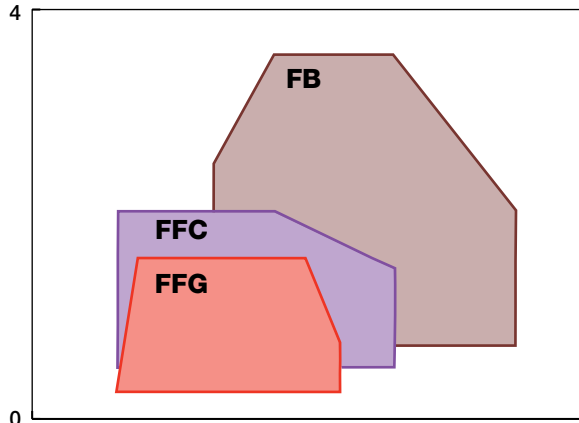
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC20N	IC520N	a _p (mm)	f (mm/rev)
DNMG 110404-FFG	11.63	9.52	4.76	0.40	●	●	0.70-2.00	0.07-0.22
DNMG 110402-FFC	11.63	9.52	4.76	0.20	●	●	0.40-2.50	0.05-0.20
DNMG 110404-FFC	11.63	9.52	4.76	0.40	●	●	0.80-3.00	0.07-0.25
DNMG 110408-FFC	11.63	9.52	4.76	0.80	●	●	1.00-3.50	0.08-0.25
DNMG 150404-FFC	15.50	12.70	4.76	0.40	●	●	0.80-3.00	0.07-0.25
DNMG 150604-FB	15.50	12.70	6.35	0.40	●	●	0.50-3.00	0.07-0.23
DNMG 150604-FFC	15.50	12.70	6.35	0.40	●	●	0.80-3.00	0.08-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31)

• PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • DDJNR/L-JHP-MC (30)

D.O.C (mm)

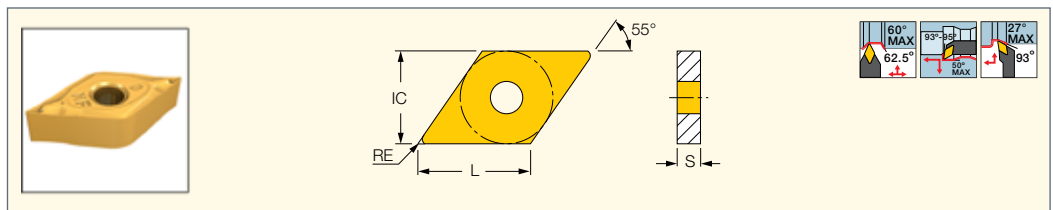


0.4 Feed (mm/rev)

ISOTURN

DNMG-NF

Double-Sided 55° Rhombic
Inserts for Semi-Finishing
and Finishing Applications



Designation	Dimensions				Tough ↔ Hard									Recommended Machining Data		
	L	IC	S	RE	IC830	IC8350	IC8250	IC530N	IC8150	IC20N	IC520N	IC5010	IC807	IC907	a _p (mm)	f (mm/rev)
DNMG 110402-NF	11.63	9.52	4.76	0.20	●	●	●	●	●	●	●	●	●	●	0.40-2.50	0.07-0.18
DNMG 110404-NF	11.63	9.52	4.76	0.40	●	●	●	●	●	●	●	●	●	●	0.80-3.00	0.07-0.25
DNMG 110408-NF	11.63	9.52	4.76	0.80	●	●	●	●	●	●	●	●	●	●	1.00-3.50	0.08-0.25
DNMG 150404-NF	15.50	12.70	4.76	0.40	●	●	●	●	●	●	●	●	●	●	0.80-3.50	0.07-0.25
DNMG 150408-NF	15.50	12.70	4.76	0.80	●	●	●	●	●	●	●	●	●	●	1.00-3.51	0.08-0.25
DNMG 150604-NF	15.50	12.70	6.35	0.40	●	●	●	●	●	●	●	●	●	●	0.80-3.50	0.07-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

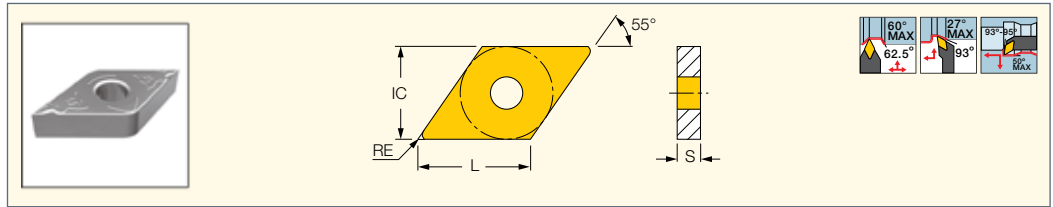
For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31)

• HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG/DNGG-SF

Double-Sided 55° Rhombic Inserts for Super Finishing; Controls Chip Flow at Very Low Feeds and Depths of Cut



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC530N	IC520N	IC907	a _p (mm)	f (mm/rev)
DNMG 110404-SF	11.63	9.52	4.76	0.40	●	●		0.50-3.00	0.05-0.25
DNGG 150401-SF	15.50	12.70	4.76	0.10			●	0.25-2.00	0.03-0.15
DNGG 150402-SF	15.50	12.70	4.76	0.20			●	0.40-2.50	0.05-0.20

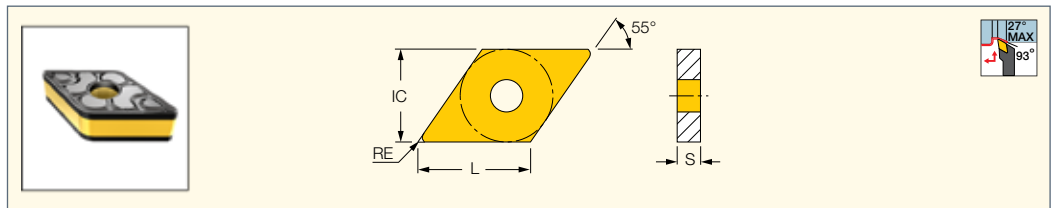
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-WG

Double-Sided 55° Rhombic Wiper Inserts for High Surface Finish at High Feed Turning



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC8250	IC5010	IC807	a _p (mm)	f (mm/rev)
DNMG 150408-WG	15.50	12.70	4.76	0.80	●			1.00-2.50	0.20-0.50
DNMG 150608-WG	15.50	12.70	6.35	0.80	●		●	1.00-2.50	0.18-0.40
DNMG 150612-WG	15.50	12.70	6.35	1.20	●	●		1.00-3.00	0.20-0.80

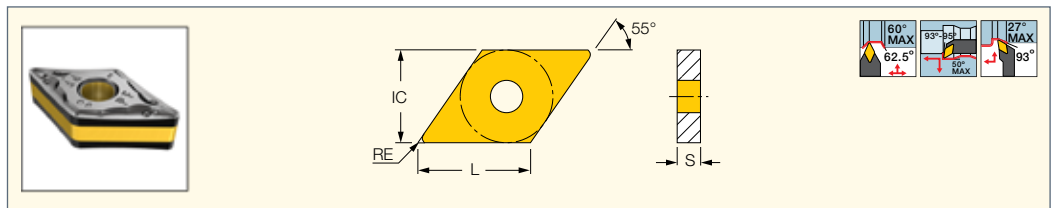
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-PF

Double-Sided 55° Rhombic Inserts for Finishing Applications on Alloyed and Stainless Steel



Designation	Dimensions				IC8150	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
DNMG 110408-PF	11.63	9.52	4.76	0.80	●	0.30-3.00	0.07-0.30
DNMG 150612-PF	15.50	12.70	6.35	1.20	●	1.00-4.00	0.10-0.30

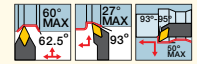
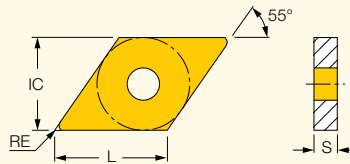
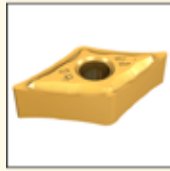
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG/DNMG-PP

55° Double-Sided Rhombic Inserts for Machining Very Ductile Materials at Medium Cutting Conditions



Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data			
	L	IC	S	RE	IC830	IC8350	IC6025	IC8250	IC10	IC6015	IC8150	IC20	IC806	IC807	IC907	IC804	a _p (mm)	f (mm/rev)
DNMG 110404-PP	11.63	9.52	4.76	0.40		•		•			•	•					0.40-3.00	0.12-0.30
DNMG 110408-PP	11.63	9.52	4.76	0.80	•			•	•		•						1.00-3.50	0.12-0.30
DNMG 150408-PP	15.50	12.70	4.76	0.80	•			•			•						1.00-4.00	0.12-0.30
DNMG 150604-PP	15.50	12.70	6.35	0.40										•	•		0.50-4.00	0.12-0.30
DNMG 150608-PP	15.50	12.70	6.35	0.80	•	•	•	•		•			•	•			1.00-3.50	0.12-0.30
DNMG 150604-PP	15.50	12.70	6.35	0.40													0.50-4.00	0.12-0.30
DNMG 150608-PP	15.50	12.70	6.35	0.80									•		•	•	1.00-4.00	0.12-0.30

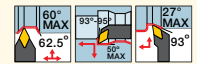
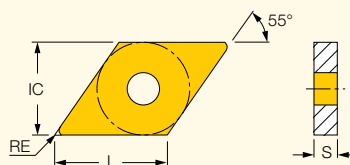
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L (97) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-VL

Double-Sided 55° Rhombic Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC908	IC806	a _p (mm)	f (mm/rev)
DNMG 110404-VL	11.63	9.52	4.76	0.40	•	•	0.50-3.50	0.10-0.25
DNMG 110408-VL	11.63	9.52	4.76	0.80	•	•	0.50-3.50	0.10-0.25
DNMG 150404-VL	15.50	12.70	4.76	0.40	•	•	0.50-3.50	0.10-0.25
DNMG 150408-VL	15.50	12.70	4.76	0.80	•	•	0.50-3.50	0.10-0.25

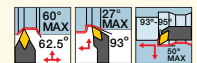
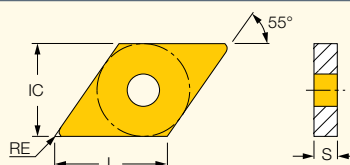
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG/DNMG-TF

Double-Sided 55° Rhombic Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions



Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data		
	L	IC	S	RE	IC830	IC6025	IC8250	IC530N	IC6015	IC8150	IC20	IC20N	IC806	IC807	IC907	a _p (mm)	f (mm/rev)
DNMG 110404-TF	11.63	9.52	4.76	0.40			•	•			•					1.00-3.00	0.12-0.30
DNMG 110412-TF	11.63	9.52	4.76	1.20			•	•			•					1.50-4.00	0.15-0.35
DNMG 150404-TF	15.50	12.70	4.76	0.40	•		•	•			•			•		1.00-3.00	0.15-0.30
DNMG 150408-TF	15.50	12.70	4.76	0.80	•		•	•			•			•		1.00-3.50	0.15-0.30
DNMG 150412-TF	15.50	12.70	4.76	1.20			•	•			•			•		1.50-4.00	0.12-0.40
DNMG 150604-TF	15.50	12.70	6.35	0.40		•	•	•			•			•		1.00-3.00	0.14-0.30
DNMG 150608-TF	15.50	12.70	6.35	0.80	•	•	•	•		•	•		•	•		1.00-3.50	0.15-0.30
DNMG 150612-TF	15.50	12.70	6.35	1.20	•	•	•	•		•	•		•	•		1.50-4.00	0.11-0.35
DNMG 150404-TF	15.50	12.70	4.76	0.40												1.00-3.00	0.15-0.30
DNMG 150408-TF	15.50	12.70	4.76	0.80												1.00-3.50	0.15-0.30

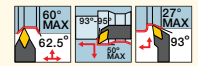
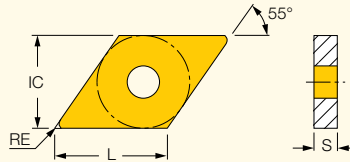
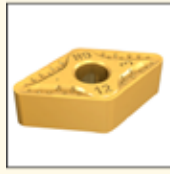
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-GN

Double-Sided 55° Rhombic Inserts for General Applications



Designation	Dimensions				Tough ↔ Hard								Recommended Machining Data	
	L	IC	S	RE	IC830	IC850	IC8250	IC8150	IC20N	IC5010	IC428	IC5005	a _p (mm)	f (mm/rev)
DNMG 110408-GN	11.63	9.52	4.76	0.80			●	●		●			1.00-4.00	0.18-0.38
DNMG 110412-GN	11.63	9.52	4.76	1.20			●	●					1.50-4.50	0.18-0.38
DNMG 150408-GN	15.50	12.70	4.76	0.80	●		●	●					1.00-4.00	0.18-0.18
DNMG 150412-GN	15.50	12.70	4.76	1.20	●	●	●	●		●			1.50-5.00	0.18-0.43
DNMG 150608-GN	15.50	12.70	6.35	0.80	●	●	●	●	●		●	●	1.00-4.00	0.18-0.38
DNMG 150612-GN	15.50	12.70	6.35	1.20	●		●	●			●	●	1.50-5.00	0.18-0.43

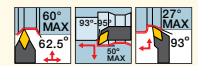
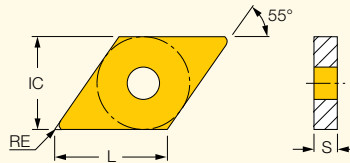
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMG-NR

Double-Sided 55° Rhombic Inserts with a Special Chipformer for Heavy Machining



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	a _p (mm)	f (mm/rev)
DNMG 150612-NR	15.50	12.70	6.35	1.20	●	●	2.00-6.00	0.23-0.50
DNMG 150616-NR	15.50	12.70	6.35	1.60	●	●	2.00-6.00	0.25-0.50

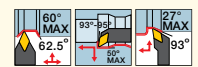
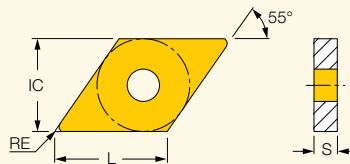
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMA

Double-Sided 55° Rhombic Inserts for Short Chipping Materials such as Cast Iron



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC5010	IC428	IC5005	a _p (mm)	f (mm/rev)
DNMA 150412	15.50	12.70	4.76	1.20		●	●	1.50-4.00	0.05-0.40
DNMA 150608	15.50	12.70	6.35	0.80	●	●	●	1.50-4.00	0.03-0.40
DNMA 150612	15.50	12.70	6.35	1.20	●	●	●	1.50-4.00	0.05-0.40

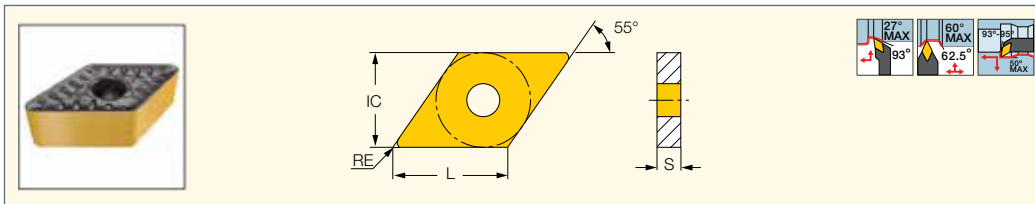
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMM-R3P

Single-Sided 55° Rhombic Inserts for Rough Turning Applications on Steel



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	a _p (mm)	f (mm/rev)
DNMM 150608-R3P	15.50	12.70	6.35	0.80	●	●	0.70-6.00	0.20-0.55
DNMM 150612-R3P	15.50	12.70	6.35	1.20	●	●	1.00-6.00	0.25-0.70
DNMM 150616-R3P	15.50	12.70	6.35	1.60	●	●	1.50-6.00	0.32-0.90

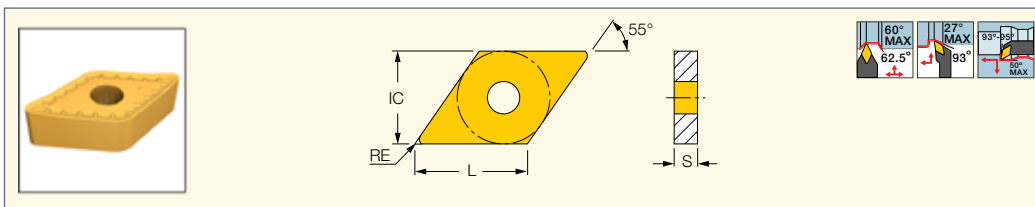
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNMM-NM

Single-Sided 55° Rhombic Inserts for Roughing Applications



Designation	Dimensions				IC8250	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
DNMM 150612-NM	15.50	12.70	6.35	1.20	●	1.50-4.50	0.25-0.40

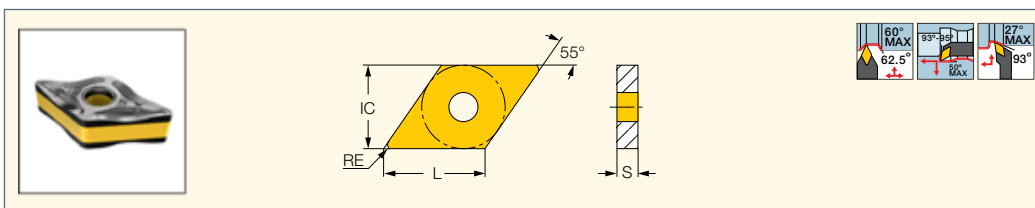
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

HELITURN LD

DNMX-M3P

Double-Sided 55° Rhombic Inserts with High Helical Cutting Edge for High Metal Removal Rates



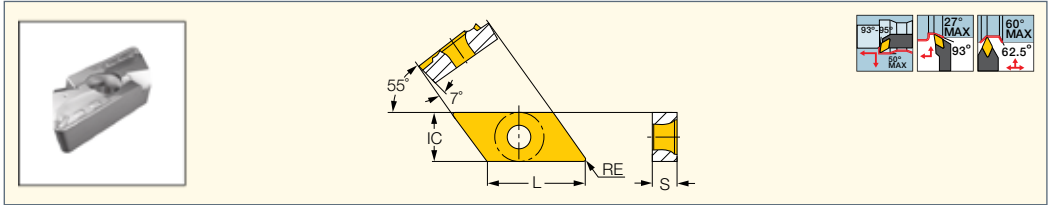
Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data		
	L	IC	S	RE	IC830	IC8350	IC6025	IC8250	IC6015	IC8150	IC806	IC807	a _p (mm)	f (mm/rev)
DNMX 150608-M3P	15.50	12.70	6.35	0.80	●		●	●	●	●	●	●	2.00-7.00	0.25-0.50
DNMX 150612-M3P	15.50	12.70	6.35	1.20	●	●	●	●	●	●	●	●	2.50-7.00	0.30-0.60
DNMX 150616-M3P	15.50	12.70	6.35	1.60	●		●	●	●	●	●	●	2.50-5.50	0.30-0.60

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • DDJNR/L-JHP-MC (30)

KNMX

55° Parallelogram Profiling Inserts

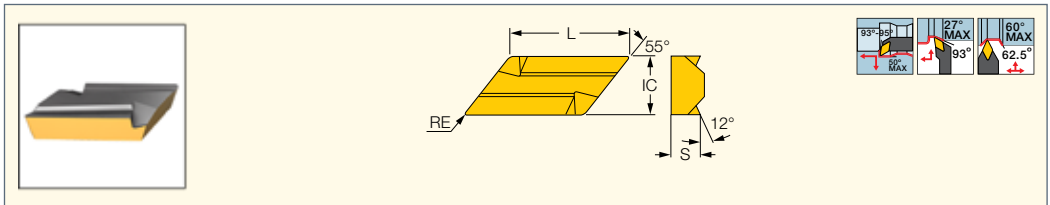


Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	IC5010	IC907	IC907	a _p (mm)	f (mm/rev)
KNMX 160405-LP	19.72	9.52	4.76	0.50	●	●		●		1.00-4.00	0.10-0.40
KNMX 160405-RP	19.72	9.52	4.76	0.50	●	●		●	●	1.00-4.00	0.10-0.40
KNMX 160410-LP	19.72	9.52	4.76	1.00		●	●			1.50-4.00	0.15-0.45
KNMX 160410-RP	19.72	9.52	4.76	1.00	●	●			●	1.50-4.00	0.15-0.45

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: CKJNR/L (32) • CKNNR/L (32) • SKJNR/L (32)

KNUX

55° Parallelogram Profiling Inserts

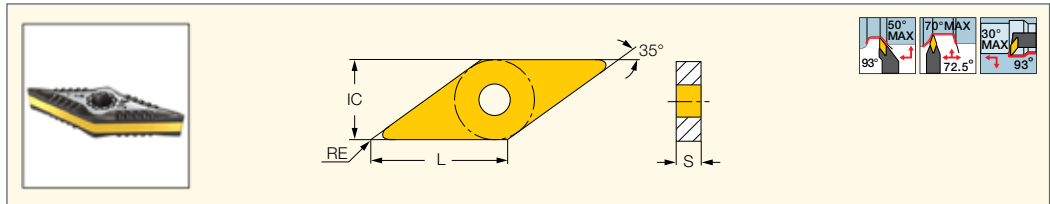


Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC9250	IC9025	IC9015	IC20	a _p (mm)	f (mm/rev)
KNUX 160405 L11	19.72	9.52	4.76	0.50		●	●	●	1.00-4.00	0.10-0.40
KNUX 160405 R11	19.72	9.52	4.76	0.50	●	●	●	●	1.00-4.00	0.10-0.40
KNUX 160405 L12	19.72	9.52	4.76	0.50			●		1.50-4.00	0.10-0.40
KNUX 160405 R12	19.72	9.52	4.76	0.50		●			1.50-4.00	0.10-0.40
KNUX 160410 L11	19.72	9.52	4.76	1.00			●		1.50-4.00	0.15-0.45
KNUX 160410 R11	19.72	9.52	4.76	1.00		●	●		1.50-4.00	0.15-0.45
KNUX 160410 R/L12	19.72	9.52	4.76	1.00			●		1.50-4.00	0.15-0.45

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: CKJNR/L (32) • CKNNR/L (32)

VNMG-F3P

Double-Sided 35° Rhombic Inserts for Semi-Finishing and Finishing Applications on Steel



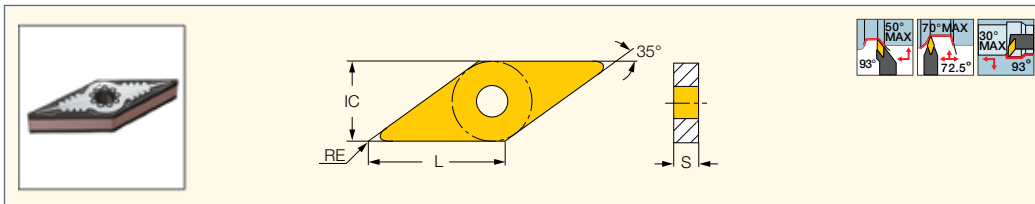
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
VNMG 12T302-F3P	12.40	7.15	3.89	0.20	●	●	●		0.40-2.00	0.08-0.20
VNMG 160404-F3P	16.60	9.52	4.76	0.40	●	●	●	●	0.70-2.00	0.07-0.24
VNMG 160408-F3P	16.60	9.52	4.76	0.80	●	●	●	●	1.00-3.00	0.08-0.24

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A-SVUNR/L (107) • AVC-DVUNR/L (97) • C#-SVJNR/L-F (33) • HSK A63WH-SVNN-F (35) • MVJNR/L (33) • MVVNN (35)
 • SVANR/L-FS (32) • SVJNR/L-F (33) • SVVNN-F (34)

ISOTURN

VNMG-F3M

Double-Sided 35° Rhombic Inserts for Finishing on Stainless Steel



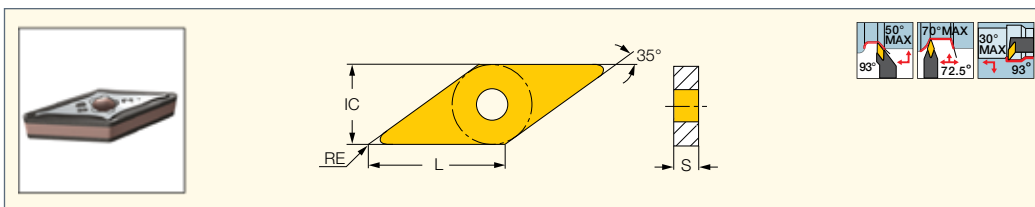
Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC804	a _p (mm)	f (mm/rev)
VNMG 12T302-F3M	12.40	7.15	3.97	0.20				•		•	0.10-1.50	0.03-0.20
VNMG 12T304-F3M	12.40	7.15	3.97	0.40				•		•	0.10-1.50	0.05-0.30
VNMG 12T308-F3M	12.40	7.15	3.97	0.80				•		•	0.10-1.50	0.05-0.30
VNMG 160404-F3M	16.60	9.52	4.76	0.40	•	•	•		•		0.10-1.50	0.05-0.30
VNMG 160408-F3M	16.60	9.52	4.76	0.80	•	•			•		0.10-1.50	0.05-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-SVUNR/L (107) • AVC-DVUNR/L (97) • C#-SVJNR/L-F (33) • HSK A63WH-SVNN-F (35) • MVJNR/L (33) • MVVNN (35)
 • SVANR/L-FS (32) • SVJNR/L-F (33) • SVNN-F (34)

ISOTURN

VNMG-M3M

Double-Sided 35° Rhombic Inserts for Machining Stainless and Low Carbon Steel



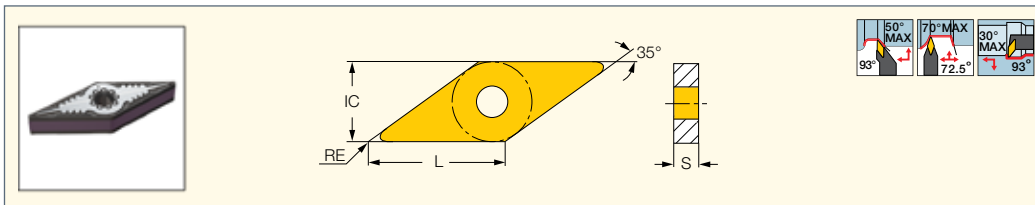
Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data		
	L	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC4	IC804	a _p (mm)	f (mm/rev)
VNMG 12T308-M3M	12.40	7.15	3.89	0.80	•	•	•	•	•			0.70-2.00	0.08-0.20
VNMG 160404-M3M	16.60	9.52	4.76	0.40	•	•	•	•				0.70-3.00	0.07-0.20
VNMG 160408-M3M	16.60	9.52	4.76	0.80	•	•	•	•		•	•	0.10-1.50	0.05-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-SVUNR/L (107) • AVC-DVUNR/L (97) • C#-SVJNR/L-F (33) • HSK A63WH-SVNN-F (35) • MVJNR/L (33) • MVVNN (35)
 • SVANR/L-FS (32) • SVJNR/L-F (33) • SVNN-F (34)

ISOTURN

VNMG-F3S

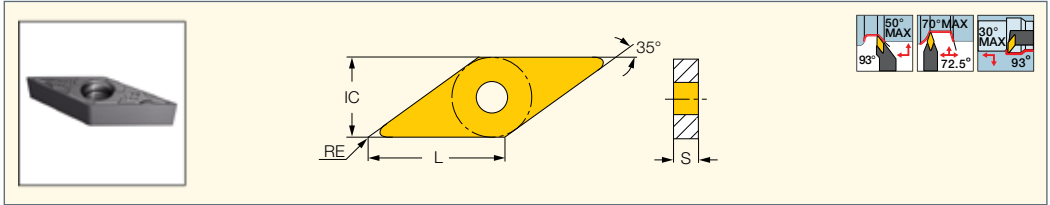
Double-Sided 35° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC806	IC804	a _p (mm)	f (mm/rev)
VNMG 12T302-F3S	12.40	7.15	3.97	0.20	•	•	0.10-1.50	0.05-0.20
VNMG 12T304-F3S	12.40	7.15	3.97	0.40	•	•	0.10-1.50	0.05-0.30
VNMG 12T308-F3S	12.40	7.15	3.97	0.80	•	•	0.10-1.50	0.05-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-SVUNR/L (107) • C#-SVJNR/L-F (33) • HSK A63WH-SVNN-F (35) • SVANR/L-FS (32) • SVJNR/L-F (33) • SVNN-F (34)

VNMG-SF
Double-Sided 35° Rhombic
Inserts for Super Finishing

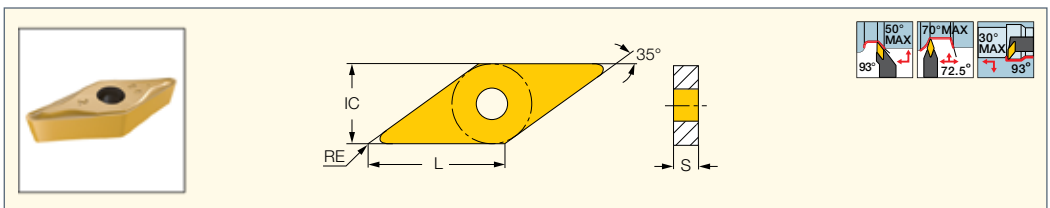


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC908	IC570	a _p (mm)	f (mm/rev)
VNMG 12T302-SF	12.40	7.15	3.97	0.20	●	●	0.30-2.00	0.03-0.20
VNMG 12T304-SF	12.40	7.15	3.97	0.40	●	●	0.50-3.00	0.05-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-SVUNR/L (107) • C#-SVJNR/L-F (33) • HSK A63WH-SVNN-F (35) • SVANR/L-FS (32) • SVJNR/L-F (33) • SVNN-F (34)

VNMG-FNF-CERMET
Double-Sided 35° Rhombic
Cermet Inserts for Semi-Finishing
and Finishing Applications

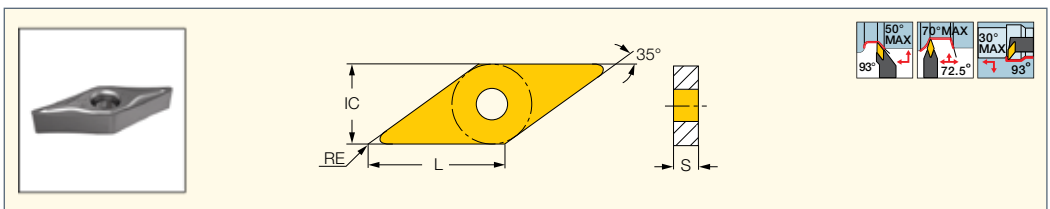


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC20N	IC520N	a _p (mm)	f (mm/rev)
VNMG 12T302-FNF	12.40	7.15	3.97	0.20	●	●	0.50-3.00	0.07-0.23
VNMG 12T304-FNF	12.40	7.15	3.97	0.40	●	●	0.50-3.00	0.07-0.23
VNMG 12T308-FNF	12.40	7.15	3.89	0.80	●	●	0.50-3.00	0.07-0.23

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-SVUNR/L (107) • C#-SVJNR/L-F (33) • HSK A63WH-SVNN-F (35) • SVANR/L-FS (32) • SVJNR/L-F (33) • SVNN-F (34)

VNMG/VNGG-NF
Double-Sided 35° Rhombic
Inserts for Semi-Finishing
and Finishing Applications



Designation	Dimensions				Tough ↔ Hard										Recommended Machining Data						
	L	IC	S	RE	IC830	IC8350	IC6025	IC8250	IC530N	IC10	IC6015	IC8150	IC20	IC20N	IC5010	IC428	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
VNMG 12T302-NF	12.40	7.15	3.97	0.20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.40-2.50	0.07-0.18
VNMG 12T304-NF	12.40	7.15	3.97	0.40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.70-2.00	0.07-0.24
VNMG 12T308-NF	12.40	7.15	3.97	0.80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	1.00-3.00	0.08-0.24
VNMG 160404-NF	16.60	9.52	4.76	0.40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.70-2.50	0.07-0.24
VNMG 160408-NF	16.60	9.52	4.76	0.80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	1.00-3.00	0.08-0.25
VNGG 12T302-NF	12.40	7.15	3.90	0.20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.40-2.50	0.05-0.17
VNGG 12T304-NF	12.40	7.15	3.90	0.40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.50-3.00	0.05-0.25

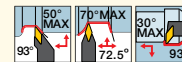
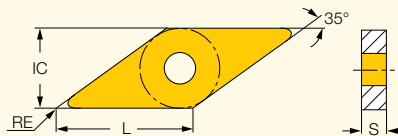
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-SVUNR/L (107) • AVC-DVUNR/L (97) • C#-SVJNR/L-F (33) • HSK A63WH-SVNN-F (35) • MVJNR/L (33) • MVNN (35) • SVANR/L-FS (32) • SVJNR/L-F (33) • SVNN-F (34)

ISOTURN

VNMM-PP

Single-Sided 35° Rhombic Inserts for Machining Very Ductile Materials at Medium Cutting Conditions



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC20	ap (mm)	f (mm/rev)
VNMM 12T304-PP	12.40	7.15	3.97	0.40	●	●	0.80-2.50	0.12-0.20
VNMM 12T308-PP	12.40	7.15	3.97	0.80	●	●	1.00-2.50	0.12-0.25

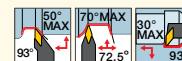
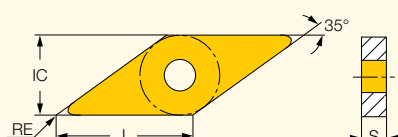
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-SVUNR/L (107) • C#-SVJNR/L-F (33) • HSK A63WH-SVVNN-F (35) • SVANR/L-FS (32) • SVJNR/L-F (33) • SVVNN-F (34)

ISOTURN

VNMG-TF

Double-Sided 35° Rhombic Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions



Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data		
	L	IC	S	RE	IC830	IC6025	IC8250	IC6015	IC8150	IC806	IC807	IC907	ap (mm)	f (mm/rev)
VNMG 160408-TF	16.60	9.52	4.76	0.80	●	●	●	●	●	●	●	●	1.00-3.50	0.10-0.30
VNMG 160412-TF	16.60	9.52	4.76	1.20									1.00-4.00	0.12-0.38
VNMG 220408-TF	22.00	12.70	4.76	0.80			●						1.00-3.50	0.14-0.36

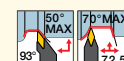
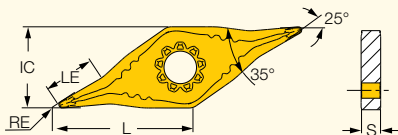
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: AVC-DVUNR/L (97) • MVJNR/L (33) • MVVNN (35)

ISOTURN

YNMG-F3P

Double-Sided 25° Corner Inserts for Internal and External Deep and Narrow Profiling and Undercutting



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	LE	S	RE	IC8250	IC8150	ap (mm)	f (mm/rev)
YNMG 160404-F3P	16.60	9.52	5.7	4.76	0.40	●	●	0.40-3.00	0.03-0.12
YNMG 160408-F3P	16.60	9.52	5.3	4.76	0.80	●	●	0.90-4.00	0.05-0.15

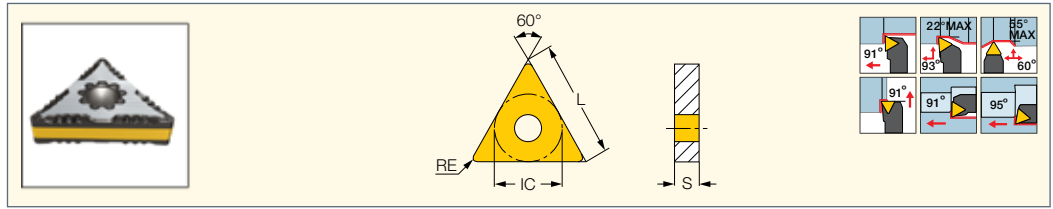
• Use IYSN 322 seat for these inserts • For user guide, see pages 122-134, 236-248

For tools, see pages: MVJNR/L (33) • MVVNN (35)

ISOTURN

TNMG-F3P

Double-Sided Triangular Inserts for Semi-Finishing and Finishing Applications



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
TNMG 160404-F3P	16.50	9.52	4.76	0.40	●	●	●	●	0.50-2.00	0.07-0.25
TNMG 160408-F3P	16.50	9.52	4.76	0.80	●	●	●	●	0.90-3.00	0.08-0.25
TNMG 160412-F3P	16.50	9.52	4.76	1.20	●	●	●	●	1.30-4.00	0.10-0.25
TNMG 220408-F3P	22.00	12.70	4.76	0.80	●	●	●	●	0.90-3.00	0.08-0.25
TNMG 220412-F3P	22.00	12.70	4.76	1.20	●	●	●	●	1.30-4.00	0.10-0.25

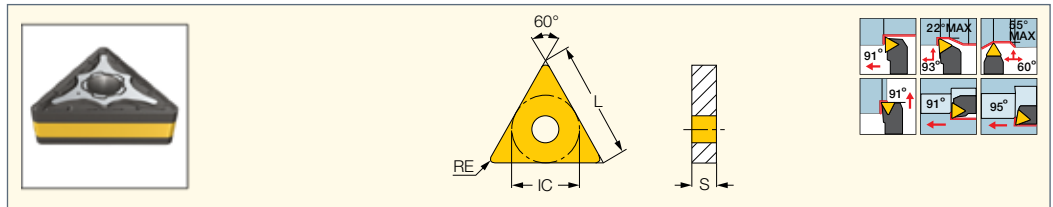
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTG NR/L (44) • DTG NR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTG NR/L (35) • PTG NR/L-X (36) • PTG NR/L-X-JHP (36) • PTG NR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-M3P

Double-Sided Triangular Inserts for Medium Machining Conditions on Steel



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
TNMG 160404-M3P	16.50	9.52	4.76	0.40	●	●	●	●	0.40-5.00	0.10-0.30
TNMG 160408-M3P	16.50	9.52	4.76	0.80	●	●	●	●	0.50-5.00	0.15-0.50
TNMG 160412-M3P	16.50	9.52	4.76	1.20	●	●	●	●	0.80-5.00	0.18-0.60
TNMG 220408-M3P	22.00	12.70	4.76	0.80	●	●	●	●	0.50-6.60	0.15-0.50
TNMG 220412-M3P	22.00	12.70	4.76	1.20	●	●	●	●	0.80-6.60	0.18-0.60
TNMG 220416-M3P	22.00	12.70	4.76	1.60	●	●	●	●	1.00-6.60	0.23-0.65

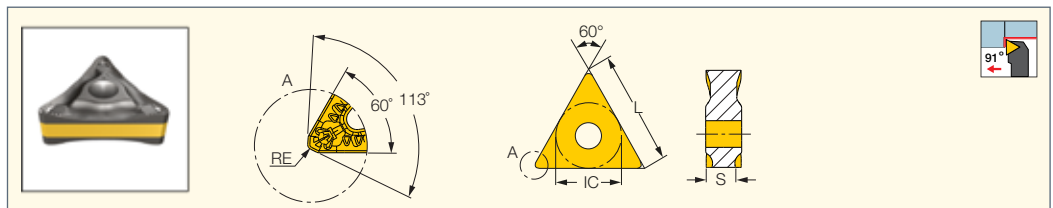
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTG NR/L (44) • DTG NR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTG NR/L (35) • PTG NR/L-X (36) • PTG NR/L-X-JHP (36) • PTG NR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

HELITURN LD

TNMX-M3/4PW

Double-Sided Triangular Inserts with High Helical Cutting Edge for High Metal Removal Rates on Steel



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	a _p (mm)	f (mm/rev)
TNMX 160604-M3PW	16.50	9.52	4.40	0.40	●	●	●	2.00-5.00	0.25-0.40
TNMX 160608-M3PW	16.50	9.52	4.40	0.80	●	●	●	2.50-5.50	0.30-0.50
TNMX 220712-M4PW	22.00	12.70	7.40	1.20	●	●	●	3.00-6.00	0.35-0.60
TNMX 220716-M4PW	22.00	12.70	7.40	1.60	●	●	●	3.50-6.50	0.40-0.70

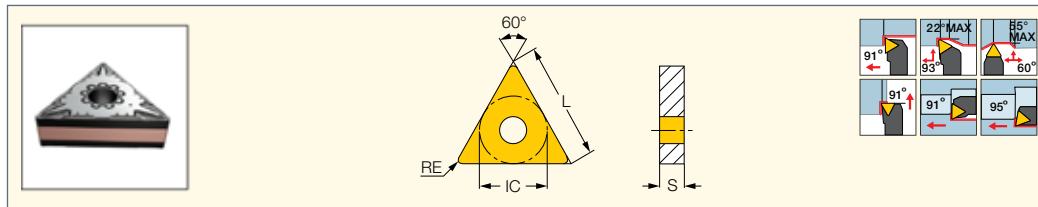
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • PTG NR/L-X (36) • PTG NR/L-X-JHP (36) • PTG NR/L-X-JHP-MC (37)

ISOTURN

TNMG-F3M

Double-Sided Triangular Inserts for Finish Turning on Stainless and Low Carbon Steel



Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data		
	L	IC	S	RE	IC830	IC6025	IC6015	IC20N	IC520N	IC806	IC807	IC804	ap (mm)	f (mm/rev)
TNMG 160404-F3M	16.50	9.52	4.76	0.40	●	●	●	●	●	●	●	●	0.10-1.50	0.05-0.32
TNMG 160408-F3M	16.50	9.52	4.76	0.80	●	●	●	●	●	●	●	●	0.10-1.50	0.10-0.42
TNMG 160412-F3M	16.50	9.52	4.76	1.20	●	●	●	●	●	●	●	●	0.15-2.00	0.15-0.52
TNMG 220404-F3M	22.00	12.70	4.76	0.40	●	●	●	●	●	●	●	●	0.10-1.50	0.05-0.32
TNMG 220408-F3M	22.00	12.70	4.76	0.80	●	●	●	●	●	●	●	●	0.10-1.50	0.10-0.42
TNMG 220412-F3M	22.00	12.70	4.76	1.20	●	●	●	●	●	●	●	●	0.15-2.00	0.15-0.52

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

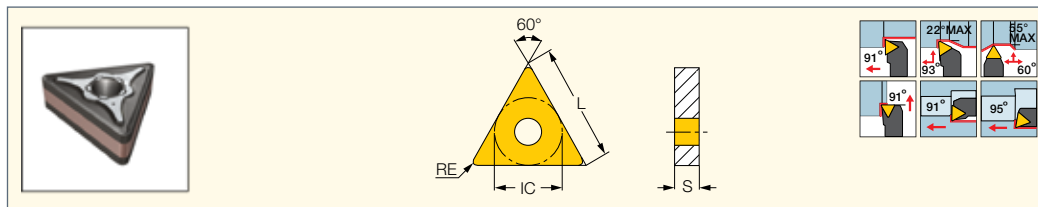
For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTG NR/L (44) • DTG NR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37)

• PTG NR/L (35) • PTG NR/L-X (36) • PTG NR/L-X-JHP (36) • PTG NR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-M3M

Double-Sided Triangular Inserts for Machining Stainless and Low Carbon Steel



Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC5500	IC6025	IC6015	IC807	IC804	ap (mm)	f (mm/rev)
TNMG 160404-M3M	16.50	9.52	4.76	0.40	●	●	●	●	●	●	0.50-4.00	0.15-0.50
TNMG 160408-M3M	16.50	9.52	4.76	0.80	●	●	●	●	●	●	0.50-4.00	0.15-0.50
TNMG 160412-M3M	16.50	9.52	4.76	1.20	●	●	●	●	●	●	0.50-4.00	0.20-0.60
TNMG 220408-M3M	22.00	12.70	4.76	0.80	●	●	●	●	●	●	0.50-5.00	0.15-0.50
TNMG 220412-M3M	22.00	12.70	4.76	1.20	●	●	●	●	●	●	0.50-5.00	0.20-0.60
TNMG 220416-M3M	22.00	12.70	4.76	1.60	●	●	●	●	●	●	0.50-5.00	0.30-0.65

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

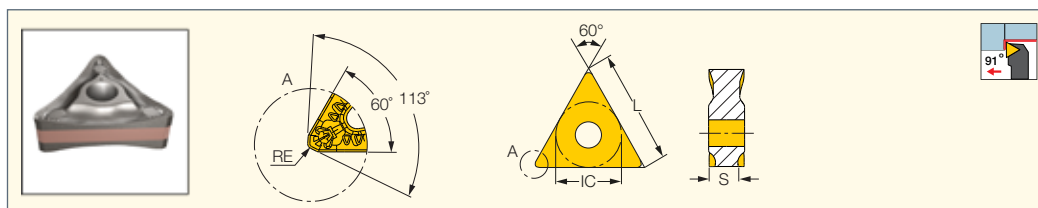
For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTG NR/L (44) • DTG NR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37)

• PTG NR/L (35) • PTG NR/L-X (36) • PTG NR/L-X-JHP (36) • PTG NR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

HELITURN LD

TNMX-M3/4MW

Double-Sided Triangular Inserts with High Helical Cutting Edge for High Metal Removal Rates on Stainless Steel



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC6025	IC6015	IC806	IC807	ap (mm)	f (mm/rev)
TNMX 160604-M3MW	16.50	9.52	4.40	0.40	●	●	●	●	2.00-5.00	0.12-0.40
TNMX 160608-M3MW	16.50	9.52	4.40	0.80	●	●	●	●	2.50-5.50	0.15-0.50
TNMX 220704-M4MW	22.00	12.70	7.94	0.40	●	●	●	●	2.00-5.00	0.12-0.40
TNMX 220708-M4MW	22.00	12.70	7.94	0.80	●	●	●	●	2.50-5.50	0.15-0.50
TNMX 220712-M4MW	22.00	12.70	7.94	1.20	●	●	●	●	3.00-6.00	0.18-0.50

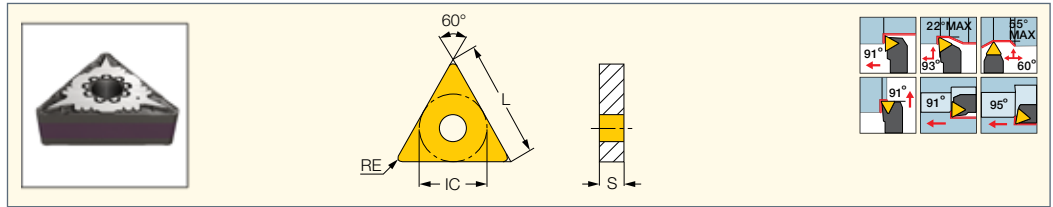
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • PTG NR/L-X (36) • PTG NR/L-X-JHP (36) • PTG NR/L-X-JHP-MC (37)

ISOTURN

TNMG-F3S

Double-Sided 60° Triangular Inserts for Titanium and Heat Resistant Materials for Finishing Applications



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC806	IC804	a _p (mm)	f (mm/rev)
TNMG 160404-F3S	16.50	9.52	4.76	0.40	●	●	0.10-1.50	0.05-0.32
TNMG 160408-F3S	16.50	9.52	4.76	0.80	●	●	0.10-1.50	0.10-0.40
TNMG 220404-F3S	22.00	12.70	4.76	0.40	●	●	0.10-1.50	0.05-0.32
TNMG 220408-F3S	22.00	12.70	4.76	0.80	●	●	0.10-1.50	0.10-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

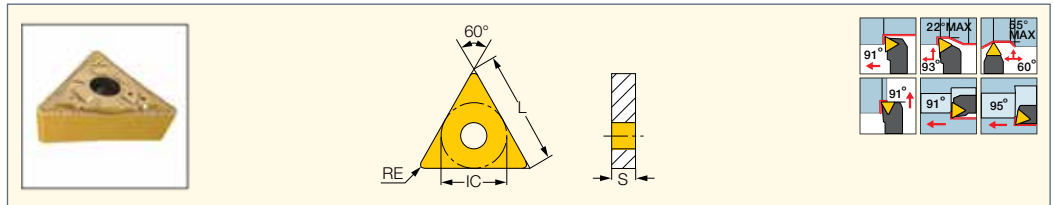
For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTGNR/L (44) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37)

• PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-FFG-CERMET

Double-Sided Triangular Cermet Inserts for Semi-Finishing and Finishing Applications on Steel and Cast Iron



Designation	Dimensions				IC520N	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
TNMG 160404-FFG	16.50	9.52	4.76	0.40	●	0.50-2.00	0.07-0.25
TNMG 160408-FFG	16.50	9.52	4.76	0.80	●	0.90-2.50	0.08-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

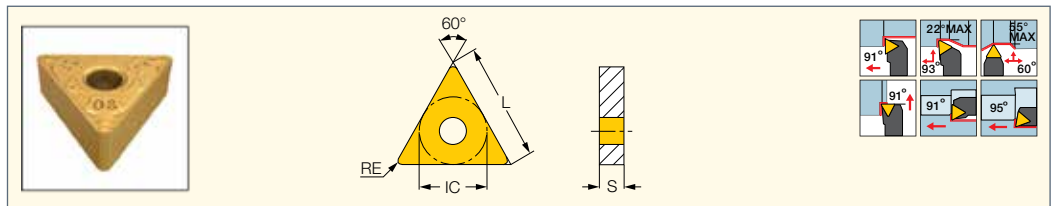
For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36)

• PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-SF

Triangular Double-Sided Inserts for Super Finishing; Controls Chip Flow at Very Low Feeds and Depths of Cut



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC8250	IC530N	IC520N	a _p (mm)	f (mm/rev)
TNMG 160404-SF	16.50	9.52	4.76	0.40	●	●	●	0.40-2.00	0.04-0.25
TNMG 160408-SF	16.50	9.52	4.76	0.80	●	●	●	1.00-3.00	0.06-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

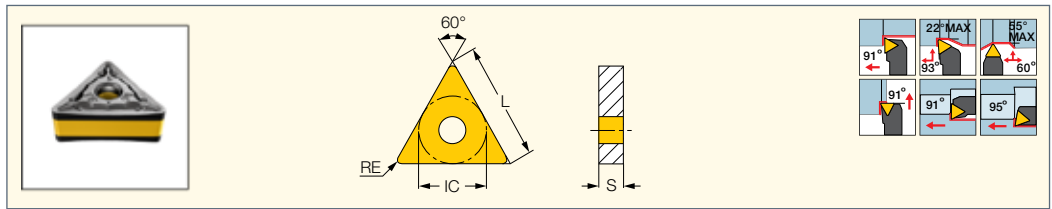
For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36)

• PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-PF

Triangular Double-Sided
Inserts for Finishing on
Alloyed and Stainless Steel



Designation	Dimensions					IC8150	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
TNMG 160408-PF	16.50	9.52	4.76	0.80	●	0.80-3.00	0.08-0.30	

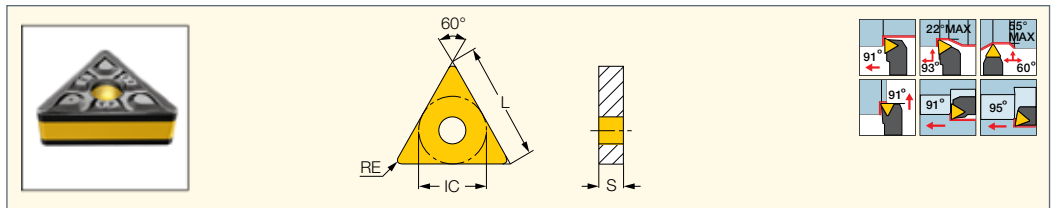
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-TF

Double-Sided Triangular
Inserts for Machining a
Wide Range of Materials at
Medium Cutting Conditions



Designation	Dimensions				Tough ↔ Hard									Recommended Machining Data		
	L	IC	S	RE	IC830	IC8250	IC908	IC6015	IC8150	IC20	IC20N	IC806	IC807	IC907	a_p (mm)	f (mm/rev)
TNMG 160304-TF	16.50	9.52	3.18	0.40		●									1.00-3.00	0.12-0.30
TNMG 160308-TF	16.50	9.52	3.18	0.80										●	1.00-3.00	0.12-0.30
TNMG 160404-TF	16.50	9.52	4.76	0.40	●	●		●	●	●		●	●	●	1.00-3.00	0.12-0.30
TNMG 160408-TF	16.50	9.52	4.76	0.80	●	●	●	●	●		●	●	●	●	1.00-3.00	0.12-0.30
TNMG 160412-TF	16.50	9.52	4.76	1.20		●			●					●	1.00-5.00	0.12-0.40
TNMG 220404-TF	22.00	12.70	4.76	0.40	●	●						●	●	●	1.00-3.50	0.14-0.35
TNMG 220408-TF	22.00	12.70	4.76	0.80		●			●			●	●	●	1.00-4.00	0.15-0.40
TNMG 220412-TF	22.00	12.70	4.76	1.20		●						●	●	●	1.00-4.50	0.18-0.40

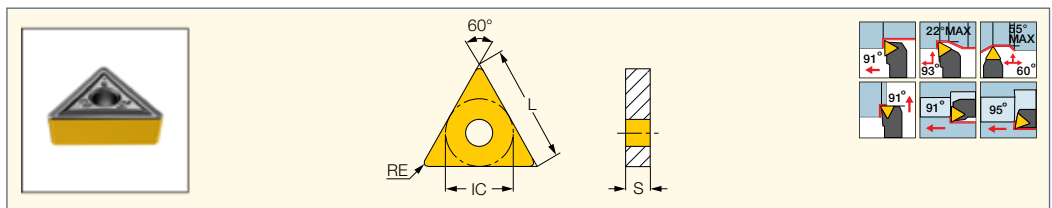
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTGNR/L (44) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-VL

Double-Sided Triangular
Inserts with a Chipformer
for High Temperature Alloys
and Stainless Steel Valves



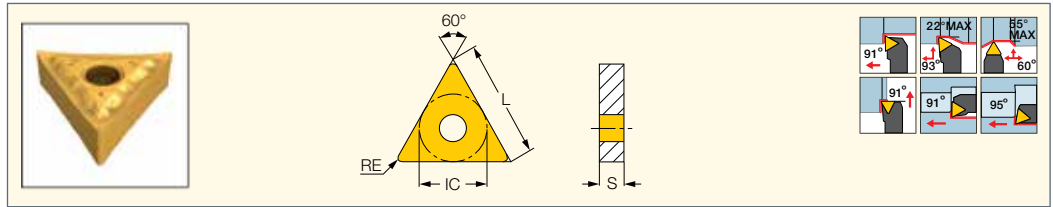
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC908	IC806	IC807	IC907	a_p (mm)	f (mm/rev)
TNMG 160404-VL	16.50	9.52	4.76	0.40		●			0.80-3.50	0.10-0.25
TNMG 160408-VL	16.50	9.52	4.76	0.80	●	●	●	●	0.80-3.50	0.10-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG/TNGG-PP
 Double-Sided Triangular
 Inserts for Machining Very
 Ductile Materials at Medium
 Cutting Conditions

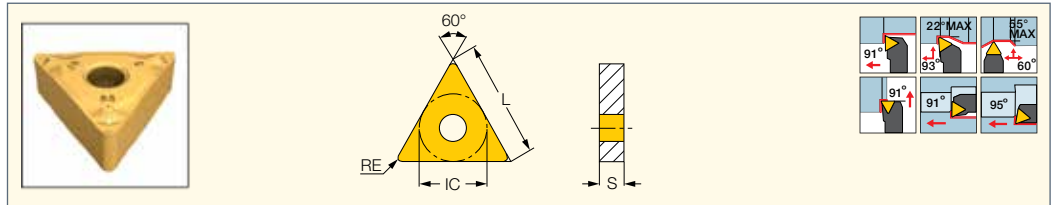


Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC830	IC8350	IC8250	IC8150	IC20	IC907	ap (mm)	f (mm/rev)
TNGG 160402-PP	16.50	9.52	4.76	0.20						•	0.50-1.50	0.05-0.25
TNMG 160404-PP	16.50	9.52	4.76	0.40		•	•		•		0.50-3.00	0.13-0.30
TNMG 160408-PP	16.50	9.52	4.76	0.80	•			•	•		1.00-3.00	0.12-0.30
TNMG 220404-PP	22.00	12.70	4.76	0.40	•		•				0.50-3.50	0.14-0.32
TNMG 220408-PP	22.00	12.70	4.76	0.80			•	•	•		1.00-3.50	0.14-0.32

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTGNR/L (44) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-NF
 Double-Sided Triangular
 Inserts for Semi-Finishing
 and Finishing Applications

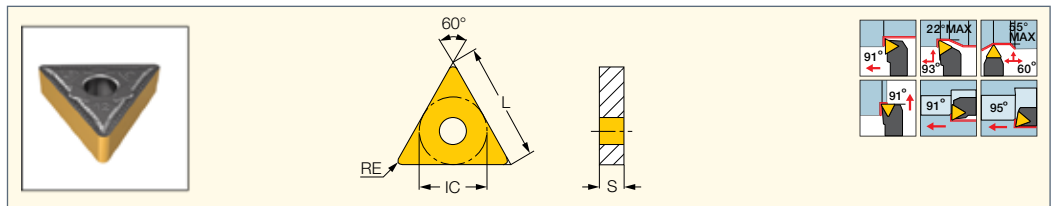


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	ap (mm)	f (mm/rev)
TNMG 110304-NF	11.00	6.35	3.18	0.40	•		0.40-2.00	0.07-0.25
TNMG 160408-NF	16.50	9.52	4.76	0.80	•	•	1.00-3.00	0.08-0.25

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMG-GN
 Double-Sided Triangular Inserts
 for General Applications



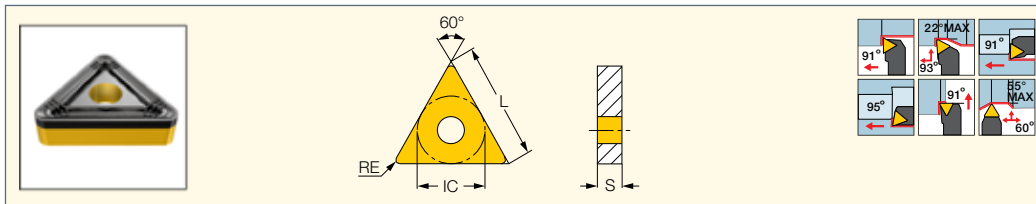
Designation	Dimensions				Tough ↔ Hard									Recommended Machining Data		
	L	IC	S	RE	IC830	IC8350	IC8250	IC8150	IC20	IC5010	IC428	IC5005	IC807	IC907	ap (mm)	f (mm/rev)
TNMG 160404-GN	16.50	9.52	4.76	0.40							•	•			1.00-3.00	0.12-0.30
TNMG 160408-GN	16.50	9.52	4.76	0.80	•	•	•	•	•	•	•	•	•		1.00-3.50	0.18-0.39
TNMG 160412-GN	16.50	9.52	4.76	1.20			•	•							1.50-4.00	0.18-0.43
TNMG 220408-GN	22.00	12.70	4.76	0.80	•	•	•	•							1.00-4.00	0.18-0.40
TNMG 220412-GN	22.00	12.70	4.76	1.20	•	•	•	•							1.50-4.50	0.18-0.45
TNMG 220416-GN	22.00	12.70	4.76	1.60			•								2.00-5.00	0.25-0.45
TNMG 270612-GN	27.50	15.88	6.35	1.20	•		•								2.00-6.00	0.25-0.45

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTGNR/L (44) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMM-NR

Single-Sided Triangular Inserts with a Special Chipformer for Heavy Machining



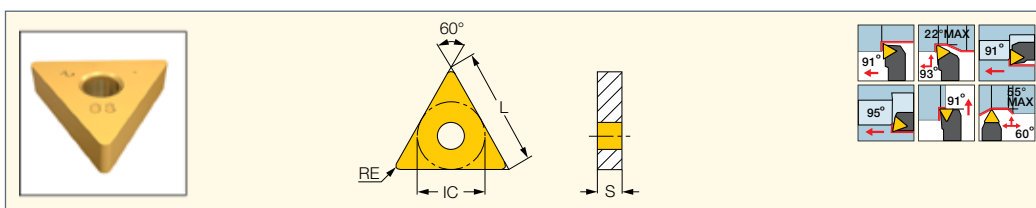
Designation	Dimensions					IC8150	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
TNMM 220416-NR	22.00	12.70	4.76	1.60	●	2.50-6.00	0.30-0.50	

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: C#-DTG NR/L (44) • DTG NR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTG NR/L (35) • PTG NR/L-X (36)
- S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNMA

Double-Sided Triangular Inserts with no Chipformer for Short Chipping Materials



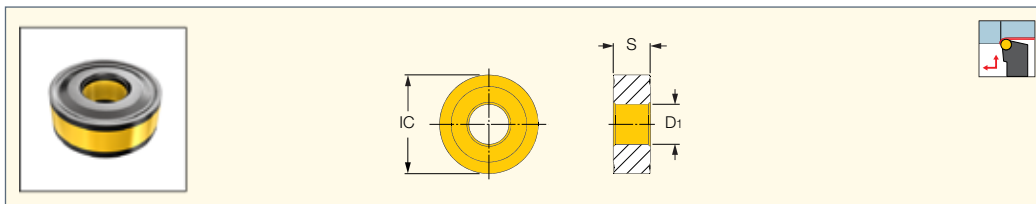
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC20	IC5010	IC428	IC5005	a_p (mm)	f (mm/rev)
TNMA 160404	16.50	9.52	4.76	0.40		●	●	●	0.50-3.00	0.05-0.21
TNMA 160408	16.50	9.52	4.76	0.80	●	●	●	●	1.00-4.00	0.05-0.25
TNMA 160412	16.50	9.52	4.76	1.20		●	●	●	1.50-4.50	0.10-0.29
TNMA 160416	16.50	9.52	4.76	1.60		●	●	●	1.50-4.50	0.10-0.40
TNMA 220408	22.00	12.70	4.76	0.80	●		●	●	1.50-5.00	0.05-0.33
TNMA 220412	22.00	12.70	4.76	1.20		●	●	●	1.50-5.00	0.10-0.33
TNMA 220416	22.00	12.70	4.76	1.60			●	●	1.50-5.00	0.10-0.37

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTG NR/L (44) • DTG NR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTG NR/L (35) • PTG NR/L-X (36) • PTG NR/L-X-JHP (36) • PTG NR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

RNMG

Double-Sided Round Negative Insert for Medium and Rough Profiling



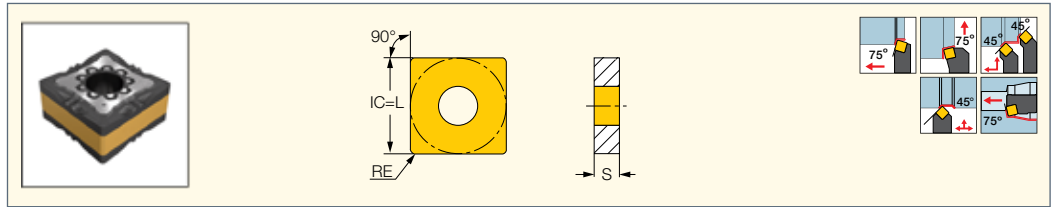
Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	S	D1	IC8250	IC8150	a_p (mm)	f (mm/rev)
RNMG 120400	12.70	4.76	5.15	●	●	2.00-5.00	0.30-0.60

- For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

SNMG-F3P

Double-Sided Square Inserts for Semi-Finishing and Finishing on Steel



Designation	Dimensions			Tough ↔ Hard						Recommended Machining Data	
	IC	S	RE	IC830	IC8250	IC8150	IC20N	IC520N	IC807	a _p (mm)	f (mm/rev)
SNMG 090404-F3P	9.52	4.76	0.40	●	●	●	●	●	●	0.50-3.50	0.07-0.25
SNMG 090408-F3P	9.52	4.76	0.80	●	●	●	●	●	●	0.90-3.50	0.08-0.25
SNMG 120408-F3P	12.70	4.76	0.80	●	●	●	●	●	●	0.90-3.50	0.08-0.25
SNMG 120412-F3P	12.70	4.76	1.20	●	●	●	●	●	●	0.90-3.50	0.10-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PSKNR/L-09 (115) • C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39)

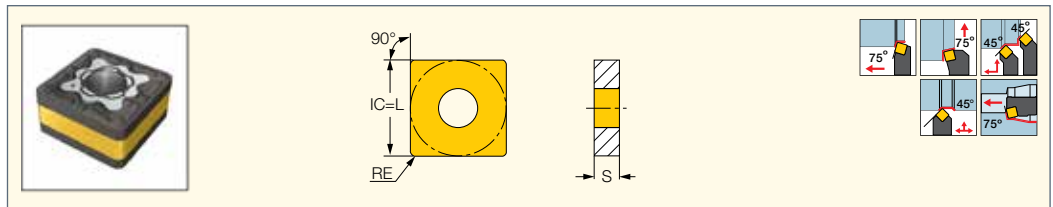
• HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41)

• PSDNN-JHP (41) • PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-M3P

Double-Sided Square Inserts for Medium Machining Conditions on Steel



Designation	Dimensions			Tough ↔ Hard				Recommended Machining Data	
	IC	S	RE	IC830	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
SNMG 090404-M3P	9.52	4.76	0.40	●	●	●	●	0.50-3.50	0.15-0.50
SNMG 090408-M3P	9.52	4.76	0.80	●	●	●	●	0.50-3.50	0.15-0.55
SNMG 120408-M3P	12.70	4.76	0.80	●	●	●	●	0.50-6.00	0.15-0.50
SNMG 120412-M3P	12.70	4.76	1.20	●	●	●	●	0.80-6.00	0.18-0.60
SNMG 150612-M3P	15.88	6.35	1.20	●	●	●	●	0.80-7.50	0.18-0.60
SNMG 150616-M3P	15.88	6.35	1.60	●	●	●	●	1.20-7.50	0.20-0.70

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PSKNR/L-09 (115) • C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39)

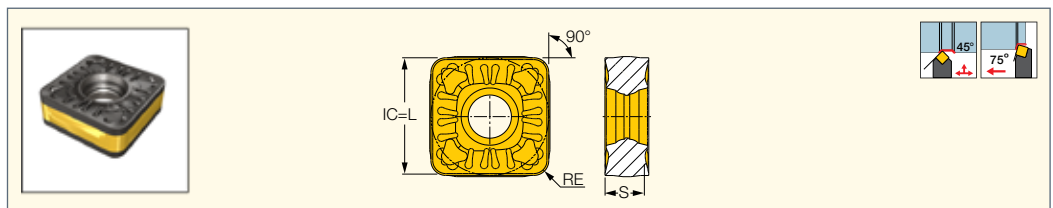
• HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41)

• PSDNN-JHP (41) • PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

DOVE IQTURN

SOMG-R3P-IQ

Double-Sided 7° Negative Side Flank Square Inserts for Heavy Turning on Steel



Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	IC8250	IC8150	a _p (mm)	f (mm/rev)
SOMG 150612-R3P-IQ	15.88	6.35	1.20	●	●	2.00-9.00	0.30-0.60
SOMG 150616-R3P-IQ	15.88	6.35	1.60	●	●	2.00-9.00	0.30-0.70
SOMG 190612-R3P-IQ	19.05	6.35	1.20	●	●	3.00-12.00	0.30-0.80
SOMG 190616-R3P-IQ	19.05	6.35	1.60	●	●	3.50-12.00	0.35-0.85
SOMG 190624-R3P-IQ	19.05	6.35	2.40	●	●	3.50-12.00	0.40-1.00
SOMG 250924-R3P-IQ	25.40	9.52	2.40	●	●	4.00-15.00	0.40-1.00

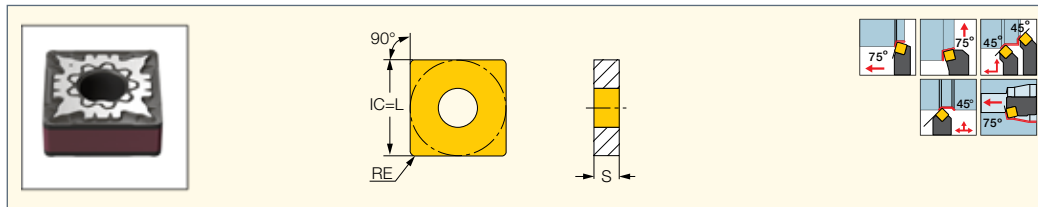
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-PSROR/L-IQ (43) • PSBOR/L-IQ (43) • PSDON-IQ (40)

ISOTURN

SNMG-F3M

Double-Sided Square
Inserts for Stainless Steel
Finishing Applications



Designation	Dimensions			Tough ↔ Hard						Recommended Machining Data	
	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC804	a _p (mm)	f (mm/rev)
SNMG 090404-F3M	9.52	4.76	0.40		•	•	•	•		0.50-3.50	0.05-0.30
SNMG 090408-F3M	9.52	4.76	0.80	•			•	•		0.50-3.50	0.05-0.30
SNMG 120404-F3M	12.70	4.76	0.40	•			•	•		0.90-3.50	0.10-0.40
SNMG 120408-F3M	12.70	4.76	0.80	•	•	•	•	•	•	0.90-3.50	0.10-0.40
SNMG 120412-F3M	12.70	4.76	1.20	•	•	•	•	•		0.90-3.50	0.10-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PSKNR/L-09 (115) • C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39)

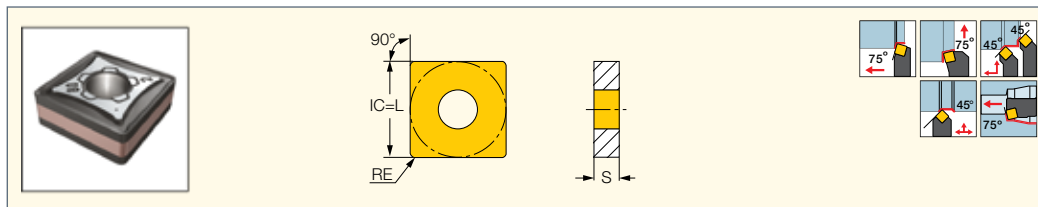
• HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41)

• PSDNN-JHP (41) • PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-M3M

Double-Sided Square Inserts
with a Special Chipformer
for Heavy Machining



Designation	Dimensions			Tough ↔ Hard						Recommended Machining Data	
	IC	S	RE	IC830	IC6025	IC6015	IC806	IC807	IC804	a _p (mm)	f (mm/rev)
SNMG 090404-M3M	9.52	4.76	0.40	•				•		0.50-4.50	0.15-0.50
SNMG 090408-M3M	9.52	4.76	0.80	•	•	•		•		0.50-4.50	0.15-0.50
SNMG 120408-M3M	12.70	4.76	0.80	•	•	•		•	•	0.50-5.00	0.15-0.50
SNMG 120412-M3M	12.70	4.76	1.20	•	•	•	•	•		0.50-5.00	0.20-0.60
SNMG 120416-M3M	12.70	4.76	1.60	•	•	•		•		0.50-5.00	0.25-0.70
SNMG 150612-M3M	15.88	6.35	1.20	•	•	•		•		0.50-8.00	0.10-0.60
SNMG 150616-M3M	15.88	6.35	1.60	•	•	•		•		0.50-8.00	0.10-0.65
SNMG 190612-M3M	19.05	6.35	1.20		•	•		•		0.10-9.50	0.10-0.60
SNMG 190616-M3M	19.05	6.35	1.60		•	•		•		0.10-9.50	0.10-0.65

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PSKNR/L-09 (115) • C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39)

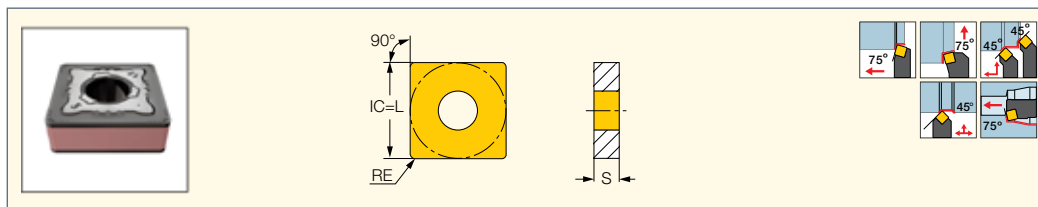
• HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43)

• PSDNN (41) • PSDNN-JHP (41) • PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-R3M

Double-Sided 90° Square
Inserts for Rough Machining on
Stainless and Low Carbon Steel



Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	IC830	IC806	a _p (mm)	f (mm/rev)
SNMG 190612 R3M	19.05	6.35	1.20		•	2.00-11.00	0.30-0.90
SNMG 190616-R3M	19.05	6.35	1.60	•	•	2.00-11.00	0.30-0.90

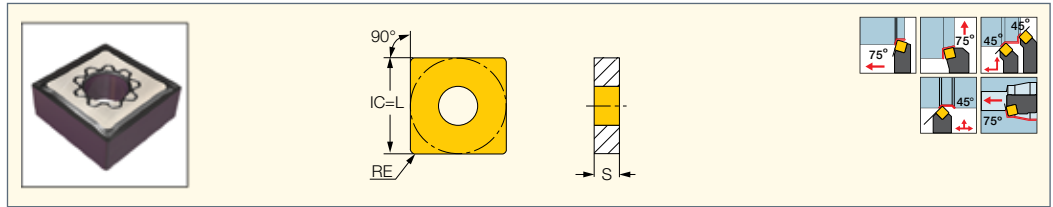
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: DSBNR/L (40) • DSDNN (39) • DSSNR/L (39) • PSBNR/L (43) • PSDNN (41) • PSSNR/L (42)

ISOTURN

SNMG-F3S

Double-Sided 90° Rhombic Inserts for Titanium and Heat Resistant Materials for Finishing Applications



Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	IC806	IC804	a _p (mm)	f (mm/rev)
SNMG 090404-F3S	9.52	4.76	0.40	●	●	0.10-1.50	0.05-0.35
SNMG 090408-F3S	9.52	4.76	0.80	●	●	0.10-1.50	0.05-0.35
SNMG 120404-F3S	12.70	4.76	0.40	●	●	0.10-1.50	0.05-0.35
SNMG 120408-F3S	12.70	4.76	0.80	●	●	0.10-1.50	0.05-0.35

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PSKNR/L-09 (115) • C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39)

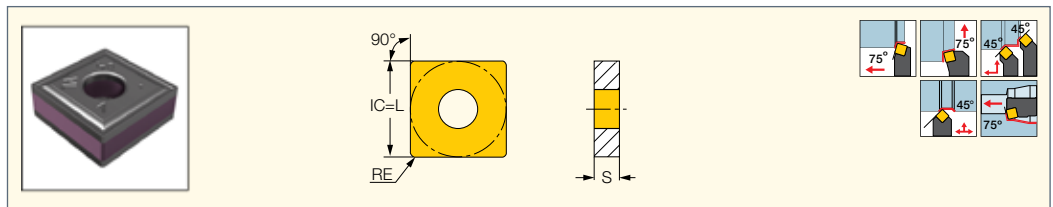
• HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41)

• PSDNN-JHP (41) • PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-VL

Double-Sided Square Inserts with a Chipformer for High Temperature Alloys and Stainless Steel Valves



Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	IC806	IC907	a _p (mm)	f (mm/rev)
SNMG 120404-VL	12.70	4.76	0.40	●	●	1.00-5.00	0.10-0.25
SNMG 120408-VL	12.70	4.76	0.80	●	●	1.00-5.00	0.10-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)

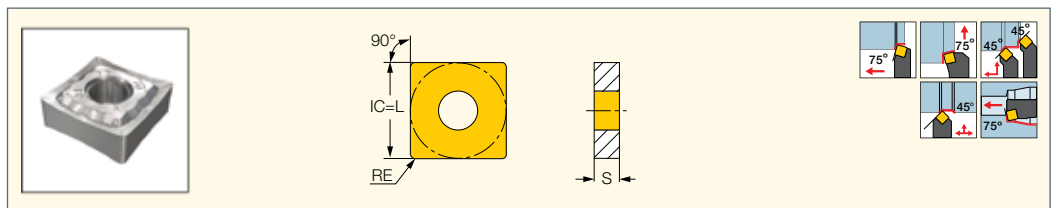
• HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41) • PSKNR/L (41)

• PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-PP

Double-Sided Square Inserts for Machining Very Ductile Materials at Medium Cutting Conditions



Designation	Dimensions			IC830	Recommended Machining Data	
	IC	S	RE		a _p (mm)	f (mm/rev)
SNMG 120408-PP	12.70	4.76	0.80	●	1.00-4.00	0.14-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)

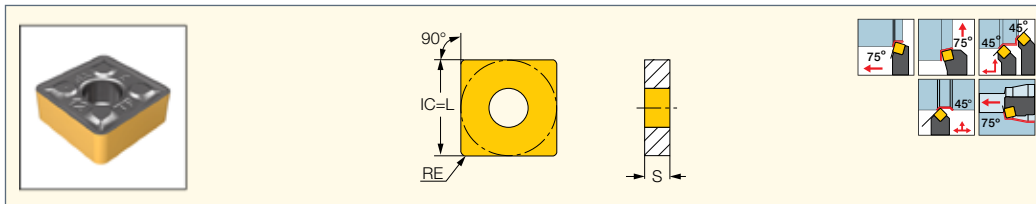
• HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41) • PSKNR/L (41)

• PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-TF

Double-Sided Square Inserts for Machining a Wide Range of Materials at Medium Cutting Conditions



Designation	Dimensions			Tough ↔ Hard							Recommended Machining Data		
	IC	S	RE	IC830	IC8250	IC8015	IC8150	IC20	IC806	IC807	IC907	a _p (mm)	f (mm/rev)
SNMG 090304-TF	9.52	3.17	0.40		●							0.80-3.00	0.10-0.30
SNMG 120404-TF	12.70	4.76	0.40		●						●	1.00-4.00	0.12-0.35
SNMG 120408-TF	12.70	4.76	0.80	●	●	●			●	●		1.00-4.00	0.13-0.35
SNMG 120412-TF	12.70	4.76	1.20	●	●		●	●	●	●		1.50-4.00	0.15-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)

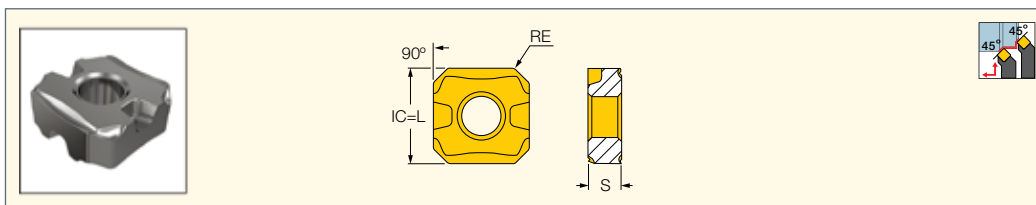
• HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41) • PSKNR/L (41)

• PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-EM-M/R

Double-Sided Square Inserts for Medium Machining on High Temperature Alloys



Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	IC806	IC907	a _p (mm)	f (mm/rev)
SNMG 120408-EM-M	12.70	4.76	0.80	●		1.00-3.00	0.20-0.40
SNMG 120408-EM-R	12.70	4.76	0.80	●	●	3.00-6.00	0.25-0.50

• Requires the use of RST 443R/L SET - seat when used on DSSNR/L tools and TSN 423-PIN SET seat when used on PSSNR/L-JHP and PSDNN-JHP tools

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: DSDNN (39) • DSSNR/L (39) • PSDNN (41) • PSDNN-JHP (41) • PSBNR/L (42) • PSSNR/L-JHP (42)

The inserts have 4 cutting edges (2 on each side) with truncated radii – a configuration which facilitates heat transfer from the cutting area. The two edges without chipbreakers (flat) are not used.

Toolholders

These inserts require the use of **RST 443R/L SET** - special seat when used on DSSNR/L tools and **TSN 423-PIN SET** seat when used on PSSNR/L-JHP and PSDNN-JHP tools. The standard seats should be replaced with the special ones which have a pin whose purpose is to prevent using the non-working flat cutting corners.



Correct insert position

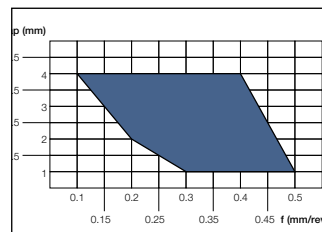
Wrong positioning

Orientation pin

Advantages

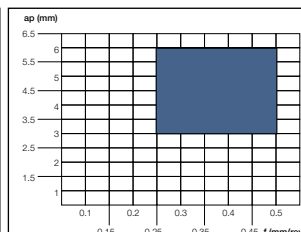
- Increased cutting speed (due to better heat transfer)
- Reduced notch wear (due to 45° approach angle)
- Increased feed (the 45° approach angle produces a thin chip)
- Increased productivity of up to 50%
- Ability to machine in two directions with the same tool, longitudinal and face turning

Chipbreaking Range SNMG 120408-EM-M



Material: Inconel 718 Vc: 50 m/min With coolant

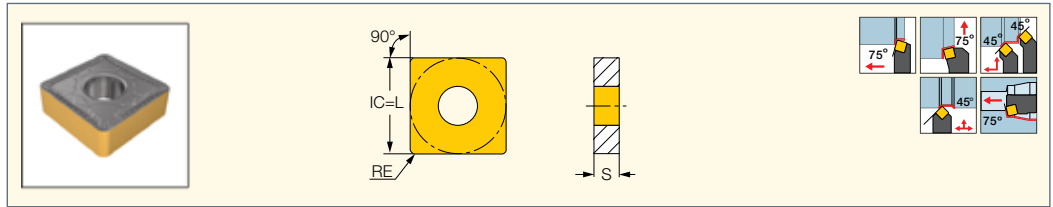
Chipbreaking Range SNMG 120408-EM-R



Material: Inconel 718 Vc: 50 m/min With coolant

ISOTURN

SNMG-GN Double-Sided Square Inserts for General Applications

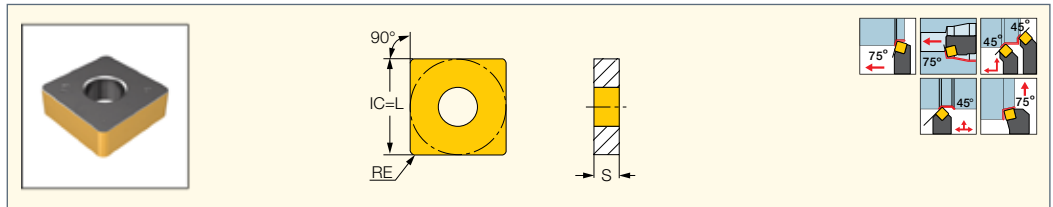


Designation	Dimensions			Tough ↔ Hard								Recommended Machining Data	
	IC	S	RE	IC830	IC8350	IC8250	IC8150	IC20	IC5010	IC428	IC5005	a _p (mm)	f (mm/rev)
SNMG 120408-GN	12.70	4.76	0.80		●	●		●	●	●	●	1.00-5.00	0.20-0.45
SNMG 120412-GN	12.70	4.76	1.20				●					1.40-5.00	0.25-0.50
SNMG 150612-GN	15.88	6.35	1.20	●		●		●				2.00-7.00	0.30-0.60
SNMG 190612-GN	19.05	6.35	1.20	●	●	●						2.00-7.00	0.30-0.60
SNMG 190616-GN	19.05	6.35	1.60	●								2.00-9.00	0.30-0.65

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)
- HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41)
- PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMA Double-Sided Square Inserts Without a Chipformer for Short Chipping Materials

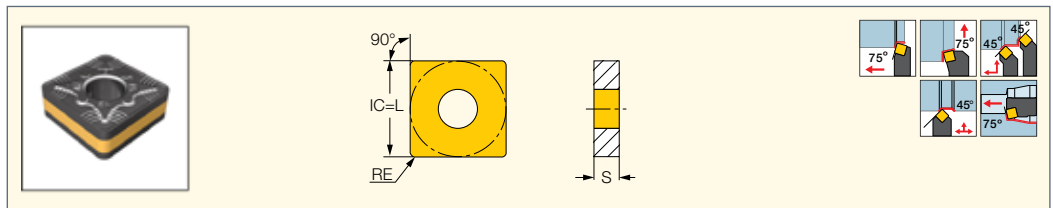


Designation	Dimensions			Tough ↔ Hard				Recommended Machining Data	
	IC	S	RE	IC20	IC5010	IC428	IC5005	a _p (mm)	f (mm/rev)
SNMA 120408	12.70	4.76	0.80	●	●	●	●	1.50-5.00	0.05-0.50
SNMA 120412	12.70	4.76	1.20	●	●	●	●	1.50-5.00	0.10-0.50
SNMA 120416	12.70	4.76	1.60		●	●	●	2.00-6.00	0.10-0.60
SNMA 190612	19.05	6.35	1.20	●	●		●	2.00-7.00	0.10-0.60
SNMA 190616	19.05	6.35	1.60		●	●		2.50-10.00	0.10-0.60

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)
- HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41)
- PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMG-NR Double-Sided Square Inserts with a Special Chipformer for Heavy Machining



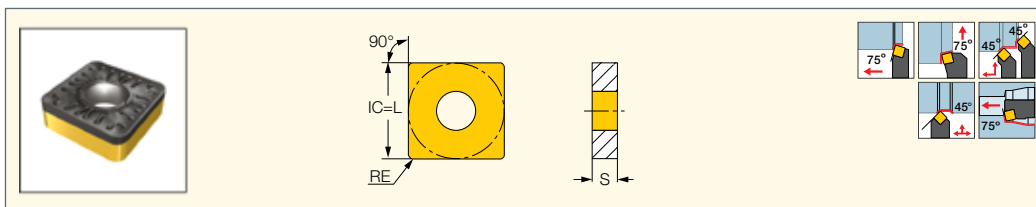
Designation	Dimensions			Tough ↔ Hard								Recommended Machining Data		
	IC	S	RE	IC830	IC8350	IC8250	IC8150	IC5010	IC428	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
SNMG 120412-NR	12.70	4.76	1.20			●			●	●			2.00-5.00	0.30-0.70
SNMG 120416-NR	12.70	4.76	1.60		●	●	●						2.50-6.00	0.30-0.70
SNMG 150608-NR	15.88	6.35	0.80			●							2.50-8.00	0.30-0.70
SNMG 150612-NR	15.88	6.35	1.20		●	●							2.50-8.00	0.30-0.70
SNMG 150616-NR	15.88	6.35	1.60			●	●	●		●			2.50-8.00	0.30-0.70
SNMG 190612-NR	19.05	6.35	1.20			●					●	●	3.00-8.00	0.40-0.70
SNMG 190616-NR	19.05	6.35	1.60	●	●	●	●						3.50-10.00	0.40-0.70
SNMG 250724-NR	25.40	7.94	2.40		●								5.00-15.00	0.40-1.00
SNMG 250924-NR	25.40	9.52	2.40	●	●	●							5.00-15.00	0.40-1.00

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)
- HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41)
- PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMM-R3P

Single-Sided Square
Inserts for Rough Turning
Applications on Steel



Designation	Dimensions			Tough ↔ Hard			Recommended Machining Data	
	IC	S	RE	IC830	IC8250	IC8150	a _p (mm)	f (mm/rev)
SNMM 120408-R3P	12.70	4.76	0.80	●	●	●	0.70-7.50	0.20-0.55
SNMM 120412-R3P	12.70	4.76	1.20	●	●	●	1.00-7.50	0.25-0.70
SNMM 120416-R3P	12.70	4.76	1.60	●	●	●	2.00-7.50	0.30-0.90
SNMM 150612-R3P	15.88	6.35	1.20	●	●	●	2.00-9.50	0.30-0.70
SNMM 150616-R3P	15.88	6.35	1.60	●	●	●	2.50-9.50	0.30-0.90
SNMM 190612-R3P	19.05	6.35	1.20	●	●	●	3.00-12.00	0.25-0.80
SNMM 190616-R3P	19.05	6.35	1.60	●	●	●	3.50-12.00	0.30-0.90
SNMM 190624-R3P	19.05	6.35	2.40	●	●	●	3.50-12.00	0.30-1.20
SNMM 250924-R3P	25.40	9.52	2.40	●	●	●	4.00-15.00	0.40-1.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)

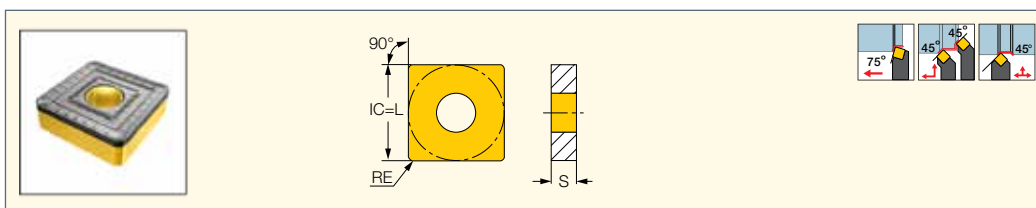
• HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41)

• PSKNR/L (41) • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNMM-H3P

Single-Sided Square Inserts
with a Strong Cutting Edge
for Extra Rough Turning



Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	RE	S	IC8250	IC8150	a _p (mm)	f (mm/rev)
SNMM 190624-H3P	19.05	2.40	6.35	●	●	4.00-9.00	0.55-1.20
SNMM 250924-H3P	25.40	2.40	9.52	●	●	5.00-12.00	0.55-1.30

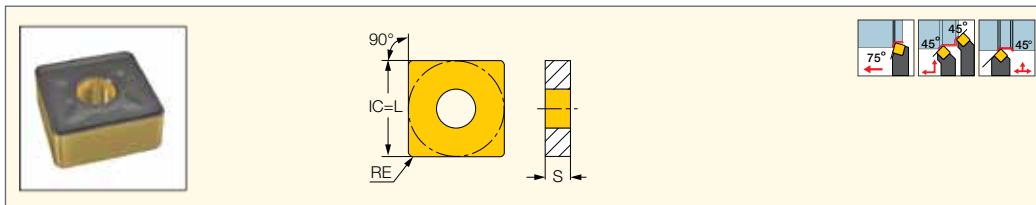
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: DSBNR/L (40) • DSDNN (39) • DSSNR/L (39) • PSBNR/L (43) • PSDNN (41) • PSSNR/L (42)

ISOTURN

SNMM-H4P

Single-Sided Square Inserts
with a Strong Cutting Edge
for Extra Rough Turning



Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	RE	S	IC8250	IC8150	a _p (mm)	f (mm/rev)
SNMM 190624-H4P	19.05	2.40	6.35	●	●	4.00-12.00	0.50-1.10
SNMM 250924-H4P	25.40	2.40	9.52	●	●	5.00-15.00	0.55-1.50

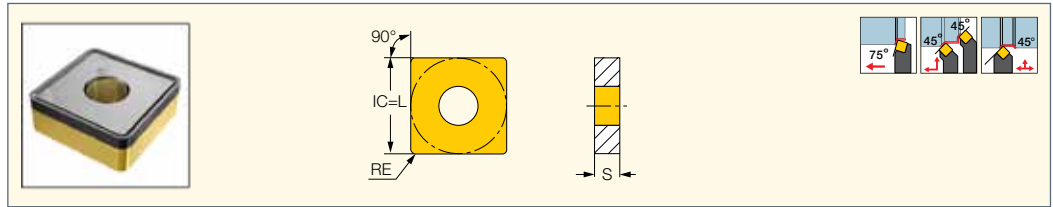
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: DSBNR/L (40) • DSDNN (39) • DSSNR/L (39) • PSBNR/L (43) • PSDNN (41) • PSSNR/L (42)

ISOTURN

SNMM-H5P

Single-Sided Square Insert with a Strong Cutting Edge for Extra Rough Turning



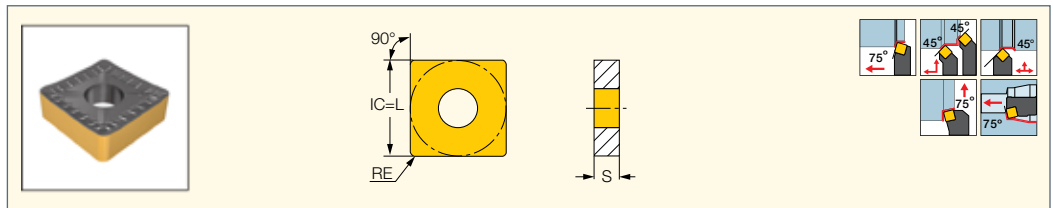
Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	RE	S	IC8250	IC8150	a _p (mm)	f (mm/rev)
SNMM 250924-H5P	25.40	2.40	9.52	●	●	3.60-16.00	0.60-1.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: PSBNR/L (43) • PSDNN (41) • PSSNR/L (42)

ISOTURN

SNMM-NM

Single-Sided Square Inserts for Roughing Applications



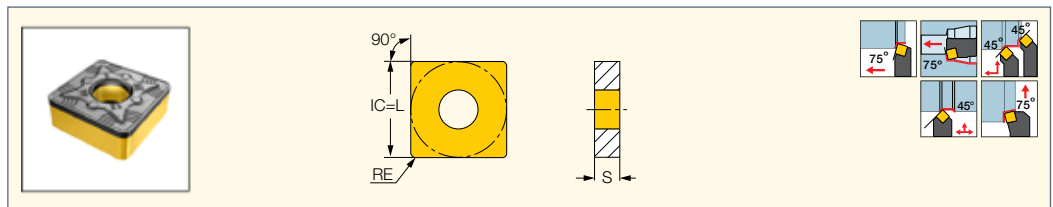
Designation	Dimensions			Tough ↔ Hard		Recommended Machining Data	
	IC	S	RE	IC880	IC8250	a _p (mm)	f (mm/rev)
SNMM 190616-NM	19.05	6.35	1.60	●	●	2.50-10.00	0.30-0.70

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: DSBNR/L (40) • DSDNN (39) • DSSNR/L (39) • PSBNR/L (43) • PSDNN (41) • PSSNR/L (42)

ISOTURN

SNMM-NR

Single-Sided Square Inserts with a Special Chipformer for Heavy Machining



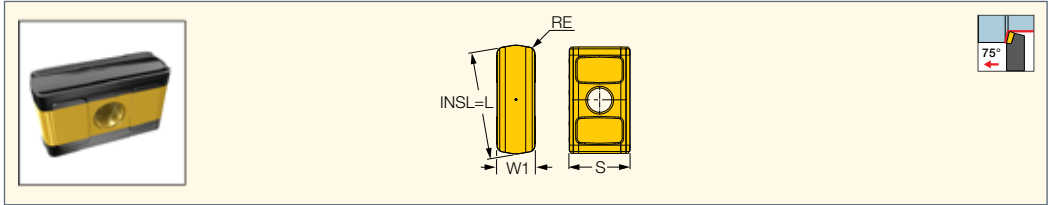
Designation	Dimensions			Tough ↔ Hard			Recommended Machining Data	
	IC	S	RE	IC8350	IC8250	IC8150	a _p (mm)	f (mm/rev)
SNMM 190616-NR	19.05	6.35	1.60	●	●	●	2.50-8.00	0.35-1.00
SNMM 250724-NR	25.40	7.94	2.40	●	●	●	5.00-15.00	0.35-1.00

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: DSBNR/L (40) • DSDNN (39) • DSSNR/L (39) • PSBNR/L (43) • PSDNN (41) • PSSNR/L (42)

HEAVY^{SUPER}TURN

LOMX-H6P

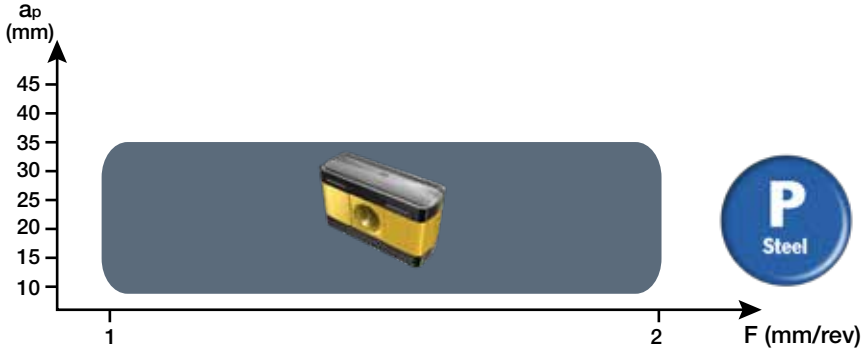
Tangential Inserts with 4 Cutting Edges for High Metal Removal of up to 35 mm D.O.C. on Steel



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	W1	INSL	S	RE	IC8250	IC8150	a_p (mm)	f (mm/rev)
LOMX 402224-H6P	14.40	40.30	22.60	2.40	●	●	7.00-35.00	1.00-2.00

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: PLBOR/L (45)

Application Range H6P Chipformer

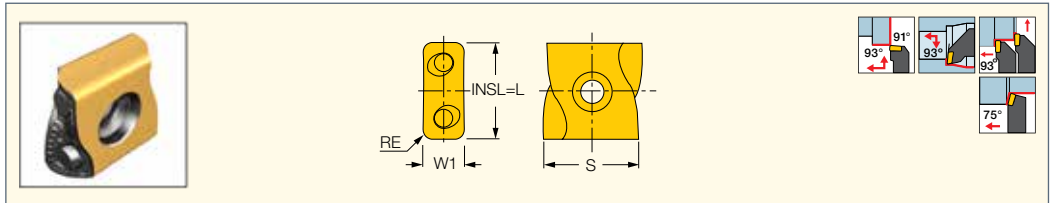


HELITURN

TANGENTIAL LINE

LNMX-HT

Tangential Inserts with 4 Cutting Edges and a Positive Rake Angle for High Metal Removal Rates

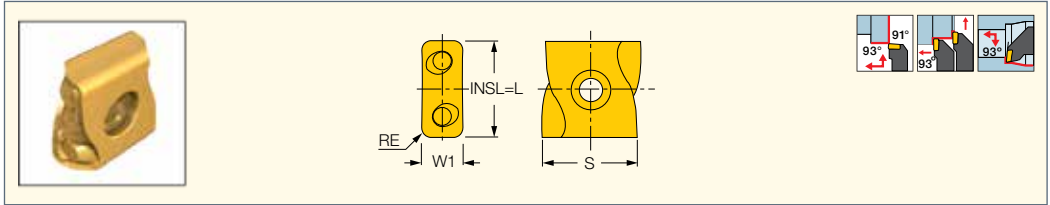


Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data			
	W1	INSL	S	RE	IC830	IC8350	IC8250	IC908	IC8150	IC428	IC5005	IC807	IC907	a_p (mm)	f (mm/rev)
LNMX 110408L-HT	4.75	11.00	11.40	0.80	●	●	●	●	●	●		●	●	0.50-5.00	0.15-0.60
LNMX 110408R-HT	4.75	11.00	11.40	0.80	●	●	●	●	●	●		●	●	0.50-5.00	0.15-0.60
LNMX 110412L-HT	4.75	11.00	11.40	1.20			●	●	●	●				0.80-5.00	0.20-0.80
LNMX 110412R-HT	4.75	11.00	11.40	1.20	●		●	●	●	●				0.80-5.00	0.20-0.80
LNMX 150608L-HT	6.40	15.00	13.40	0.80	●		●	●	●	●			●	1.00-6.00	0.25-0.60
LNMX 150608R-HT	6.40	15.00	13.40	0.80	●	●	●	●	●	●		●	●	1.00-6.00	0.25-0.60
LNMX 150612L-HT	6.40	15.00	13.40	1.20		●	●	●	●	●			●	1.50-7.00	0.30-0.80
LNMX 150612R-HT	6.40	15.00	13.40	1.20	●	●	●	●	●	●			●	1.50-7.00	0.30-0.80
LNMX 150616L-HT	6.40	15.00	13.40	1.60	●		●	●	●	●				2.00-8.00	0.30-1.00
LNMX 150616R-HT	6.40	15.00	13.40	1.60		●	●	●	●	●			●	2.00-8.00	0.30-1.00
LNMX 221016R/L-HT	9.40	22.00	20.00	1.60		●	●	●	●					4.00-15.00	0.30-1.00
LNMX 221024R/L-HT	9.40	22.00	20.00	2.40	●	●	●		●					5.00-15.00	0.30-1.10

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: C#-SLANR/L-TANG (48) • PLANR/L-TANG (46) • S-PLANR-TANG (100) • S-SLANR/L-TANG (100) • SLANR/L-15-TANG-JHP (48)
 • SLANR/L-TANG (47) • SLBNR/L-TANG (49) • SLFNR/L-TANG (49)

LNMX-HM

Tangential Inserts with a Positive Rake Angle for High Metal Removal on Soft and Ductile Materials



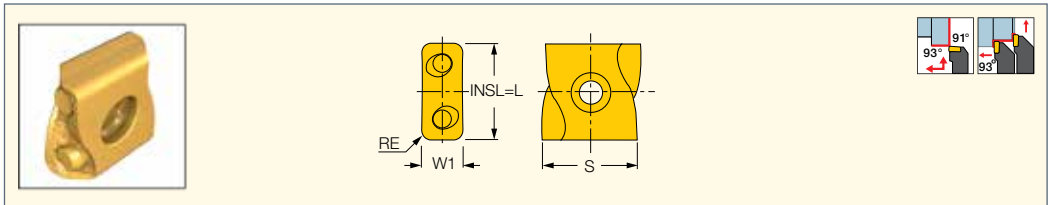
Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	INSL	W1	S	RE	IC8250	IC6015	IC806	IC807	IC907	ap (mm)	f (mm/rev)
LNMX 110408L-HM	11.00	4.75	11.40	0.80		●		●		1.00-5.00	0.10-0.40
LNMX 110408R-HM	11.00	4.75	11.40	0.80	●	●		●		1.00-5.00	0.10-0.40
LNMX 110412L-HM	11.00	4.75	11.40	1.20	●					1.00-5.00	0.10-0.40
LNMX 110412R-HM	11.00	4.75	11.40	1.20		●				1.00-5.00	0.10-0.40
LNMX 150608L-HM	15.00	6.40	13.40	0.80	●		●		●	1.00-6.00	0.10-0.50
LNMX 150608R-HM	15.00	6.40	13.40	0.80	●		●	●	●	1.00-6.00	0.10-0.50
LNMX 150612R/L-HM	15.00	6.40	13.40	1.20	●		●		●	1.50-7.00	0.15-0.70

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-SLANR/L-TANG (48) • PLANR/L-TANG (46) • S-PLANR-TANG (100) • S-SLANR/L-TANG (100) • SLANR/L-15-TANG-JHP (48) • SLANR/L-TANG (47) • SLFNR/L-TANG (49)

LNMX-WG

Tangentially Clamped Inserts with a Wiper Corner Design for High Production Cutting and Excellent Surface Finish



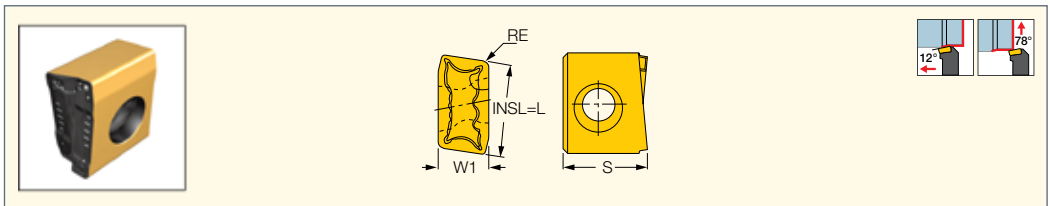
Designation	Dimensions				IC8250	Recommended Machining Data	
	INSL	W1	S	RE		ap (mm)	f (mm/rev)
LNMX 150612R/L-WG	15.00	6.40	13.40	1.20	●	1.50-7.00	0.30-0.80

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-SLANR/L-TANG (48) • PLANR/L-TANG (46) • S-PLANR-TANG (100) • S-SLANR/L-TANG (100) • SLANR/L-15-TANG-JHP (48) • SLANR/L-TANG (47) • SLFNR/L-TANG (49)

LNMX-HF

Tangentially Clamped Rough Turning Inserts for High Feed (up to 2.4 mm/Rev)



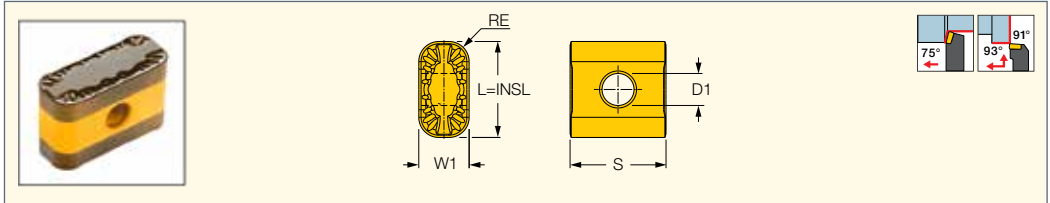
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	W1	INSL	S	RE	IC830	IC8250	IC8150	ap (mm)	f (mm/rev)
LNMX 1608L-HF	8.50	16.00	14.00	1.20		●	●	0.50-2.40	1.50-2.40
LNMX 1608R-HF	8.50	16.00	14.00	1.20	●	●	●	0.50-2.40	1.50-2.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

LNMX 19/30

Tangentially Clamped Inserts for Railroad Wheel Re-Turning



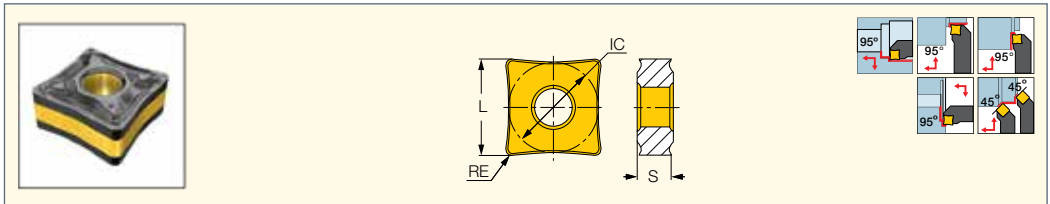
Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	W1	INSL	S	RE	D1	IC8250	IC8150	a _p (mm)	f (mm/rev)
LNMX 191940-WF	10.00	19.05	19.05	4.00	6.35	●	●	0.30-5.00	0.25-1.30
LNMX 191940-WM	10.00	19.05	19.05	4.00	6.35	●	●	0.30-5.00	0.40-1.50
LNMX 301940-WM	12.00	30.00	19.05	4.00	6.35	●	●	0.50-12.00	0.70-1.90
LNMX 301940-WR	12.00	30.00	19.05	4.00	6.35	●	●	0.50-12.00	0.80-1.90

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: PRWR/L 175-CA (50) • PRWR/L 177-CA (50)

ISOTURN

QNMG-NF

Double-Sided Inserts with Four 80° Corners for Finishing Applications



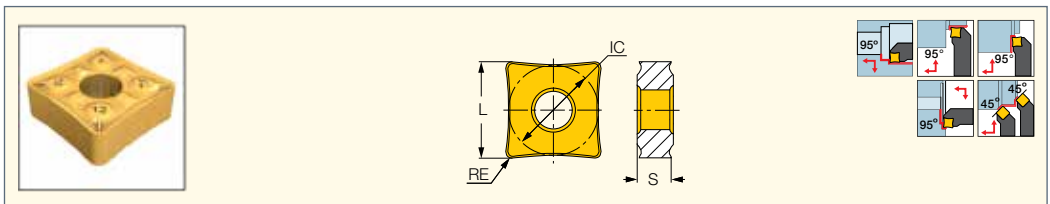
Designation	Dimensions				IC8150	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
QNMG 120408-NF	13.33	12.70	4.76	0.80	●	0.80-3.00	0.08-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: PQFNR/L (51) • PQLNR/L (50) • PQSNR/L (51) • S-PQFNR/L (100) • S-PQLNR/L (101)

ISOTURN

QNMG-TF

Double-Sided Inserts with Four 80° Corners for General Applications



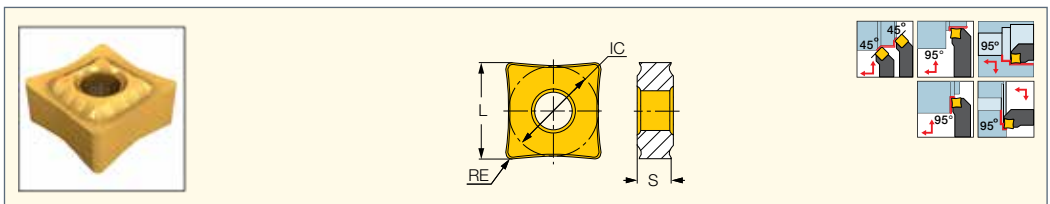
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	a _p (mm)	f (mm/rev)
QNMG 090404-TF	10.32	9.52	4.76	0.40	●	●	●	1.00-4.00	0.12-0.35
QNMG 090408-TF	10.32	9.52	4.76	0.80	●	●	●	1.00-4.00	0.12-0.35
QNMG 120404-TF	13.41	12.70	4.76	0.40	●	●	●	1.00-4.00	0.12-0.35
QNMG 120408-TF	13.33	12.70	4.76	0.80	●	●	●	1.00-4.00	0.12-0.35
QNMG 120412-TF	13.25	12.70	4.76	1.20	●	●	●	1.50-4.50	0.15-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: PQFNR/L (51) • PQLNR/L (50) • PQSNR/L (51) • S-PQFNR/L (100) • S-PQLNR/L (101)

ISOTURN

QNMG-PP

Double-Sided Inserts with Four 80° Corners for General Applications

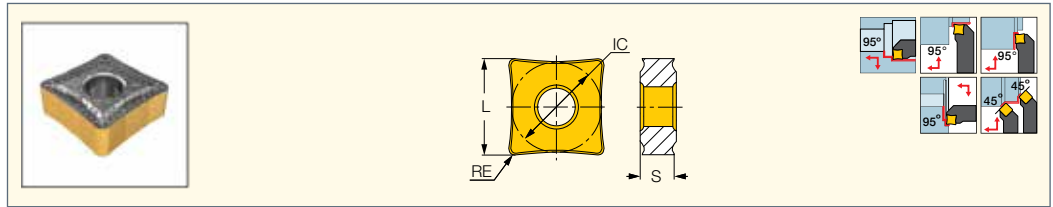


Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	a _p (mm)	f (mm/rev)
QNMG 090408-PP	10.32	9.52	4.76	0.80	●	●	1.00-4.00	0.14-0.30
QNMG 120408-PP	13.33	12.70	4.76	0.80	●	●	1.00-4.00	0.14-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: PQFNR/L (51) • PQLNR/L (50) • PQSNR/L (51) • S-PQFNR/L (100) • S-PQLNR/L (101)

QNMG-GN

Double-Sided Inserts with Four 80° Corners for General Applications



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC8250	IC8150	IC428	ap (mm)	f (mm/rev)
QNMG 090408-GN	10.32	9.52	4.76	0.80	●		●		1.00-4.50	0.16-0.45
QNMG 120408-GN	13.33	12.70	4.76	0.80	●	●	●	●	1.00-4.50	0.16-0.45
QNMG 120412-GN	13.25	12.70	4.76	1.20	●	●	●	●	1.50-5.00	0.22-0.50

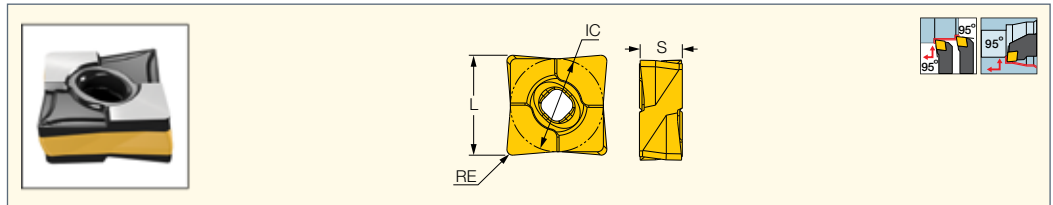
• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: PQFNR/L (51) • PQLNR/L (50) • PQSNR/L (51) • S-PQFNR/L (100) • S-PQLNR/L (101)

Positive Inserts

LOGIQ4TURN
 POSITIVE DOUBLE SIDED

CXMG-F3P

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Finishing on Alloyed Steel



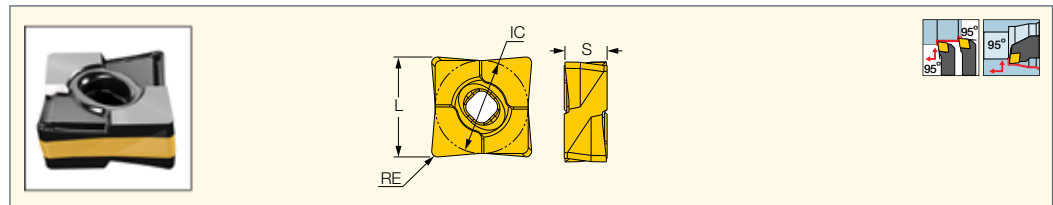
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC8150	IC807	ap (mm)	f (mm/rev)
CXMG 090402-F3P	10.40	9.35	4.66	0.20	●	●	0.30-2.00	0.03-0.15
CXMG 090404-F3P	10.40	9.35	4.65	0.40	●		0.40-2.00	0.05-0.25
CXMG 12T504-F3P	13.83	12.50	5.80	0.40	●	●	0.40-2.00	0.05-0.25
CXMG 12T508-F3P	13.75	12.50	5.80	0.80	●	●	0.80-2.00	0.05-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A-PCLXR/L (99) • AVC-PCLXR/L (96) • PCLXR/L (52) • PCLXR/L-JHP (52) • PCLXR/L-JHP-MC (53) • PCLXR/L-S (52) • PCLXR/L-S-JHP (53)

LOGIQ4TURN
 POSITIVE DOUBLE SIDED

CXMG-M3P

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Medium Machining on Alloyed Steel



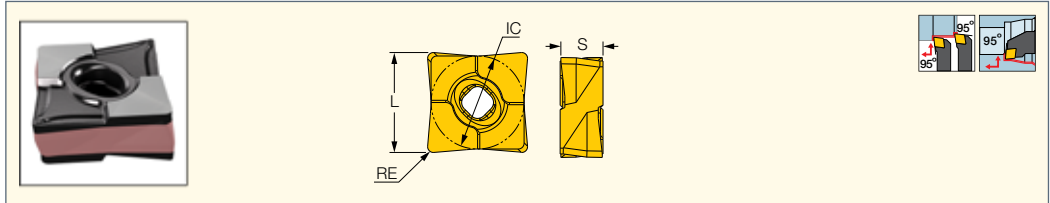
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	IC807	ap (mm)	f (mm/rev)
CXMG 090408-M3P	10.32	9.35	4.65	0.80	●	●	●	0.80-3.00	0.10-0.50
CXMG 12T508-M3P	13.75	12.50	5.80	0.80	●	●	●	0.80-5.00	0.10-0.50
CXMG 12T512-M3P	13.68	12.50	5.80	1.20	●	●	●	1.20-5.00	0.10-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A-PCLXR/L (99) • AVC-PCLXR/L (96) • PCLXR/L (52) • PCLXR/L-JHP (52) • PCLXR/L-JHP-MC (53) • PCLXR/L-S (52) • PCLXR/L-S-JHP (53)



CXMG-F3M

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Finishing on Stainless Steel and H.T.A.



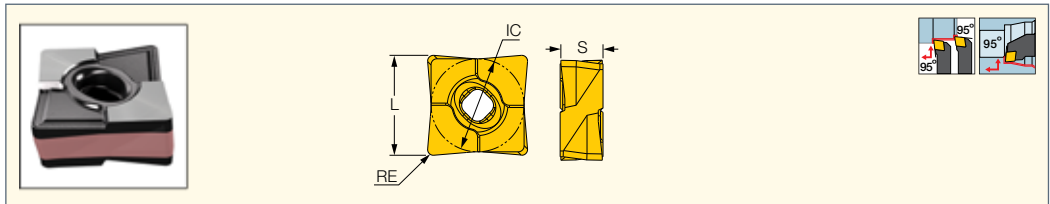
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC6025	IC6015	IC806	IC807	a _p (mm)	f (mm/rev)
CXMG 090402-F3M	10.40	9.35	4.66	0.20		●	●	●	0.30-2.00	0.03-0.15
CXMG 090404-F3M	10.40	9.35	4.65	0.40	●		●	●	0.40-2.00	0.05-0.25
CXMG 12T504-F3M	13.83	12.50	5.80	0.40	●		●	●	0.40-2.00	0.05-0.25
CXMG 12T508-F3M	13.75	12.50	5.80	0.80	●		●	●	0.80-2.00	0.05-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-PCLXR/L (99) • AVC-PCLXR/L (96) • PCLXR/L (52) • PCLXR/L-JHP (52) • PCLXR/L-JHP-MC (53) • PCLXR/L-S (52) • PCLXR/L-S-JHP (53)



CXMG-M3M

80° Double-Sided and Double-Positive Inserts with a Positive Rake for Medium Machining on Stainless Steel and H.T.A.



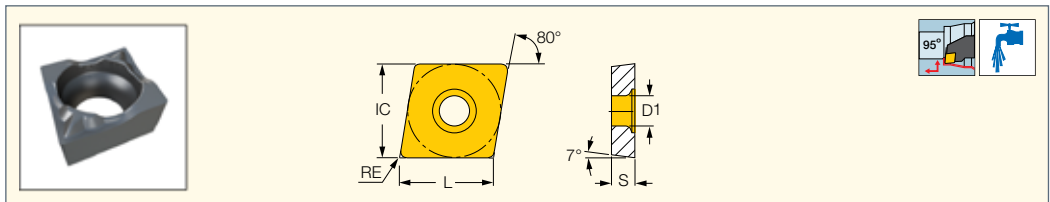
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IC6025	IC806	IC807	a _p (mm)	f (mm/rev)
CXMG 090408-M3M	10.32	9.35	4.65	0.80	●	●	●	0.80-3.00	0.15-0.50
CXMG 12T508-M3M	13.75	12.50	5.80	0.80	●	●	●	0.80-5.00	0.15-0.50
CXMG 12T512-M3M	13.68	12.50	5.80	1.20	●	●	●	1.20-5.00	0.15-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A-PCLXR/L (99) • AVC-PCLXR/L (96) • PCLXR/L (52) • PCLXR/L-JHP (52) • PCLXR/L-JHP-MC (53) • PCLXR/L-S (52) • PCLXR/L-S-JHP (53)



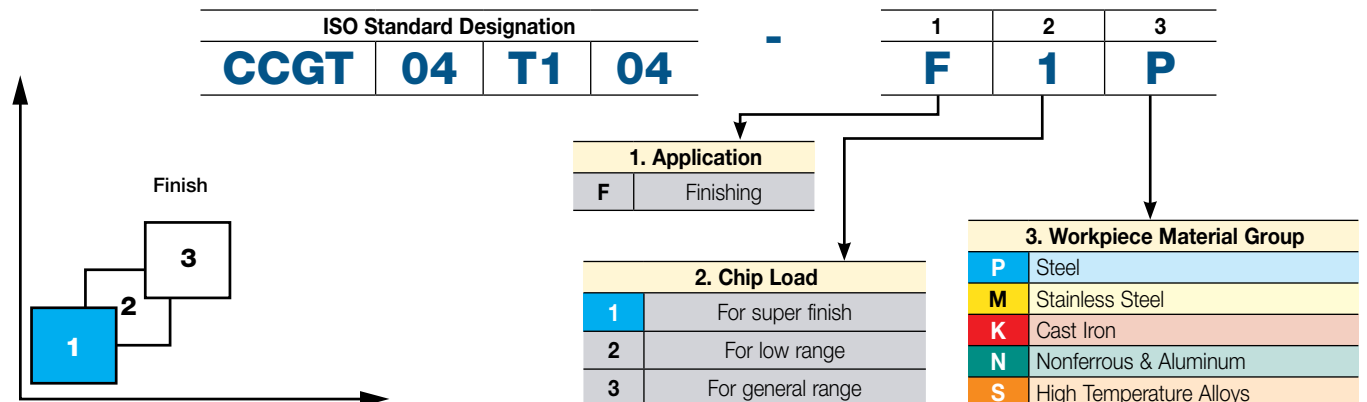
CCGT-F1P

80° Rhombic Inserts with a Positive Flank for Very Low Finish Turning Conditions on Steel



Designation	Dimensions						IC908	Recommended Machining Data	
	L	IC	S	RE	D1	a _p (mm)		f (mm/rev)	
CCGT 03X101-F1P	3.60	3.57	1.39	0.10	1.90	●	0.10-0.50	0.01-0.05	
CCGT 03X102-F1P	3.60	3.57	1.39	0.20	1.90	●	0.10-0.50	0.02-0.10	
CCGT 03X104-F1P	3.60	3.57	1.39	0.40	1.90	●	0.10-0.50	0.05-0.15	
CCGT 04T101-F1P	4.40	4.37	1.79	0.10	2.30	●	0.10-0.50	0.01-0.05	
CCGT 04T102-F1P	4.40	4.37	1.79	0.20	2.30	●	0.10-0.50	0.02-0.10	
CCGT 04T104-F1P	4.40	4.37	1.79	0.40	2.30	●	0.10-0.50	0.05-0.15	

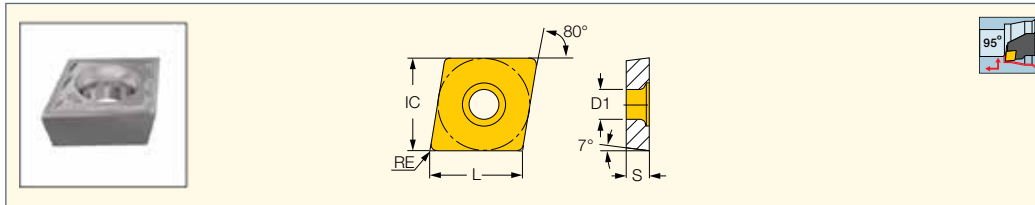
• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E/S-SCLCR/L (111) • PICIN-SCLCR/L (386)



ISOTURN

CCGT-F1M-20P

80° Rhombic Inserts with a Positive Flank for Very Low Finish Turning Conditions on Steel



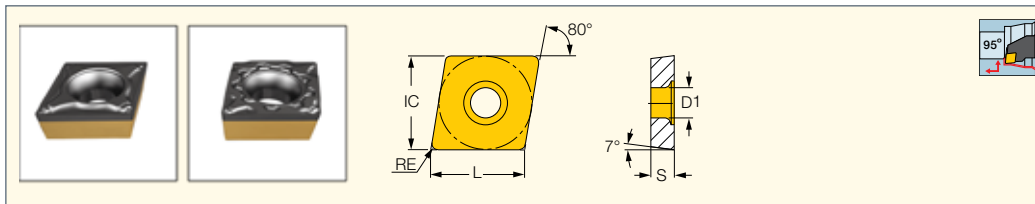
Designation	Dimensions					IC1008	Recommended Machining Data	
	L	IC	S	RE	D1		a _p (mm)	f (mm/rev)
CCGT 0602005-F1M-20P	6.45	6.35	2.38	0.05	2.80	●	0.04-4.00	0.03-0.15
CCGT 060201-F1M-20P	6.45	6.35	2.38	0.10	2.80	●	0.07-4.00	0.03-0.15
CCGT 060202-F1M-20P	6.45	6.35	2.38	0.20	2.80	●	0.15-4.00	0.03-0.15
CCGT 060204-F1M-20P	6.45	6.35	2.38	0.40	2.80	●	0.30-4.00	0.03-0.15
CCGT 09T3005-F1M-20P	9.67	9.53	3.97	0.05	4.40	●	0.04-4.00	0.03-0.15
CCGT 09T301-F1M-20P	9.67	9.53	3.97	0.10	4.40	●	0.07-4.00	0.03-0.15
CCGT 09T302-F1M-20P	9.67	9.53	3.97	0.20	4.40	●	0.15-4.00	0.03-0.15
CCGT 09T304-F1M-20P	9.67	9.53	3.97	0.40	4.40	●	0.30-4.00	0.03-0.15

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E/S-SCLCR/L (111)

ISOTURN

CCMT-F3P

80° Rhombic Positive Flank Inserts for Semi-Finishing and Finishing Turning of Steel



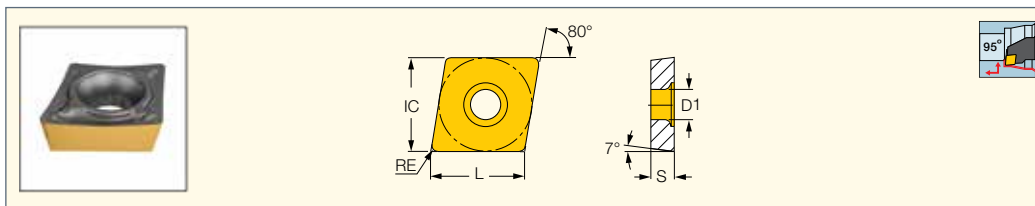
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
CCMT 060202-F3P	6.30	6.35	2.38	0.20	2.80	●	●	●	0.06-1.70	0.03-0.12
CCMT 060204-F3P	6.30	6.35	2.38	0.40	2.80	●	●	●	0.10-1.70	0.05-0.18
CCMT 09T302-F3P	9.70	9.52	3.97	0.20	4.40	●	●	●	0.08-2.00	0.04-0.16
CCMT 09T304-F3P	9.70	9.52	3.97	0.40	4.40	●	●	●	0.11-2.00	0.06-0.25
CCMT 09T308-F3P	9.70	9.52	3.97	0.80	4.40	●	●	●	0.15-2.00	0.08-0.32
CCMT 120404-F3P	12.90	12.70	4.76	0.40	5.50	●	●	●	0.11-2.00	0.06-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-JHP-MC (56) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54)

ISOTURN

CCMT-M3P

80° Rhombic Positive Flank Inserts for Medium Machining Conditions on Steel



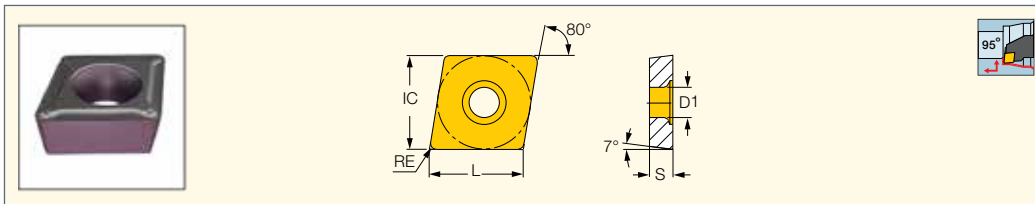
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
CCMT 060204-M3P	6.30	6.35	2.38	0.40	2.80	●	●	●	0.50-2.00	0.10-0.25
CCMT 060208-M3P	6.30	6.35	2.38	0.80	2.80	●	●	●	1.00-4.00	0.10-0.30
CCMT 09T304-M3P	9.70	9.52	3.97	0.40	4.40	●	●	●	0.50-3.00	0.10-0.20
CCMT 09T308-M3P	9.70	9.52	3.97	0.80	4.40	●	●	●	1.00-4.00	0.10-0.30
CCMT 09T312-M3P	9.70	9.52	3.97	1.20	4.40	●	●	●	1.30-5.00	0.15-0.40
CCMT 120404-M3P	12.90	12.70	4.76	0.40	5.50	●	●	●	0.50-3.00	0.10-0.20
CCMT 120408-M3P	12.90	12.70	4.76	0.80	5.50	●	●	●	1.00-4.00	0.15-0.40
CCMT 120412-M3P	12.90	12.70	4.76	1.20	5.50	●	●	●	1.30-5.00	0.15-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCMT-F3M

80° Rhombic Positive Flank
Inserts for Stainless Steel
Finishing Applications



Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	D1	IC6025	IC6015	IC806	IC807	a _p (mm)	f (mm/rev)
CCMT 060202-F3M	6.30	6.35	2.38	0.20	2.80	●	●	●	●	0.06-1.70	0.03-0.12
CCMT 060204-F3M	6.30	6.35	2.38	0.40	2.80	●	●	●	●	0.10-1.70	0.05-0.18
CCMT 060208-F3M	6.30	6.35	2.38	0.80	2.80	●	●	●	●	0.12-1.70	0.08-0.22
CCMT 09T302-F3M	9.70	9.52	3.97	0.20	4.40	●	●	●	●	0.08-2.00	0.04-0.16
CCMT 09T304-F3M	9.70	9.52	3.97	0.40	4.40	●	●	●	●	0.11-2.00	0.06-0.25
CCMT 09T308-F3M	9.70	9.52	3.97	0.80	4.40	●	●	●	●	0.15-2.00	0.08-0.32
CCMT 120402-F3M	12.90	12.70	4.76	0.20	5.50	●	●	●	●	0.11-2.00	0.06-0.18
CCMT 120404-F3M	12.90	12.70	4.76	0.40	5.50	●	●	●	●	0.15-2.00	0.08-0.25
CCMT 120408-F3M	12.90	12.70	4.76	0.80	5.50	●	●	●	●	0.18-2.00	0.10-0.32

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

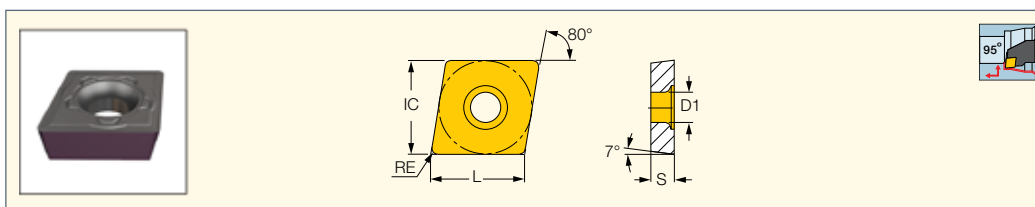
For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56)

• SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCMT-M3M

80° Rhombic Positive Flank
Inserts for Machining Stainless
and Low Carbon Steel



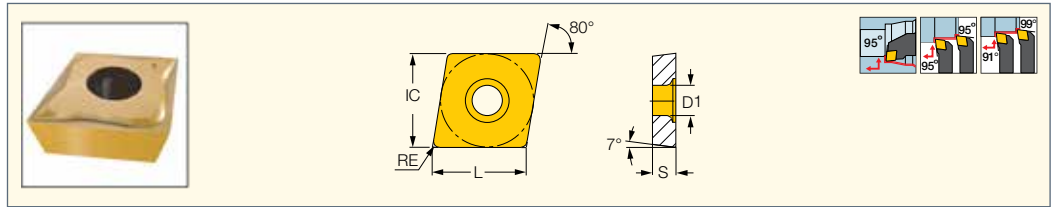
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	IC6025	IC6015	IC807	a _p (mm)	f (mm/rev)
CCMT 060204-M3M	6.30	6.35	2.38	0.40	2.80	●	●	●	0.40-2.50	0.07-0.23
CCMT 060208-M3M	6.30	6.35	2.38	0.80	2.80	●	●	●	0.80-2.50	0.10-0.25
CCMT 09T304-M3M	9.70	9.52	3.97	0.40	4.40	●	●	●	0.40-3.00	0.07-0.25
CCMT 09T308-M3M	9.70	9.52	3.97	0.80	4.40	●	●	●	0.80-3.00	0.10-0.30
CCMT 120404-M3M	12.90	12.70	4.76	0.40	5.50	●	●	●	0.40-3.50	0.10-0.30
CCMT 120408-M3M	12.90	12.70	4.76	0.80	5.50	●	●	●	0.80-3.50	0.12-0.34
CCMT 120412-M3M	12.90	12.70	4.76	1.20	5.50	●	●	●	1.20-3.50	0.14-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56)

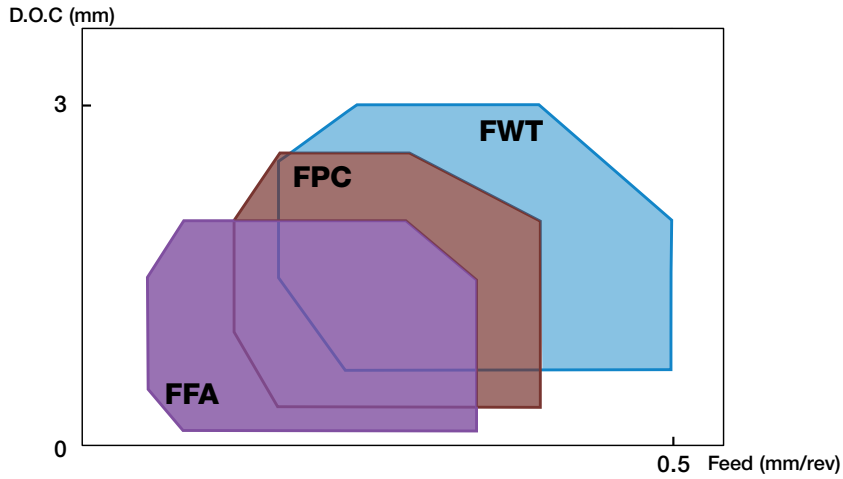
• SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

CCMT-CERMET
Single-Sided 80° Rhombic
Cermet Grade Inserts
for Semi-Finishing and
Finishing Applications

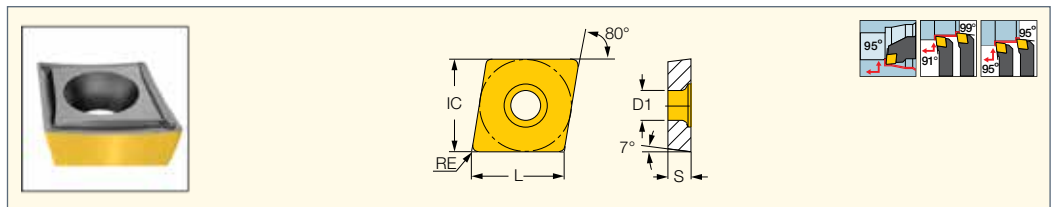


Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	IC20N	IC520N	ap (mm)	f (mm/rev)
CCMT 09T302-FFA	9.70	9.52	3.97	0.20	4.40	●	●	0.03-2.00	0.04-0.15
CCMT 09T302-FWT	9.70	9.52	3.97	0.20	4.40	●	●	1.50-3.00	0.00-0.50
CCMT 09T304-FPC	9.70	9.52	3.97	0.40	4.40	●	●	0.50-2.50	0.03-0.20
CCMT 09T308-FPC	9.70	9.52	3.97	0.80	4.40		●	0.50-2.80	0.03-0.22

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-JHP-MC (56) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54)



CCMT/CCGT-SM
Single-Sided Turning Inserts for
Semi-Finishing and Finishing on
Soft Materials and Exotic Alloys



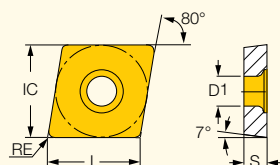
Designation	Dimensions					Tough ↔ Hard									Recommended Machining Data			
	L	IC	S	RE	D1	IC6025	IC8250	IC6015	IC8150	IC20	IC5010	IC428	IC5005	IC806	IC807	IC907	ap (mm)	f (mm/rev)
CCGT 060201-SM	6.45	6.35	2.38	0.10	2.80											●	0.25-2.00	0.05-0.20
CCGT 060202-SM	6.45	6.35	2.38	0.20	2.80											●	0.25-2.00	0.05-0.25
CCMT 060202-SM	6.45	6.35	2.38	0.20	2.80		●		●					●			0.25-2.00	0.05-0.25
CCMT 060204-SM	6.45	6.35	2.38	0.40	2.80	●	●	●	●					●	●	●	0.50-2.50	0.07-0.25
CCMT 060208-SM	6.45	6.35	2.38	0.80	2.80	●		●						●	●	●	0.50-2.50	0.07-0.25
CCMT 09T302-SM	9.70	9.52	3.97	0.20	4.40	●	●	●						●	●	●	0.50-2.50	0.06-0.25
CCMT 09T304-SM	9.70	9.52	3.97	0.40	4.40	●	●	●	●	●	●	●	●	●	●	●	0.50-2.50	0.06-0.25
CCMT 09T308-SM	9.70	9.52	3.97	0.80	4.40	●	●	●	●	●	●	●	●	●	●	●	0.50-3.00	0.07-0.25
CCMT 120404-SM	12.90	12.70	4.76	0.40	5.50		●	●	●					●	●	●	0.70-3.50	0.07-0.25
CCMT 120408-SM	12.90	12.70	4.76	0.80	5.50	●	●	●	●					●	●	●	0.70-3.50	0.07-0.30

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCMT-PF

80° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys



Designation	Dimensions					Tough ↔ Hard							Recommended Machining Data	
	L	IC	S	RE	D1	IC830	IC6025	IC6015	IC806	IC907	IC907	IC804	a _p (mm)	f (mm/rev)
CCMT 060202-PF	6.30	6.35	2.38	0.20	2.80	●	●	●		●	●	●	0.20-2.50	0.04-0.25
CCMT 060204-PF	6.30	6.35	2.38	0.40	2.80	●	●	●	●	●	●		0.40-2.50	0.04-0.30
CCMT 09T302-PF	9.70	9.52	3.97	0.20	4.40	●			●	●	●		0.50-3.00	0.05-0.30
CCMT 09T304-PF	9.70	9.52	3.97	0.40	4.40	●	●	●	●	●	●		0.50-3.50	0.05-0.35

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

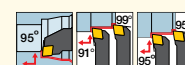
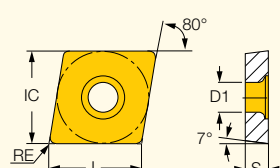
For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56)

• SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCMT-14

80° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning



Designation	Dimensions					Tough ↔ Hard							Recommended Machining Data	
	L	IC	S	RE	D1	IC830	IC8250	IC20	IC428	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
CCMT 060204-14	6.30	6.35	2.38	0.40	2.80	●		●	●	●	●	●	0.50-2.50	0.14-0.25
CCMT 09T304-14	9.70	9.52	3.97	0.40	4.40		●				●	●	0.50-3.00	0.14-0.25
CCMT 09T308-14	9.70	9.52	3.97	0.80	4.40	●	●	●	●	●			0.80-3.00	0.14-0.30
CCMT 120408-14	12.90	12.70	4.76	0.80	5.50	●		●					0.80-3.00	0.14-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

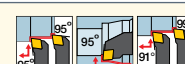
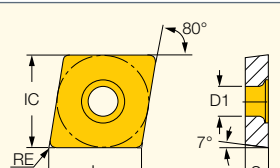
For tools, see pages: A/E/S-SCLCR/L (111) • AVC-SCLCR/L (95) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-JHP-MC (56)

• PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54)

ISOTURN

CCMT/CCGT

80° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning



Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	D1	IC8250	IC30N	IC20	IC20N	IC520N	a _p (mm)	f (mm/rev)
CCGT 060202	6.45	6.35	2.38	0.20	2.80		●				0.50-2.00	0.10-0.20
CCGT 060202L (1)	6.45	6.35	2.38	0.20	2.80		●	●			0.50-2.00	0.10-0.20
CCGT 060204	6.45	6.35	2.38	0.40	2.80		●				0.50-2.00	0.10-0.20
CCGT 060204L (1)	6.45	6.35	2.38	0.40	2.80		●				0.50-2.00	0.10-0.20
CCMT 060202	6.45	6.35	2.38	0.20	2.80	●			●		0.50-2.00	0.10-0.20
CCMT 060204	6.45	6.35	2.38	0.40	2.80		●		●	●	0.50-2.00	0.12-0.22
CCMT 09T302	9.70	9.52	3.97	0.20	4.40				●	●	0.50-2.50	0.12-0.25
CCMT 09T304	9.70	9.52	3.97	0.40	4.40				●	●	0.50-2.50	0.12-0.25
CCMT 09T308	9.70	9.52	3.97	0.80	4.40				●	●	0.80-3.00	0.14-0.25

• Use left-hand inserts for left-hand external tools and for right-hand internal tools • For user guide and cutting speed recommendations, see pages 122-134, 236-248

(1) Left-hand insert

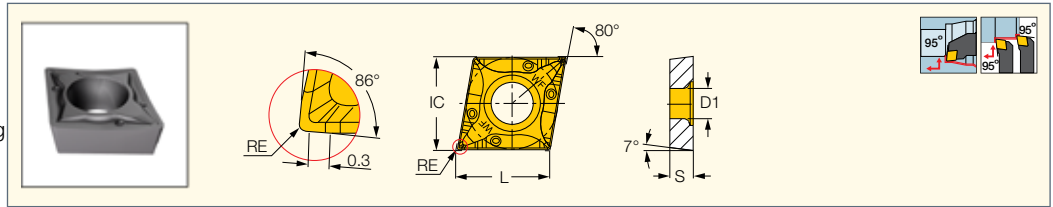
For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56)

• SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCET-WF

80° Rhombic Inserts with a 7° Positive Flank and a Wiper Near the Corner for High Feed Finishing



Designation	Dimensions					IC907	Recommended	Machining Data
	L	IC	S	RE	D1		a_p (mm)	f (mm/rev)
CCET 0602005-WF	6.30	6.35	2.38	0.05	2.80	●	0.05-2.00	0.01-0.20
CCET 09T3005-WF	9.50	9.52	3.97	0.05	4.40	●	0.05-2.00	0.01-0.20

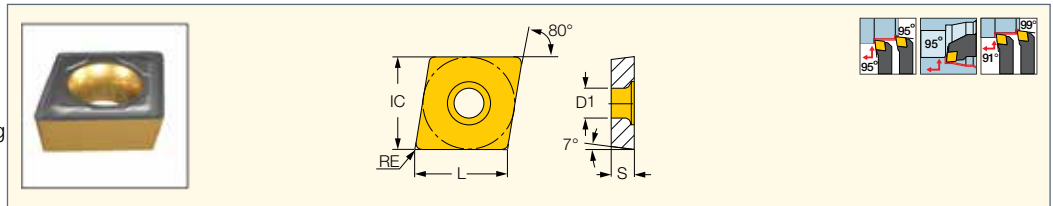
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCMT-WG

80° Rhombic Inserts with a 7° Positive Flank and a Wiper Near the Corner for High Feed Finishing



Designation	Dimensions					Tough ↔ Hard			Recommended	Machining Data
	L	IC	S	RE	D1	IC8250	IC807	IC907	a_p (mm)	f (mm/rev)
CCMT 060204-WG	6.30	6.35	2.38	0.40	2.80		●	●	0.40-2.00	0.10-0.35
CCMT 09T304-WG	9.70	9.52	3.97	0.40	4.40	●			0.40-2.00	0.14-0.30
CCMT 09T308-WG	9.70	9.52	3.97	0.80	4.40	●			0.50-2.50	0.20-0.38
CCMT 120408-WG	12.90	12.70	4.76	0.80	5.50	●			0.50-3.00	0.20-0.36

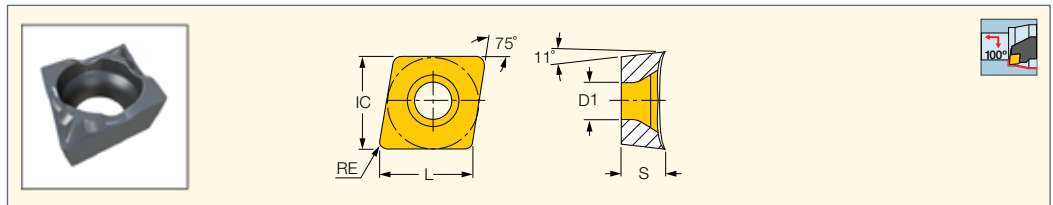
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

EPGT-F1P

75° Rhombic Inserts with a Positive Flank for Very Low Finish Turning Conditions on Steel



Designation	Dimensions					IC908	Recommended	Machining Data
	L	IC	S	RE	D1		a_p (mm)	f (mm/rev)
EPGT 03X101-F1P	3.70	3.57	1.39	0.10	1.90	●	0.10-0.50	0.01-0.05
EPGT 03X102-F1P	3.70	3.57	1.39	0.20	1.90	●	0.10-0.50	0.02-0.10
EPGT 03X104-F1P	3.70	3.57	1.39	0.40	1.90	●	0.10-0.50	0.05-0.15

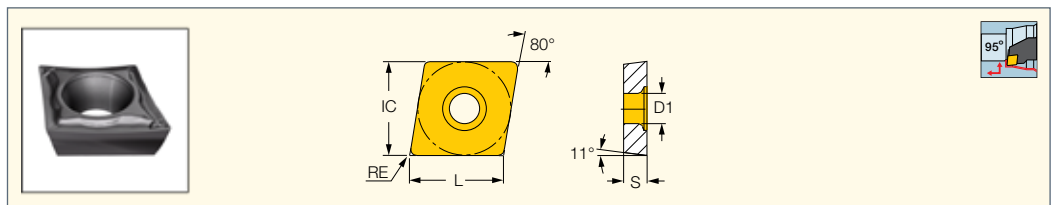
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E-SEXPR/L-03 (112)

ISOTURN

CPGT-SM

80° Rhombic Inserts with an 11° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



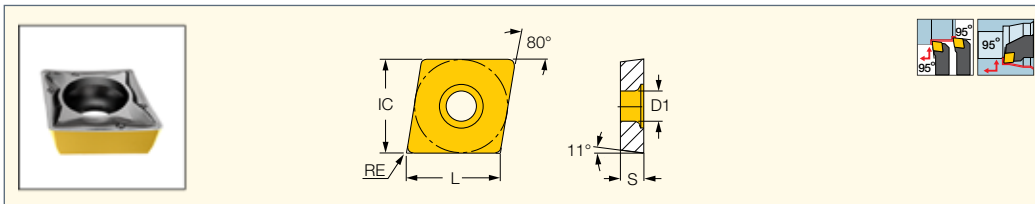
Designation	Dimensions					IC907	Recommended	Machining Data
	L	IC	S	RE	D1		a_p (mm)	f (mm/rev)
CPGT 060201-SM	6.45	6.35	2.38	0.10	2.80	●	0.25-2.00	0.05-0.20
CPGT 060202-SM	6.45	6.35	2.38	0.20	2.80	●	0.25-2.00	0.05-0.30
CPGT 060204-SM	6.45	6.35	2.38	0.40	2.80	●	0.50-3.00	0.10-0.35
CPGT 09T301-SM	9.67	9.52	3.97	0.10	4.40	●	0.25-2.00	0.05-0.25
CPGT 09T302-SM	9.67	9.52	3.97	0.20	4.40	●	0.50-2.50	0.10-0.30
CPGT 09T304-SM	9.67	9.52	3.97	0.40	4.40	●	0.60-3.50	0.10-0.35

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

CPMT-PF

80° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys



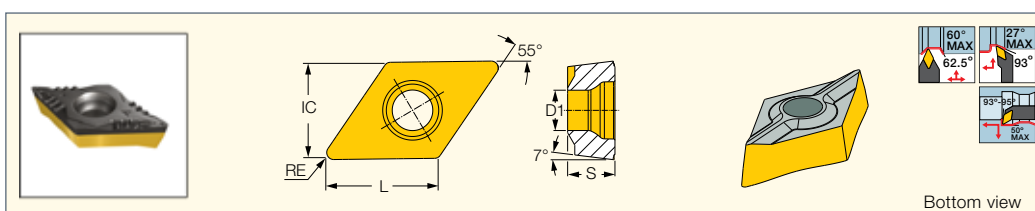
Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	D1	IC830	IC6025	IC6015	IC807	IC907	ap (mm)	f (mm/rev)
CPMT 060204-PF	6.30	6.35	2.38	0.40	2.80	●	●	●	●	●	0.50-2.50	0.04-0.30
CPMT 060208-PF	6.30	6.35	2.38	0.80	2.80	●			●	●	0.50-2.50	0.08-0.30
CPMT 09T304-PF	9.50	9.52	3.97	0.40	4.40	●			●	●	0.50-3.00	0.05-0.35
CPMT 09T308-PF	9.50	9.52	3.97	0.80	4.40	●	●	●	●	●	0.50-3.50	0.10-0.35

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

T-LOCK

DCMT-F3P-SL

55° Rhombic Inserts with a Positive Flank with a Locating Bottom Ridge for Semi-Finishing and Finishing on Steel



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	IC8250	IC8150	ap (mm)	f (mm/rev)
DCMT 13T504-F3P-SL	13.40	11.00	5.11	0.40	4.50	●	●	0.50-3.00	0.05-0.25
DCMT 13T508-F3P-SL	13.40	11.00	5.11	0.80	4.50	●	●	0.90-3.50	0.10-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

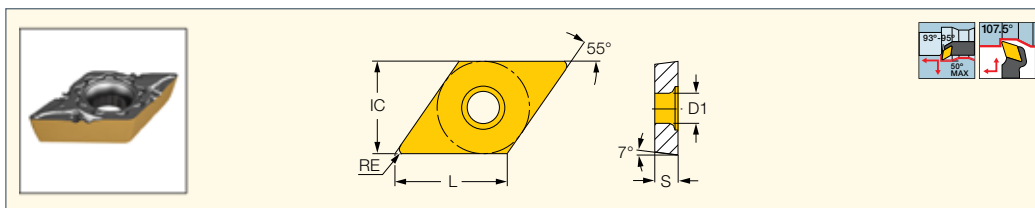
For tools, see pages: A-SDUCR/L-13-SL (112) • AVC-SDJCN-Y (76) • C#-SDJCN-13-Y (76) • C#-SDJCR/L-13-SL-JHP (57) • C#-SDNCN-13-SL-JHP (63)

• HSK A63WH-SDJCN-13-Y (75) • SDACR/L-13S-SL-JHP (61) • SDJCR/L-13-SL (57) • SDNCN-13-SL (63)

ISOTURN

DCMT-F3P

55° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finish Turning on Steel



Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	D1	IC830	IC8250	IC8150	IC807	ap (mm)	f (mm/rev)
DCMT 070202-F3P	7.70	6.35	2.38	0.20	2.80	●	●	●	●	0.06-1.50	0.03-0.12
DCMT 070204-F3P	7.70	6.35	2.38	0.40	2.80	●	●	●	●	0.08-1.50	0.05-0.18
DCMT 11T302-F3P	11.60	9.52	3.97	0.20	4.40	●	●	●	●	0.08-2.00	0.04-0.16
DCMT 11T304-F3P	11.60	9.52	3.97	0.40	4.40	●	●	●	●	0.11-2.00	0.06-0.25
DCMT 11T308-F3P	11.60	9.52	3.97	0.80	4.40	●	●	●	●	0.15-2.00	0.08-0.32

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)

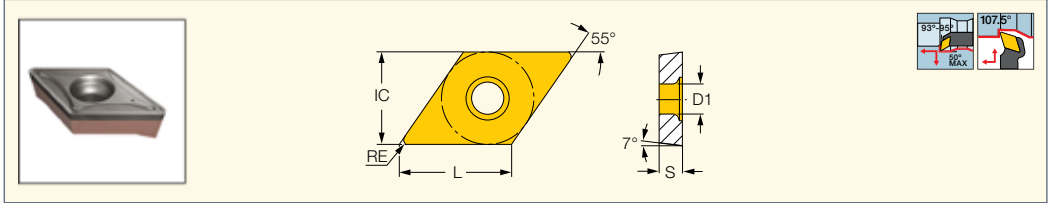
• C#-SDNCN (64) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-JHP-MC (62)

• PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58)

ISOTURN

DCMT-M3M

55° Rhombic Positive Flank Inserts for Machining Stainless and Low Carbon Steel



Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	D1	IC6025	IC6015	IC806	IC807	IC907	a _p (mm)	f (mm/rev)
DCMT 070204-M3M	7.70	6.35	2.38	0.40	2.80	●	●		●		0.40-2.50	0.07-0.23
DCMT 070208-M3M	7.70	6.35	2.38	0.80	2.80	●	●		●		0.80-2.50	0.10-0.25
DCMT 11T304-M3M	11.60	9.52	3.97	0.40	4.40	●	●		●		0.40-3.00	0.07-0.25
DCMT 11T308-M3M	11.60	9.52	3.97	0.40	4.40	●	●	●	●	●	0.80-3.00	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)

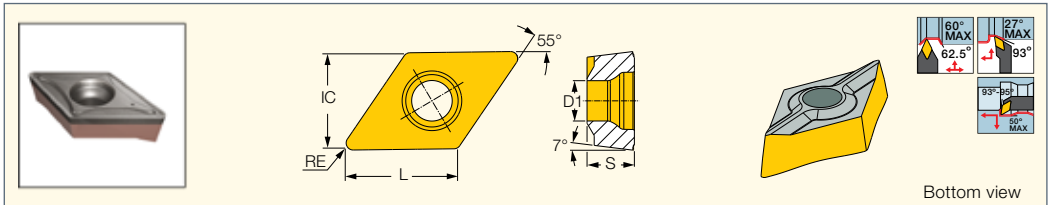
• C#-SDNCN (64) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57)

• SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

T-LOCK

DCMT-M3M-SL

55° Rhombic Inserts with a Positive Flank and Locating Bottom Ridge for Machining Stainless and Low Carbon Steel



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	IC6025	IC6015	a _p (mm)	f (mm/rev)
DCMT 13T508-M3M-SL	13.40	11.00	5.11	0.80	4.50	●	●	0.90-3.50	0.10-0.25
DCMT 13T512-M3M-SL	13.40	11.00	5.11	1.20	4.50	●	●	0.90-3.50	0.15-0.30

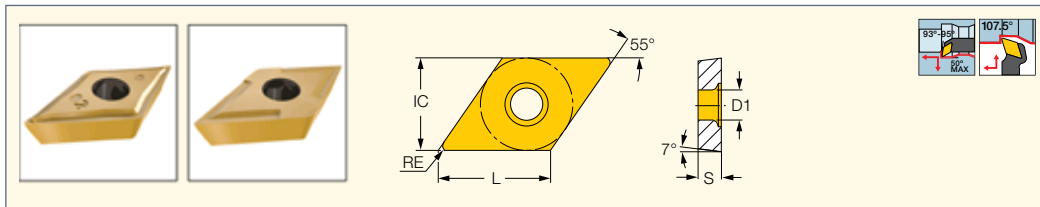
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-SDUCR/L-13-SL (112) • AVC-SDJCN-Y (76) • C#-SDJCN-13-Y (76) • C#-SDJCR/L-13-SL-JHP (57) • C#-SDNCN-13-SL-JHP (63)

• HSK A63WH-SDJCN-13-Y (75) • SDACR/L-13S-SL-JHP (61) • SDJCR/L-13-SL (57) • SDNCN-13-SL (63)

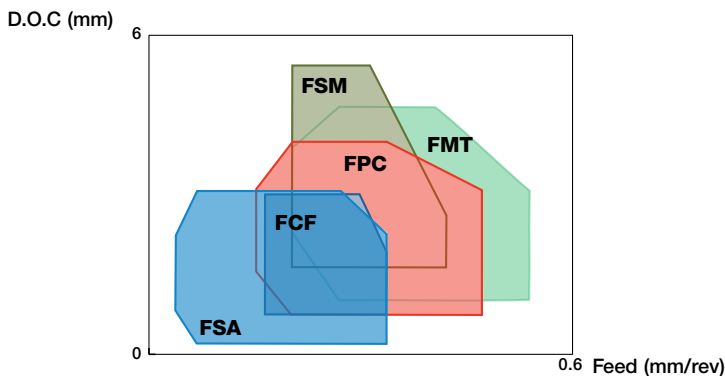
ISOTURN

DCMT-CERMET
Single-Sided 55° Rhombic
Cermet Grade Inserts
for Semi-Finishing and
Finishing Applications



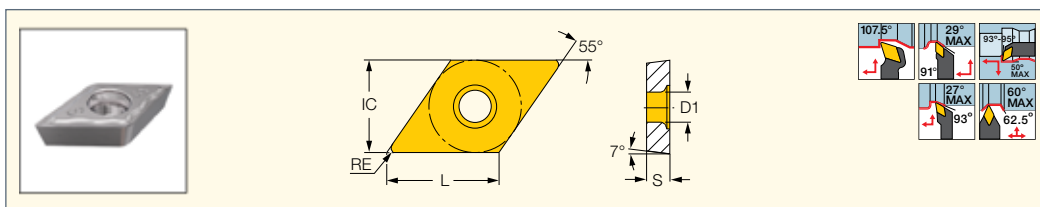
Designation	Dimensions					Tough ↔ Hard		Recommended a_p (mm)	Machining Data f (mm/rev)
	L	IC	S	RE	D1	IC20N	IC520N		
DCGT 11T302-FSA	11.60	9.52	3.97	0.20	4.40	●		0.30-2.00	0.02-0.15
DCGT 11T304-FSA	11.60	9.52	3.97	0.40	4.40	●		0.40-2.00	0.03-0.15
DCMT 11T302-FCF	11.60	9.52	3.97	0.20	4.40	●	●	0.50-2.50	0.07-0.22
DCMT 11T302-FSM	11.60	9.52	3.97	0.20	4.40		●	0.50-3.00	0.05-0.22
DCMT 11T304-FPC	11.60	9.52	3.97	0.40	4.40	●	●	0.50-2.70	0.04-0.25
DCMT 11T304-FSM	11.60	9.52	3.97	0.40	4.40		●	0.50-3.00	0.07-0.25
DCMT 11T308-FPC	11.60	9.52	3.97	0.80	4.40	●	●	0.50-2.70	0.04-0.25
DCMT 11T312-FMT	11.60	9.52	3.97	1.20	4.40		●	1.50-5.00	0.15-0.50

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)
- G#-SDNCN (64) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-JHP-MC (62) • PDACR/L-S (57)
- SDACR/L (60) • SDHCR/L (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58)



ISOTURN

DCGT-F1M-20P
55° Rhombic Inserts with a 7°
Positive Flank for Semi-Finishing
and Finish Turning on Soft
Materials and Exotic Alloys



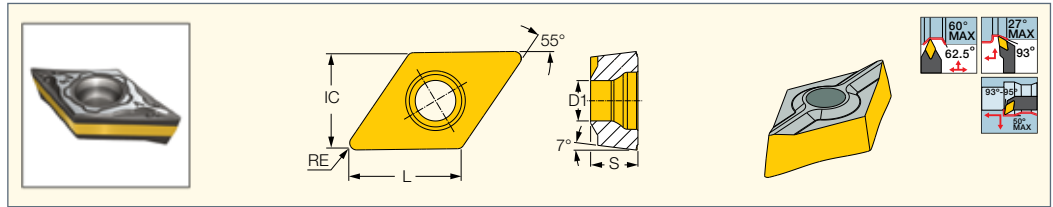
Designation	Dimensions					IC1008	Recommended a_p (mm)	Machining Data f (mm/rev)
	L	IC	S	RE	D1			
DCGT 0702005-F1M-20P	7.75	6.35	2.38	0.05	2.80	●	0.03-0.15	0.04-4.00
DCGT 070201-F1M-20P	7.75	6.35	2.38	0.10	2.80	●	0.03-0.15	0.07-4.00
DCGT 070202-F1M-20P	7.75	6.35	2.38	0.20	2.80	●	0.03-0.15	0.15-4.00
DCGT 070204-F1M-20P	7.75	6.35	2.38	0.40	2.80	●	0.03-0.15	0.30-4.00
DCGT 11T3005-F1M-20P	11.63	9.53	3.97	0.05	4.40	●	0.03-0.15	0.04-4.00
DCGT 11T301-F1M-20P	11.63	9.53	3.97	0.10	4.40	●	0.03-0.15	0.07-4.00
DCGT 11T302-F1M-20P	11.63	9.53	3.97	0.20	4.40	●	0.03-0.15	0.15-4.00
DCGT 11T304-F1M-20P	11.63	9.53	3.97	0.40	4.40	●	0.03-0.15	0.30-4.00

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • E-SDUCR/L-HEAD (113) • PDACR/L-JHP (62) • PDACR/L-S (57) • SDACR/L (60)
- SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64)

T-LOCK

DCMT-PF-SL

55° Rhombic Inserts with a Positive Flank and Locating Bottom Ridge for Finish Turning on Soft Materials & Exotic Alloys



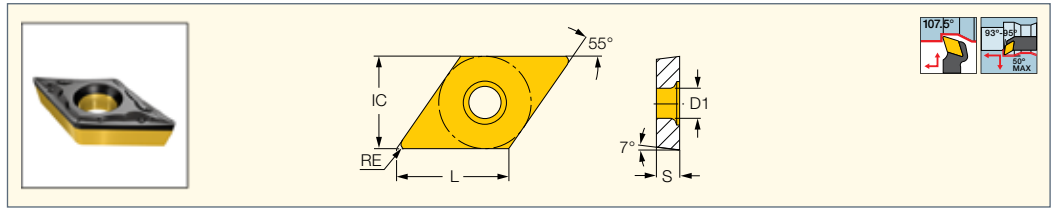
Designation	Dimensions					IC8150	Recommended Machining Data	
	L	IC	S	RE	D1		ap (mm)	f (mm/rev)
DCMT 13T504-PF-SL	13.40	11.00	5.11	0.40	4.50	●	0.50-3.00	0.05-0.25
DCMT 13T508-PF-SL	13.40	11.00	5.11	0.80	4.50	●	0.70-3.00	0.05-0.25

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-SDUCR/L-13-SL (112) • AVC-SDJCN-Y (76) • C#-SDJCN-13-Y (76) • C#-SDJCR/L-13-SL-JHP (57) • C#-SDNCN-13-SL-JHP (63)
- HSK A63WH-SDJCN-13-Y (75) • SDACR/L-13S-SL-JHP (61) • SDJCR/L-13-SL (57) • SDNCN-13-SL (63)

ISOTURN

DCMT/DCGT-PF

55° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys



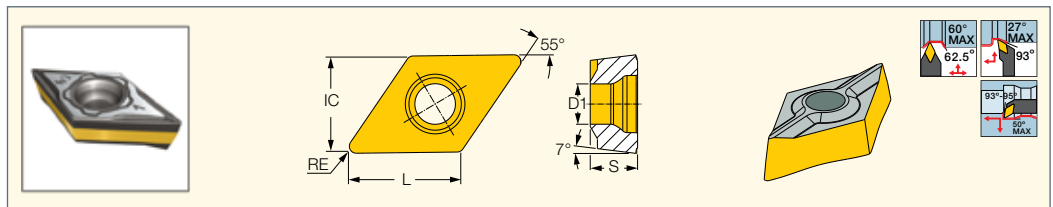
Designation	Dimensions					Tough ↔ Hard								Recommended Machining Data		
	L	IC	S	RE	D1	IC880	IC6025	IC8250	IC908	IC6015	IC806	IC807	IC907	IC804	ap (mm)	f (mm/rev)
DCGT 070201-PF	7.70	6.35	2.38	0.10	2.80				●						0.30-3.00	0.02-0.25
DCGT 070202-PF	7.70	6.35	2.38	0.20	2.80				●						0.40-3.00	0.03-0.25
DCGT 070204-PF	7.70	6.35	2.38	0.40	2.80				●						0.50-3.00	0.05-0.25
DCMT 070201-PF	7.70	6.35	2.38	0.10	2.80							●	●		0.30-3.00	0.02-0.25
DCMT 070202-PF	7.70	6.35	2.38	0.20	2.80	●									0.40-3.00	0.03-0.25
DCMT 070204-PF	7.70	6.35	2.38	0.40	2.80	●									0.50-3.00	0.05-0.25
DCMT 070208-PF	7.70	6.35	2.38	0.80	2.80							●	●		0.70-3.00	0.08-0.25
DCGT 11T301-PF	11.60	9.52	3.97	0.10	4.40				●						0.30-3.00	0.03-0.25
DCGT 11T302-PF	11.60	9.52	3.97	0.20	4.40				●						0.40-3.00	0.04-0.25
DCGT 11T304-PF	11.60	9.52	3.97	0.40	4.40				●						0.50-3.00	0.05-0.25
DCGT 11T308-PF	11.60	9.52	3.97	0.80	4.40				●						0.70-3.00	0.10-0.25
DCMT 11T302-PF	11.60	9.52	3.97	0.20	4.40	●				●	●	●	●		0.30-3.00	0.04-0.25
DCMT 11T304-PF	11.60	9.52	3.97	0.40	4.40	●	●	●		●	●	●	●		0.50-3.00	0.05-0.25
DCMT 11T308-PF	11.60	9.52	3.97	0.80	4.40	●	●	●		●	●	●	●		0.70-3.00	0.10-0.25

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)
- C#-SDNCN (64) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57)
- SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

T-LOCK

DCMT-SM-SL

55° Rhombic Inserts with a Positive Flank and Locating Bottom Ridge for Finish Turning on Soft Materials & Exotic Alloys



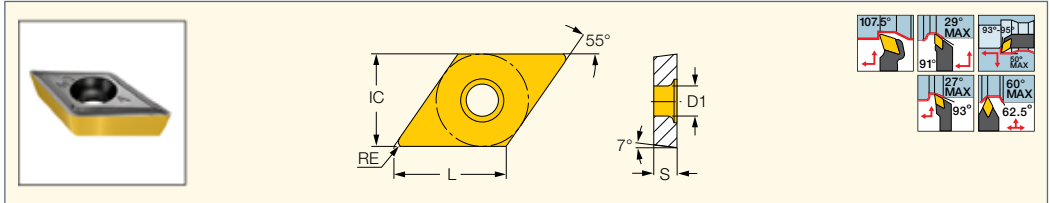
Designation	Dimensions					IC8150	Recommended Machining Data	
	L	IC	S	RE	D1		ap (mm)	f (mm/rev)
DCMT 13T504-SM-SL	13.40	11.00	5.11	0.40	4.50	●	0.50-2.50	0.07-0.27
DCMT 13T508-SM-SL	13.40	11.00	5.11	0.80	4.50	●	1.00-3.00	0.07-0.27

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-SDUCR/L-13-SL (112) • AVC-SDJCN-Y (76) • C#-SDJCN-13-Y (76) • C#-SDJCR/L-13-SL-JHP (57) • C#-SDNCN-13-SL-JHP (63)
- HSK A63WH-SDJCN-13-Y (75) • SDACR/L-13S-SL-JHP (61) • SDJCR/L-13-SL (57) • SDNCN-13-SL (63)

ISOTURN

DCMT/DCGT-SM

55° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



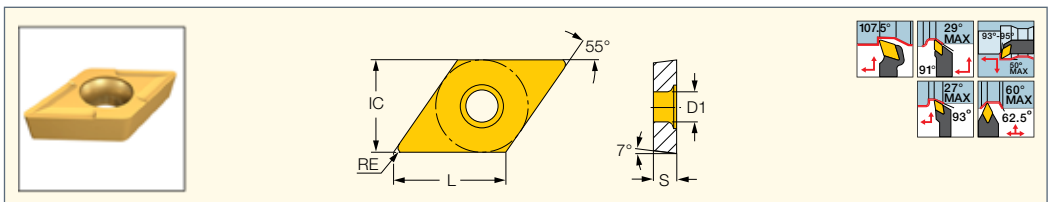
Designation	Dimensions					Tough ↔ Hard									Recommended Machining Data		
	L	IC	S	RE	D1	IC8350	IC6025	IC8250	IC530N	IC6015	IC8150	IC520N	IC806	IC807	IC907	a _p (mm)	f (mm/rev)
DCMT 070202-SM	7.70	6.35	2.38	0.20	2.80		•			•				•	•	0.50-2.00	0.04-0.20
DCMT 070204-SM	7.70	6.35	2.38	0.40	2.80		•			•			•	•	•	0.50-2.50	0.05-0.25
DCMT 070208-SM	7.70	6.35	2.38	0.80	2.80			•								0.50-3.00	0.07-0.25
DCGT 11T302-SM	11.60	9.52	3.97	0.20	4.40										•	0.50-2.50	0.05-0.25
DCGT 11T304-SM	11.60	9.52	3.97	0.40	4.40										•	0.50-2.50	0.05-0.25
DCMT 11T302-SM	11.60	9.52	3.97	0.20	4.40		•		•						•	0.50-2.50	0.05-0.25
DCMT 11T304-SM	11.60	9.52	3.97	0.40	4.40		•		•				•	•	•	0.50-2.50	0.07-0.25
DCMT 11T308-SM	11.60	9.52	3.97	0.80	4.40		•		•				•	•	•	1.00-3.00	0.07-0.25
DCMT 11T312-SM	11.60	9.52	3.97	1.20	4.40							•				1.00-3.50	0.10-0.28

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)
 • C#-SDNCN (64) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-JHP-MC (62)
 • PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58)

ISOTURN

DCMT/DCGT

55° Rhombic Inserts with a 7° Positive Clearance for Finishing Applications



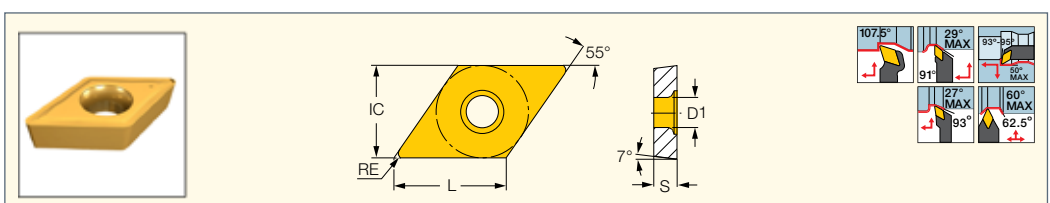
Designation	Dimensions					Tough ↔ Hard							Recommended Machining Data		
	L	IC	S	RE	D1	IC830	IC8250	IC908	IC30N	IC530N	IC8150	IC20N	IC520N	a _p (mm)	f (mm/rev)
DCGT 070201R ⁽¹⁾	7.70	6.35	2.38	0.10	2.80			•						0.25-1.50	0.05-0.15
DCGT 070202	7.70	6.35	2.38	0.20	2.80				•					0.50-2.00	0.08-0.20
DCGT 070204	7.70	6.35	2.38	0.40	2.80				•					0.80-2.50	0.10-0.25
DCMT 070202	7.70	6.35	2.38	0.20	2.80	•					•		•	0.50-2.00	0.08-0.20
DCMT 070204	7.70	6.35	2.38	0.40	2.80	•	•				•		•	0.50-2.00	0.08-0.22
DCGT 11T302	11.60	9.52	3.97	0.20	4.40				•					0.50-2.00	0.08-0.20
DCGT 11T304	11.60	9.52	3.97	0.40	4.40				•					1.00-2.50	0.12-0.25
DCMT 11T302	11.60	9.52	3.97	0.20	4.40				•	•				0.50-2.00	0.08-0.20
DCMT 11T304	11.60	9.52	3.97	0.40	4.40				•					0.50-2.00	0.12-0.25
DCMT 11T308	11.60	9.52	3.97	0.80	4.40				•					1.50-3.00	0.14-0.29

• Right-hand inserts for right-hand external tools and for left-hand internal tools • For user guide and cutting speed recommendations, see pages 122-134, 236-248
⁽¹⁾ Right-hand insert
For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)
 • C#-SDNCN (64) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57)
 • SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

DCMT-14

55° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



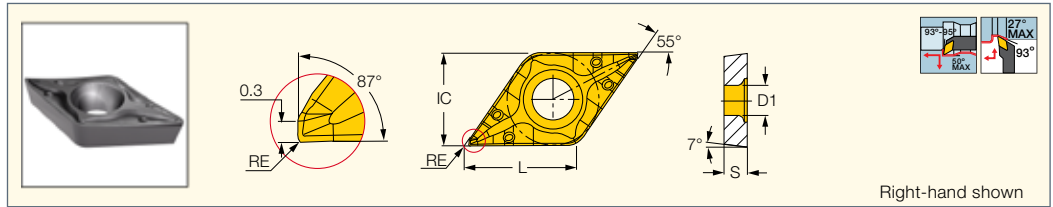
Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	D1	IC830	IC8150	IC20	IC428	IC5005	a _p (mm)	f (mm/rev)
DCMT 11T304-14	11.60	9.52	3.97	0.40	4.40	•	•	•	•	•	1.00-2.50	0.14-0.25
DCMT 11T308-14	11.60	9.52	3.97	0.80	4.40		•	•	•	•	1.50-3.00	0.14-0.29

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)
 • C#-SDNCN (64) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59)
 • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

DCET-WF

55° Rhombic Wiper Inserts for Finishing Operations at High Feeds



Right-hand shown

Designation	Dimensions						IC907	Recommended Machining Data	
	L	IC	S	RE	D1	a _p (mm)		f (mm/rev)	
DCET 0702005R/L-WF	7.70	6.35	2.38	0.05	2.80	●	0.05-3.00	0.01-0.20	
DCET 11T3005R/L-WF	11.60	9.52	3.97	0.05	4.40	●	0.05-3.00	0.01-0.20	

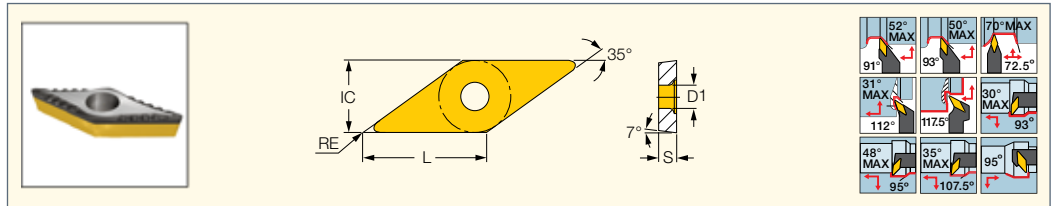
For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

VCMT-F3P

35° Rhombic Positive Flank Inserts for Semi-Finishing and Finish Turning of Steel



Designation	Dimensions						IC8150	IC807	Recommended Machining Data	
	L	IC	S	RE	D1	a _p (mm)			f (mm/rev)	
VCMT 110302-F3P	11.10	6.35	3.18	0.20	2.80	●	●	0.06-1.70	0.03-0.14	
VCMT 110304-F3P	11.10	6.35	3.18	0.40	2.80	●	●	0.10-1.70	0.05-0.20	
VCMT 110308-F3P	11.10	6.35	3.18	0.80	2.80	●	●	0.13-1.70	0.07-0.28	
VCMT 110312-F3P	11.10	6.35	3.18	1.20	2.80	●	●	0.13-1.70	0.08-0.33	
VCMT 160402-F3P	16.60	9.52	4.76	0.20	4.40	●	●	0.07-1.80	0.04-0.15	
VCMT 160404-F3P	16.60	9.52	4.76	0.40	4.40	●	●	0.10-1.80	0.05-0.20	
VCMT 160408-F3P	16.60	9.52	4.76	0.80	4.40	●	●	0.14-1.80	0.07-0.29	
VCMT 160412-F3P	16.60	9.52	4.76	1.20	4.40	●	●	0.14-1.80	0.09-0.34	

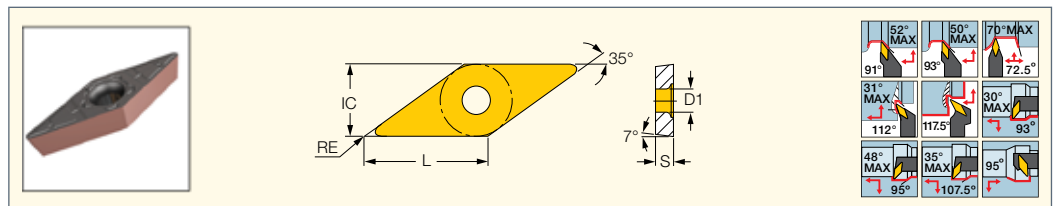
For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • NQCH-SVACR/L-S-JHP (67) • NQCH-Y-SVJCR-S-JHP (65) • PVACR/L-JHP (68) • PVACR/L-JHP-MC (68) • PVACR/L-S (64) • S/A-SVJCR/L (114) • SVACR/L (67) • SVJCR-PAD (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVPCR/L (69) • SVVCN (454) • SVXCR/L (454) • Y-SVJCR (65) • Y-SVJCR-JHP (65) • AVC-SVLCR/L (96)

ISOTURN

VCMT-F3M

35° Rhombic Positive Flank Inserts for Stainless Steel Finishing Applications



Designation	Dimensions						Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	D1	IC6025	IC6015	IC806	IC807	a _p (mm)	f (mm/rev)	
VCMT 110302-F3M	11.10	6.35	3.18	0.20	2.85	●	●	●	●	0.06-1.70	0.03-0.14	
VCMT 110304-F3M	11.10	6.35	3.18	0.40	2.85	●	●	●	●	0.10-1.70	0.05-0.20	
VCMT 110308-F3M	11.10	6.35	3.18	0.80	2.85	●	●	●	●	0.13-1.70	0.07-0.28	
VCMT 160402-F3M	16.60	9.52	4.76	0.20	4.50	●	●	●	●	0.06-1.80	0.03-0.14	
VCMT 160404-F3M	16.60	9.52	4.76	0.40	4.50	●	●	●	●	0.10-1.80	0.05-0.20	
VCMT 160408-F3M	16.60	9.52	4.76	0.80	4.50	●	●	●	●	0.13-1.80	0.07-0.28	

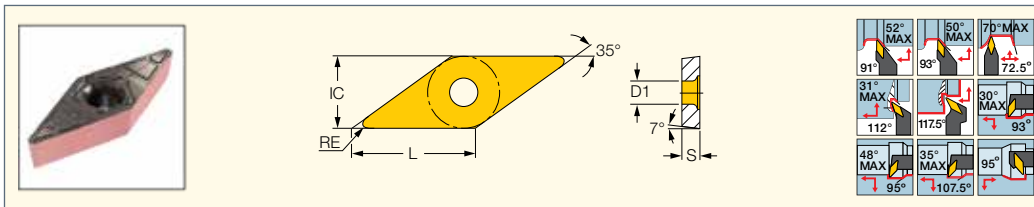
For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L (96) • AVC-SVLCR/L-VH (98) • AVC-SVUCR/L (95) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • NQCH-SVACR/L-S-JHP (67) • NQCH-Y-SVJCR-S-JHP (65) • PVACR/L-JHP (68) • PVACR/L-JHP-MC (68) • PVACR/L-S (64) • S/A-SVJCR/L (114) • SVACR/L (67) • SVJCR-PAD (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVPCR/L (69) • SVVCN (454) • SVXCR/L (454) • Y-SVJCR (65) • Y-SVJCR-JHP (65)

ISOTURN

VCMT-M3M

35° Rhombic Positive Flank Inserts for Machining Stainless and Low Carbon Steel



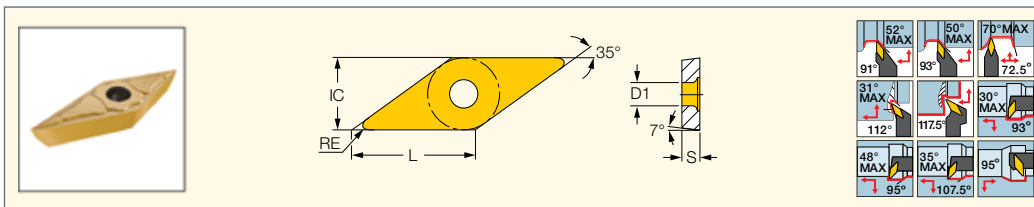
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	IC6025	IC6015	IC807	a _p (mm)	f (mm/rev)
VCMT 160404-M3M	16.60	9.52	4.76	0.40	4.40	●	●	●	1.00-5.00	0.07-0.25
VCMT 160408-M3M	16.60	9.52	4.76	0.80	4.40	●	●	●	1.00-5.00	0.10-0.30
VCMT 160412-M3M	16.60	9.52	4.76	1.20	4.40	●	●	●	1.00-5.00	0.13-0.35

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • C#-SVJCR/L (66)
 • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454) • AVC-SVLCR/L (96)

ISOTURN

VCMT-FPC-CERMET

35° Rhombic 7° Cermet Positive Flank Inserts for Semi-Finishing Turning of steel and Automotive Components



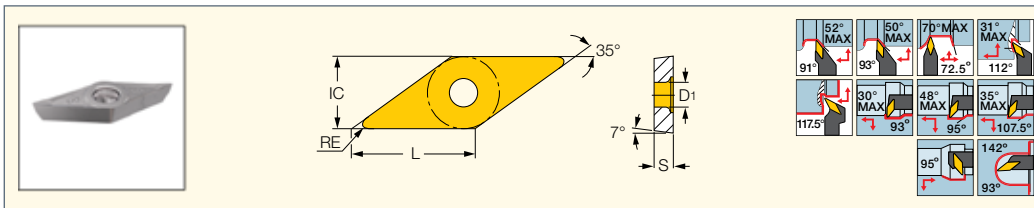
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC20N	IC520N	a _p (mm)	f (mm/rev)
VCMT 160404-FPC	16.60	9.52	4.76	0.40	●	●	0.70-2.00	0.04-0.22
VCMT 160408-FPC	16.60	9.52	4.76	0.80	●	●	0.70-2.00	0.04-0.22

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • C#-SVJCR/L (66)
 • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454) • AVC-SVLCR/L (96)

ISOTURN

VCGT-F1M-20P

35° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



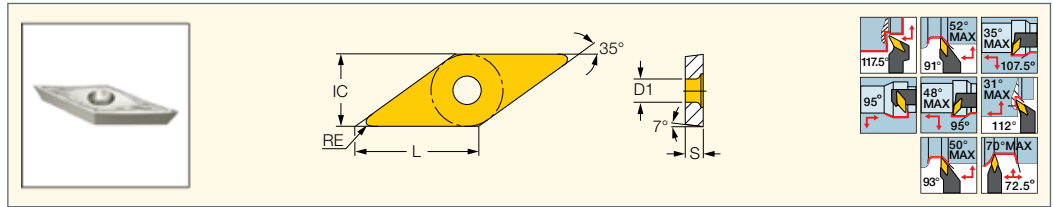
Designation	Dimensions					IC1008	Recommended Machining Data	
	L	IC	S	RE	D1		a _p (mm)	f (mm/rev)
VCGT 1103005-F1M-20P	11.07	6.35	3.18	0.10	2.90	●	0.03-0.18	0.07-4.50
VCGT 110301-F1M-20P	11.07	6.35	3.18	0.40	2.90	●	0.03-0.18	0.30-4.50
VCGT 110302-F1M-20P	11.07	6.35	3.18	0.10	2.90	●	0.03-0.15	0.07-4.00
VCGT 110304-F1M-20P	11.07	6.35	3.18	0.40	2.90	●	0.03-0.15	0.30-4.00

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: AVC-SVUCR/L (95) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • NQCH-SVACR/L-S-JHP (67) • NQCH-Y-SVJCR-S-JHP (65)
 • PVACR/L-JHP (68) • PVACR/L-JHP-MC (68) • PVACR/L-S (64) • S/A-SVJCR/L (114) • SVACR/L (67) • SVJCR-PAD (67) • SVJCR/L (453)
 • SVPCR/L (69) • SVVCN (454) • Y-SVJCR (65) • Y-SVJCR-JHP (65)

ISOTURN

VCGT-MD/PF

35° Rhombic Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys



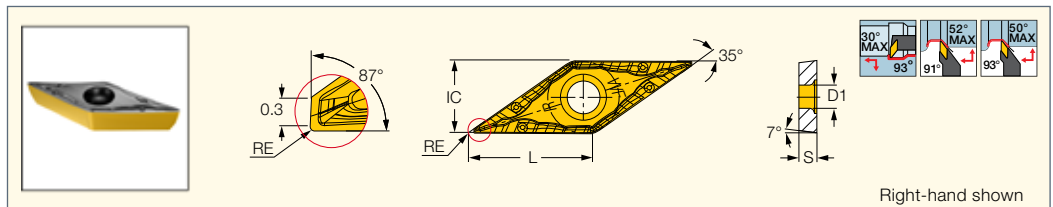
Designation	Dimensions						IC880	Recommended Machining Data	
	L	IC	S	RE	D1	a _p (mm)		f (mm/rev)	
VCGT 110301-PF	11.10	6.35	3.18	0.10	2.90	●	0.20-2.50	0.03-0.25	
VCGT 110302-PF	11.40	6.35	3.18	0.20	2.90	●	0.30-2.50	0.03-0.25	
VCGT 110304-PF	11.40	6.35	3.18	0.40	2.90	●	0.50-3.00	0.05-0.25	
VCGT 130304-PF	13.00	7.94	3.18	0.40	3.40	●	0.50-3.00	0.05-0.25	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: NQCH-SVACR/L-S-JHP (67) • SVACR/L (67)

ISOTURN

VCET-WF

35° Rhombic Wiper Inserts for Finishing Operations at High Feeds



Right-hand shown

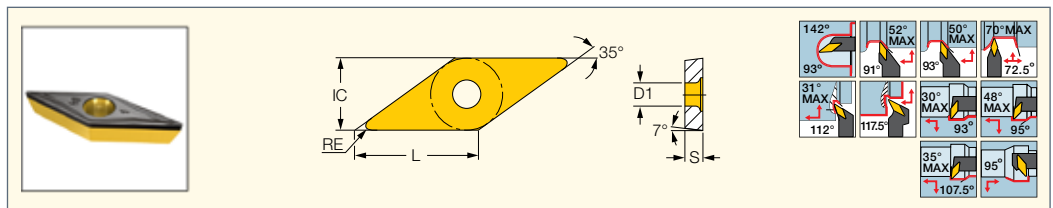
Designation	Dimensions						IC907	Recommended Machining Data	
	L	IC	S	RE	D1	a _p (mm)		f (mm/rev)	
VCET 1103005R/L-WF	11.10	6.35	3.18	0.05	2.90	●	0.05-4.00	0.01-0.20	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • NQCH-SVACR/L-S-JHP (67) • NQCH-Y-SVJCR-S-JHP (65) • PVACR/L-JHP (68) • PVACR/L-S (64) • S/A-SVJCR/L (114) • SVACR/L (67) • SVJCR-PAD (67) • SVJCR/L (453) • Y-SVJCR (65) • Y-SVJCR-JHP (65) • PVACR/L-JHP-MC (68)

ISOTURN

VCMT-SM

35° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



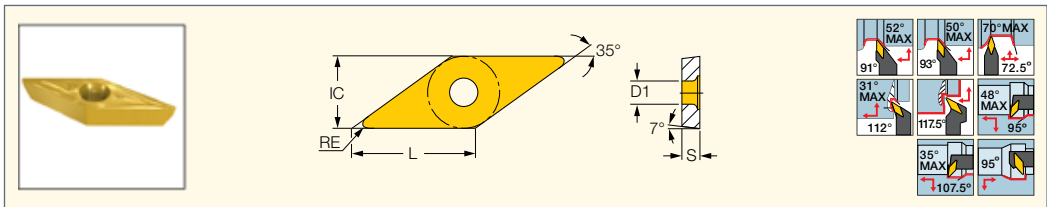
Designation	Dimensions					Tough ↔ Hard								Recommended Machining Data				
	L	IC	S	RE	D1	IC830	IC6025	IC8250	IC908	IC6015	IC8150	IC806	IC807	IC907	IC4	IC804	a _p (mm)	f (mm/rev)
VCMT 110302-SM	11.10	6.35	3.18	0.20	2.90												0.20-2.50	0.04-0.20
VCMT 110304-SM	11.10	6.35	3.18	0.40	2.90		●		●	●		●	●	●			0.50-3.00	0.07-0.24
VCMT 110308-SM	11.10	6.35	3.18	0.80	2.90				●								0.50-2.00	0.07-0.25
VCMT 160402-SM	16.60	9.52	4.76	0.20	4.40		●			●		●	●				0.50-2.50	0.05-0.20
VCMT 160404-SM	16.60	9.52	4.76	0.40	4.40		●			●		●	●				0.50-2.50	0.05-0.25
VCMT 160408-SM	16.60	9.52	4.76	0.80	4.40	●	●	●		●	●	●	●	●	●		0.90-2.50	0.07-0.25
VCMT 160412-SM	16.60	9.52	4.76	1.20	4.40							●	●				0.50-3.00	0.10-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L (96) • AVC-SVLCR/L-VH (98) • AVC-SVUCR/L (95) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVCN (69) • HSK A63WH-SVJCR/L (67) • NQCH-SVACR/L-S-JHP (67) • NQCH-Y-SVJCR-S-JHP (65) • PVACR/L-JHP (68) • PVACR/L-JHP-MC (68) • PVACR/L-S (64) • S/A-SVJCR/L (114) • SVACR/L (67) • SVJCR-PAD (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVPCR/L (69) • SVCN (454) • SVXCR/L (454) • Y-SVJCR (65) • Y-SVJCR-JHP (65)

ISOTURN

VCMT-14

35° Rhombic Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



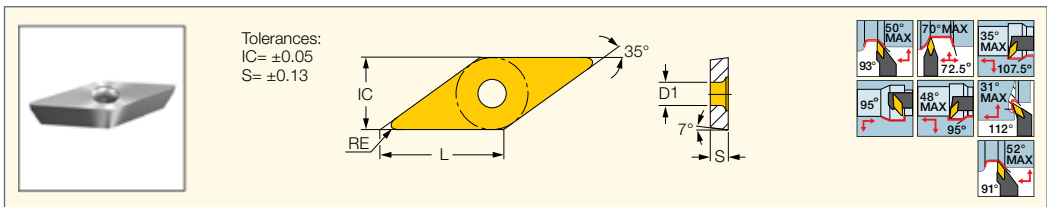
Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	D1	IC830	IC20	IC20N	IC520N	ap (mm)	f (mm/rev)
VCMT 160404-14	16.60	9.52	4.76	0.40	4.40	●	●	●	●	1.00-5.00	0.12-0.25
VCMT 160408-14	16.60	9.52	4.76	0.80	4.40	●	●	●	●	1.00-5.00	0.12-0.30

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L (96) • AVC-SVLCR/L-VH (98)
- C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454)

ISOTURN

VCMW

35° Rhombic Inserts with a 7° Positive Flank for Short Chipping Materials such as Cast Iron



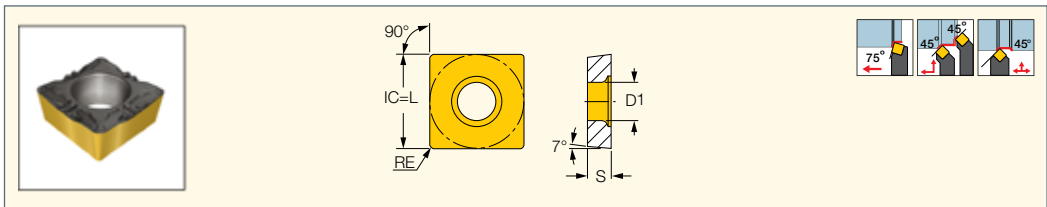
Designation	Dimensions						IC20	Recommended Machining Data	
	L	IC	S	RE	D1	ap (mm)		f (mm/rev)	
VCMW 160404	16.60	9.52	4.76	0.40	4.40	●	0.70-4.00	0.05-0.25	
VCMW 160408	16.60	9.52	4.76	0.80	4.40	●	1.00-5.00	0.05-0.25	

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • C#-SVJCR/L (66)
- C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454) • AVC-SVLCR/L (96)

ISOTURN

SCMT-F3P

Square Positive Flank Inserts for Semi-Finishing and Finish Turning of Steel



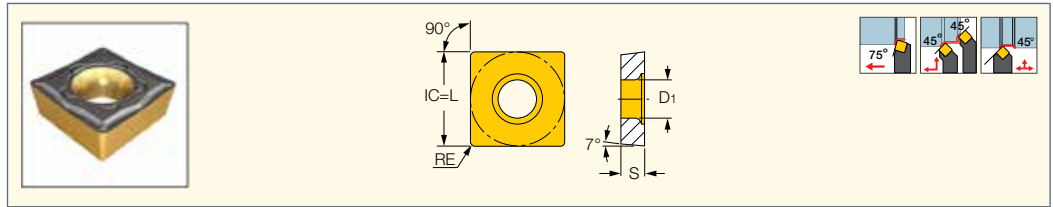
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	S	RE	D1	IC8250	IC8150	IC807	ap (mm)	f (mm/rev)
SCMT 09T304-F3P	9.52	3.97	0.40	4.40	●	●	●	0.11-2.00	0.06-0.25
SCMT 09T308-F3P	9.52	3.97	0.80	4.40	●	●	●	0.15-2.00	0.08-0.32

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

ISOTURN

SCMT-M3P

Square Positive Flank Inserts for Medium Machining Conditions on Steel



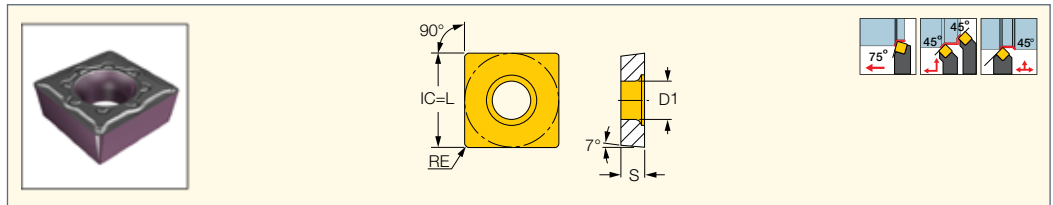
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	S	RE	D1	IC8250	IC8150	IC807	a _p (mm)	f (mm/rev)
SCMT 09T304-M3P	9.52	3.97	0.40	4.40	●	●	●	0.50-3.00	0.07-0.25
SCMT 09T308-M3P	9.52	3.97	0.80	4.40	●	●	●	0.50-3.00	0.10-0.30
SCMT 120404-M3P	12.70	4.76	0.40	5.50	●	●	●	0.50-3.50	0.10-0.25
SCMT 120408-M3P	12.70	4.76	0.80	5.50	●	●	●	1.00-4.00	0.10-0.30
SCMT 120412-M3P	12.70	4.76	1.20	5.50	●	●	●	1.20-4.00	0.12-0.34

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

ISOTURN

SCMT-F3M

Square Positive Flank Inserts for Stainless Steel Finishing Applications



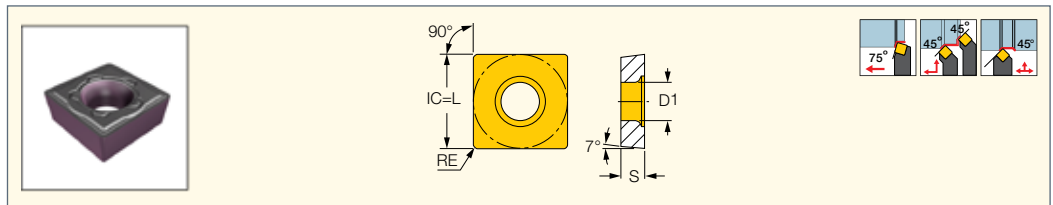
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	S	RE	D1	IC6025	IC6015	IC806	IC807	a _p (mm)	f (mm/rev)
SCMT 09T302-F3M	9.52	3.97	0.20	4.40	●	●	●	●	0.08-2.00	0.04-0.16
SCMT 09T304-F3M	9.52	3.97	0.40	4.40	●	●	●	●	0.11-2.00	0.06-0.25
SCMT 09T308-F3M	9.52	3.97	0.80	4.40	●	●	●	●	0.15-2.00	0.08-0.32
SCMT 120402-F3M	12.70	4.76	0.20	5.50	●	●	●	●	0.11-2.00	0.06-0.18
SCMT 120404-F3M	12.70	4.76	0.40	5.50	●	●	●	●	0.15-2.00	0.08-0.25
SCMT 120408-F3M	12.70	4.76	0.80	5.50	●	●	●	●	0.18-2.00	0.10-0.32

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

ISOTURN

SCMT-M3M

Square Positive Flank Inserts, for Machining Stainless and Low Carbon Steel



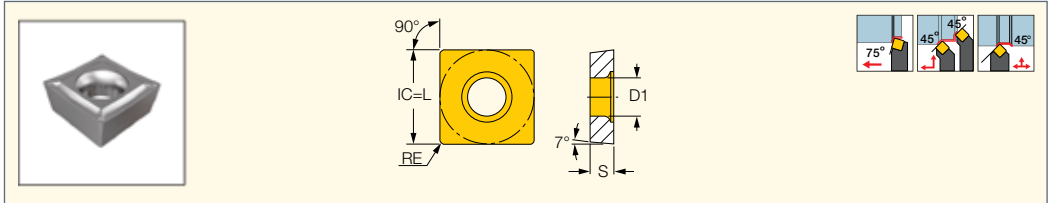
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	S	RE	D1	IC6025	IC6015	IC807	a _p (mm)	f (mm/rev)
SCMT 09T304-M3M	9.52	3.97	0.40	4.40	●	●	●	0.40-3.80	0.07-0.25
SCMT 09T308-M3M	9.52	3.97	0.80	4.40	●	●	●	0.80-3.80	0.10-0.30
SCMT 120404-M3M	12.70	4.76	0.40	5.50	●	●	●	0.40-4.00	0.10-0.25
SCMT 120408-M3M	12.70	4.76	0.80	5.50	●	●	●	0.80-4.00	0.12-0.34

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

ISOTURN

SCMT-SM

Square Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



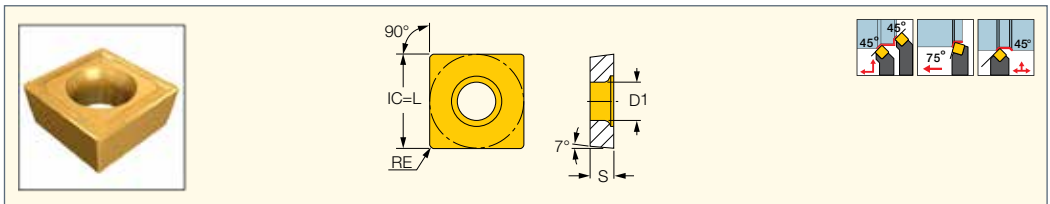
Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data	
	L	S	RE	D1	IC830	IC6025	IC8250	IC8150	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
SCMT 09T304-SM	9.52	3.97	0.40	4.40			•	•	•	•	•	0.50-3.00	0.07-0.25
SCMT 09T308-SM	9.52	3.97	0.80	4.40	•	•	•	•	•	•	•	0.50-3.00	0.10-0.30
SCMT 120404-SM	12.70	4.76	0.40	5.50			•	•	•	•	•	0.50-3.50	0.10-0.25
SCMT 120408-SM	12.70	4.76	0.80	5.50			•	•	•	•	•	1.00-4.00	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

ISOTURN

SCMT-14

Square Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



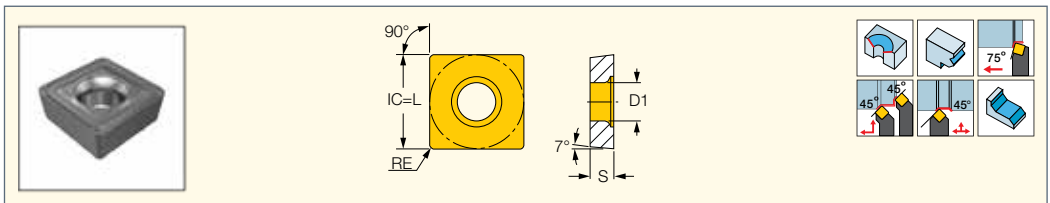
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	S	RE	D1	IC8250	IC807	IC907	a _p (mm)	f (mm/rev)
SCMT 09T304-14	9.52	3.97	0.40	4.40		•	•	1.00-3.50	0.12-0.30
SCMT 120404-14	12.70	4.76	0.40	5.50	•			1.00-4.00	0.12-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

ISOTURN

SCMT-19

Square Inserts with a 7° Positive Flank for Semi-Roughing at Medium to High Feeds



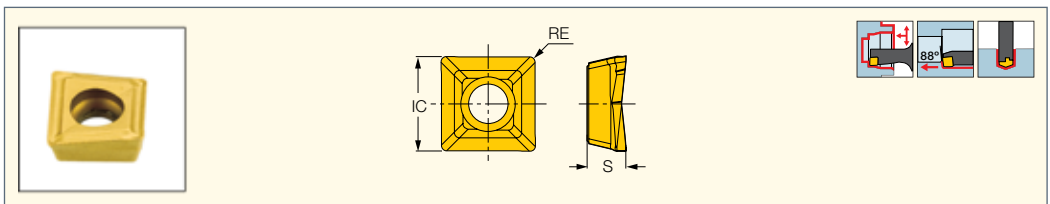
Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data	
	L	S	RE	D1	IC830	IC20	IC5005	IC807	IC907	a _p (mm)	f _z (mm/rev)
SCMT 120408-19	12.70	4.76	0.80	5.50	•	•	•	•	•	3.00-8.00	0.08-0.15
SCMT 120412-19	12.70	4.76	1.20	5.50		•				3.00-8.00	0.08-0.15

• For cutting speed recommendations, see pages
 For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

DRDRILLS

XOMT-DT

Inserts for DR Drills and Boring Bars



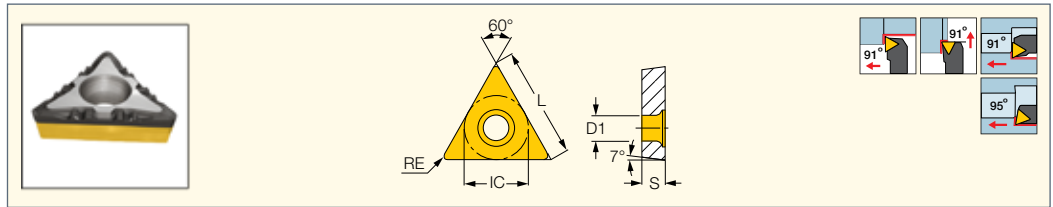
Designation	Dimensions			Tough ↔ Hard					
	IC	S	RE	IC28	IC328	IC250	IC350	IC908	IC520M
XOMT 060204-DT	6.16	2.56	0.40	•	•	•	•	•	•

• Two cutting edges • For hard materials and interrupted cut
 For tools, see pages: A-SXFOR-DR (120) • A-SXFOR/L (119)

ISCAR

TCMT-F3P

Triangular Inserts with a Positive Flank for Semi-Finishing and Finish Turning on Steel



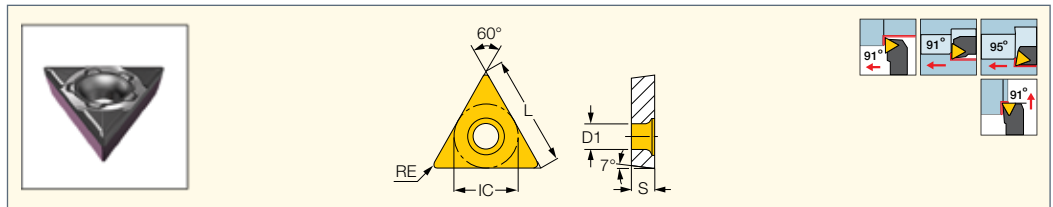
Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data	
	L	S	RE	D1		IC830	IC8250	IC8150	IC807	ap (mm)	f (mm/rev)
TCMT 090202-F3P	9.60	2.38	0.20	2.50		●	●	●	●	0.06-1.70	0.03-0.14
TCMT 090204-F3P	9.60	2.38	0.40	2.50		●	●	●	●	0.10-1.70	0.05-0.20
TCMT 110202-F3P	11.00	2.38	0.20	2.80		●	●	●	●	0.06-1.70	0.03-0.14
TCMT 110204-F3P	11.00	2.38	0.40	2.80		●	●	●	●	0.10-1.70	0.05-0.20
TCMT 110208-F3P	11.00	2.38	0.80	2.80		●	●	●	●	0.13-1.70	0.07-0.28
TCMT 16T304-F3P	16.50	3.97	0.40	4.40		●	●	●	●	0.10-1.70	0.05-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E-STFCR-HEAD (115) • S-MTLCL/L-W (114) • S-STFCR/L (115) • S-STLCL/L (115) • STFCR/L (70) • STGCR/L (70)

TCMT-M3M

Triangular Positive Flank Inserts, for Machining Stainless and Low Carbon Steel



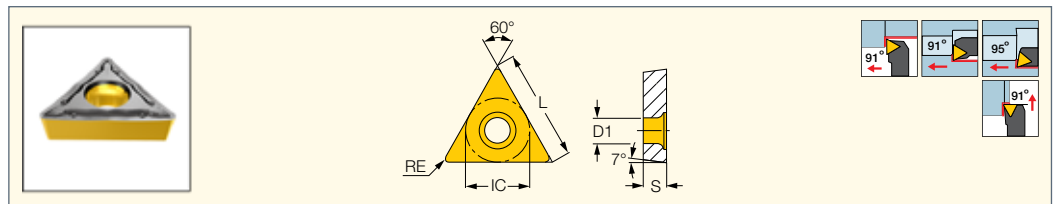
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	IC6025	IC6015	IC807	ap (mm)	f (mm/rev)
TCMT 110204-M3M	11.00	6.35	2.38	0.40	2.80	●	●	●	0.40-2.50	0.07-0.23
TCMT 110208-M3M	11.00	6.35	2.38	0.80	2.80	●	●	●	0.80-2.50	0.10-0.25
TCMT 16T304-M3M	16.50	9.52	3.97	0.40	4.40	●	●	●	0.40-3.00	0.07-0.25
TCMT 16T308-M3M	16.50	9.52	3.97	0.80	4.40	●	●	●	0.80-3.00	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E-STFCR-HEAD (115) • S-MTLCL/L-W (114) • S-STFCR/L (115) • S-STLCL/L (115) • STFCR/L (70) • STGCR/L (70)

TCMT-PF

Triangular Inserts with a Positive Flank for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	IC807	IC907	ap (mm)	f (mm/rev)
TCMT 110202-PF	11.00	6.35	2.38	0.20	2.85	●	●	0.20-3.00	0.05-0.25

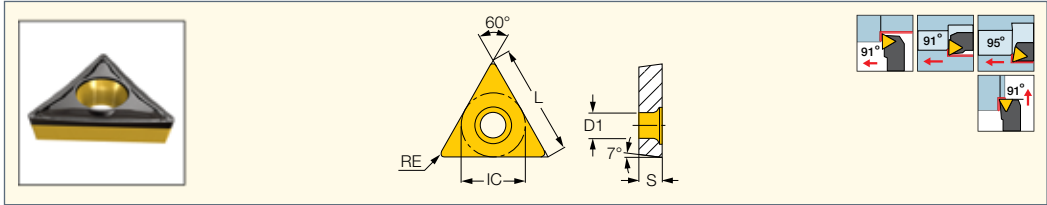
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E-STFCR-HEAD (115) • S-STFCR/L (115) • S-STLCL/L (115) • STFCR/L (70) • STGCR/L (70)

ISOTURN

TCMT-SM

Triangular Inserts with a 7° Positive Flank for Semi-Finishing and Finish Turning on Soft Materials and Exotic Alloys



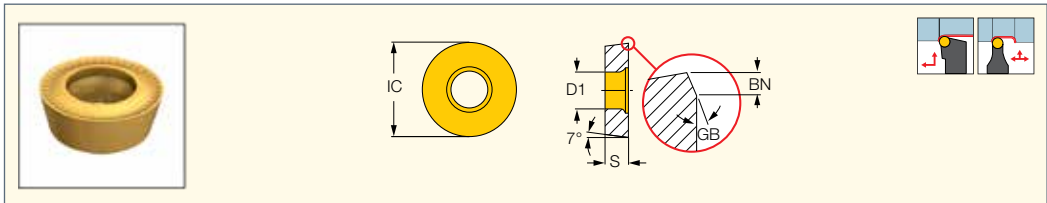
Designation	Dimensions					Tough ↔ Hard									Recommended Machining Data		
	L	IC	S	RE	D1	IC830	IC8350	IC8250	IC908	IC8150	IC5010	IC428	IC5005	IC807	IC907	a _p (mm)	f (mm/rev)
TCMT 110204-SM	11.00	6.35	2.38	0.40	2.80		•	•	•	•	•		•	•	•	0.20-3.00	0.05-0.25
TCMT 110208-SM	11.00	6.35	2.38	0.80	2.80											0.50-2.50	0.07-0.25
TCMT 16T304-SM	16.50	9.52	3.97	0.40	4.40	•				•		•	•	•		0.50-3.00	0.06-0.25
TCMT 16T308-SM	16.50	9.52	3.97	0.80	4.40	•				•						0.50-3.00	0.08-0.28
TCMT 16T308-SM*	16.50	9.52	3.97	0.80	4.40		•									0.50-3.00	0.08-0.28

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: E-STFCR-HEAD (115) S-MTLCLR/L-W (114) • S-STFCR/L (115) • S-STLCR/L (115) • STFCR/L (70)
 • STGCR/L (70)

ISOTURN

RCMT-SR

Round Inserts with a 7° Positive Flank for Medium Profiling on a Wide Range of Materials



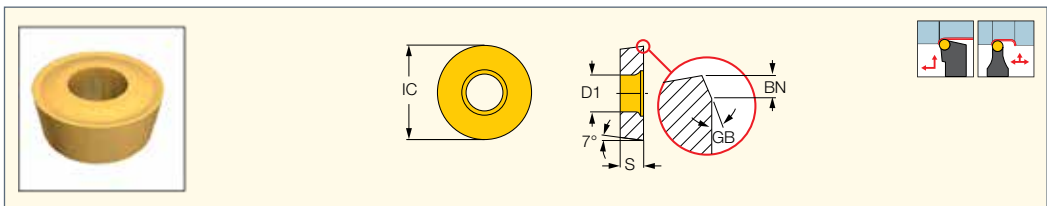
Designation	Dimensions						IC8150	Recommended Machining Data	
	IC	S	D1	GB	BN	a _p (mm)		f (mm/rev)	
RCMT 0803M0-SR	8.00	3.18	3.40	15.0	0.15	•	1.00-4.50	0.30-0.45	
RCMT 1606M0-SR	16.00	6.35	5.50	15.0	0.18	•	2.00-8.00	0.40-0.60	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: C#-RCMT-16-Y (77) • HSK A63WH-RCMT-Y (76) • SRDCN (72) • SRGCR/L (71)

ISOTURN

RCMT-14

Round Inserts with a 7° Positive Flank for Medium and Finish Profiling on a Wide Range of Materials



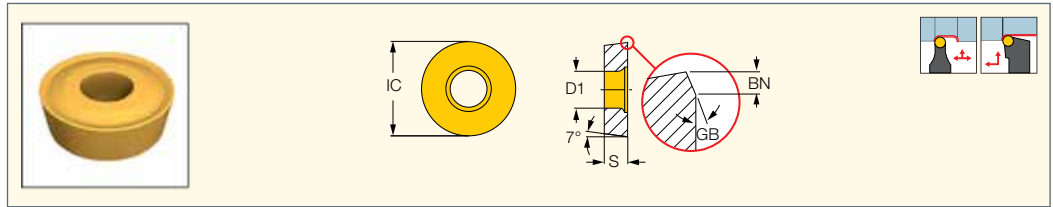
Designation	Dimensions						Tough ↔ Hard								Recommended Machining Data	
	IC	S	D1	GB	BN	IC354	IC8250	IC8150	IC20	IC5010	IC806	IC807	IC907	a _p (mm)	f (mm/rev)	
RCMT 0803M0-14	8.00	3.18	3.40	15.0	0.15				•					1.00-4.00	0.30-0.45	
RCMT 0803M0-14*	8.00	3.18	3.40	15.0	0.15		•							1.00-4.00	0.30-0.45	
RCMT 10T3M0-14	10.00	3.97	4.40	15.0	0.15	•	•	•	•					1.50-5.00	0.30-0.50	
RCMT 1204M0-14	12.00	4.76	5.50	15.0	0.15		•	•	•		•	•		1.50-6.00	0.30-0.50	
RCMT 1606M0-14	16.00	6.35	5.50	15.0	0.25		•	•	•					2.00-8.00	0.40-0.60	
RCMT 2006M0-14	20.00	6.35	6.50	15.0	0.25			•	•	•				2.50-10.00	0.50-0.70	
RCMT 2006M0E-14	20.00	6.35	6.50	15.0	0.25			•						2.50-10.00	0.50-0.70	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: AVC-SRDCN-Y (77) • C#-RCMT-16-Y (77) • C#-SRGCR-12-JHP (72) • C#-SRGCR/L (71) • HSK A63WH-RCMT-Y (76)
 • SRDCN (72) • SRGCR-12-JHP (71) • SRGCR/L (71)

ISOTURN

RCMX

Round Inserts with a 7° Positive Flank and Reinforced Cutting Edge for Semi-Roughing and Rough Profiling



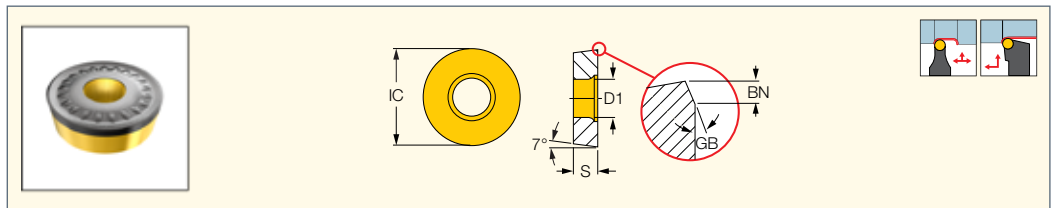
Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	IC	S	D1	GB	BN	IC8250	IC8150	a _p (mm)	f (mm/rev)
RCMX 100300	10.00	3.18	3.60	15.0	0.01	●		1.50-5.00	0.30-0.50
RCMX 120400	12.00	4.76	4.20	15.0	0.15		●	1.50-6.00	0.30-0.50
RCMX 200600	20.00	6.35	6.50	15.0	0.01	●		2.50-10.00	0.50-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

RCMX-NR

Round 7° Inserts with a Positive Flank and Strong Cutting Edge for Rough Turning



Designation	Dimensions					IC8250	Recommended Machining Data	
	IC	S	D1	GB	BN		a _p (mm)	f (mm/rev)
RCMX 250700-NR	25.00	7.94	7.20	17.0	0.30	●	4.00-10.00	0.50-1.50
RCMX 3209M0-NR	32.00	9.52	10.00	17.0	0.30	●	7.00-13.00	0.70-2.00

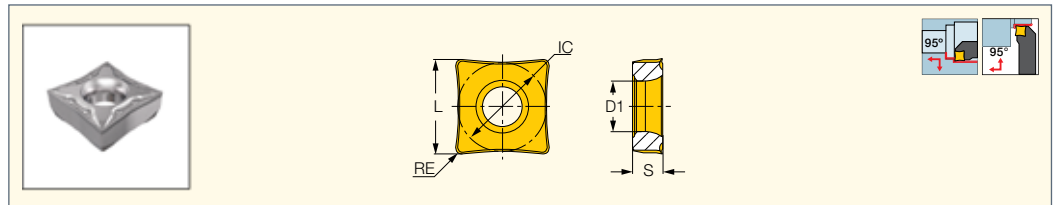
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: PRDCN (72) • PRGCR (72)

ISOTURN

QCMT-PF

Four 80° Cornered Insert with a Positive 7° Clearance and Chipformer for Finishing Applications



Designation	Dimensions				IC908	Recommended Machining Data	
	IC	S	RE	D1		a _p (mm)	f (mm/rev)
QCMT 09T302-PF	9.65	3.97	0.20	4.40	●	0.50-2.50	0.05-0.30

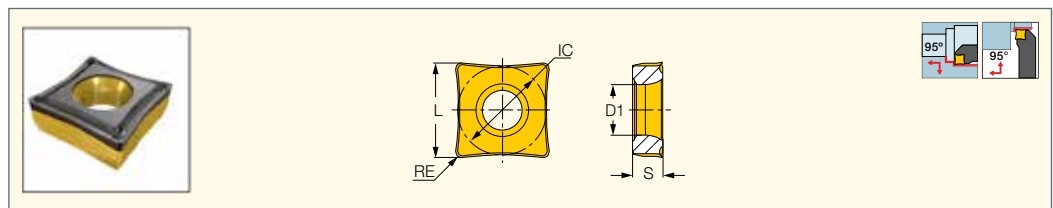
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: PQLCR/L (73) • PQLCR/L-S (73) • S/A-SQLCR/L (110)

ISOTURN

QCMT-SM

Inserts with a Positive 7° Clearance and Chipformer for Finishing Applications



Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	IC830	IC8250	IC8150	a _p (mm)	f (mm/rev)
QCMT 09T304-SM	10.40	9.65	3.97	0.40	4.40	●	●	●	0.50-2.50	0.06-0.25

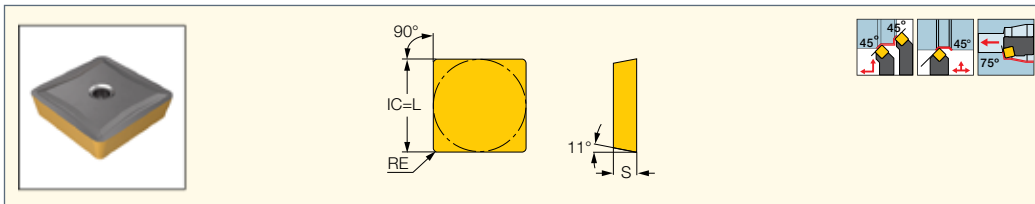
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: PQLCR/L (73) • PQLCR/L-S (73) • S/A-SQLCR/L (110)

ISOTURN

SPMR

Square Inserts with a Positive Chipformer Exerting Low Cutting Forces for Semi-Finishing and Finishing Applications



Designation	Dimensions			Tough ↔ Hard				Recommended Machining Data	
	L	S	RE	IC880	IC8250	IC8150	IC20N	a _p (mm)	f (mm/rev)
SPMR 090304	9.52	3.18	0.40		•		•	1.50-5.00	0.15-0.30
SPMR 090308	9.52	3.18	0.80	•	•			1.50-6.00	0.16-0.35
SPMR 120304	12.70	3.18	0.40	•	•			1.50-5.00	0.15-0.35
SPMR 120308	12.70	3.18	0.80		•			1.50-6.00	0.16-0.40
SPMR 120312	12.70	3.18	1.20		•	•		1.50-6.00	0.20-0.40

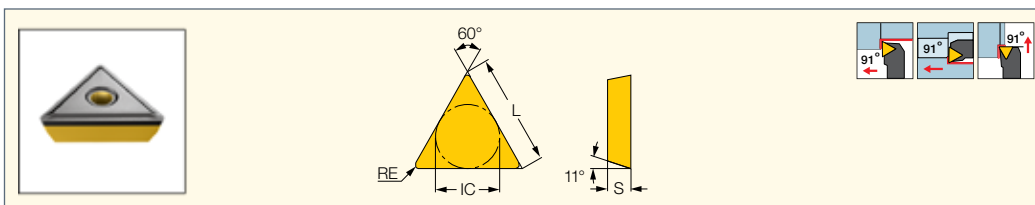
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: CSDPN (74) • CSSPR/L (74) • S-CSKPR (116)

ISOTURN

TPMR

Triangular 11° Positive Inserts with a Positive Chipformer Exerting Low Cutting Forces for Internal Finish Turning



Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IC880	IC8350	IC8250	IC20N	IC807	IC907	a _p (mm)	f (mm/rev)
TPMR 090202	9.60	5.56	2.38	0.20						•	1.00-3.00	0.10-0.20
TPMR 090204	9.60	5.56	2.38	0.40			•				1.00-3.50	0.15-0.20
TPMR 110304	11.00	6.35	3.18	0.40	•			•			1.00-3.50	0.15-0.25
TPMR 110308	11.00	6.35	3.18	0.80	•						1.00-3.50	0.15-0.30
TPMR 160304	16.50	9.52	3.18	0.40	•	•		•	•	•	1.00-4.00	0.15-0.33
TPMR 160308	16.50	9.52	3.18	0.80	•			•	•	•	1.00-4.00	0.15-0.35

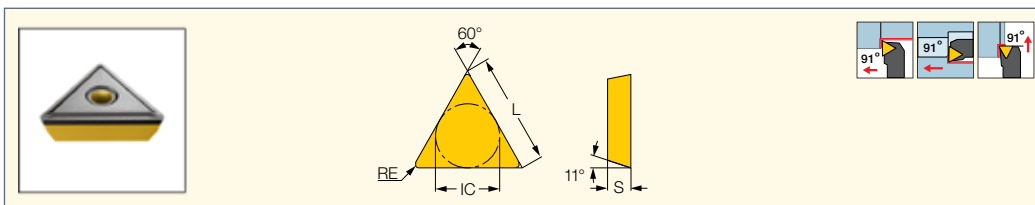
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: CTFPR/L (75) • CTGPR/L (74) • S-CTFPR/L (116)

ISOTURN

TPMR-PF

Triangular 11° Positive Inserts with a Positive Chipformer Exerting Low Cutting Forces for Internal Finish Turning



Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC8250	IC8150	IC807	IC907	a _p (mm)	f (mm/rev)
TPMR 110304-PF	11.00	6.35	3.18	0.40	•		•	•	0.40-3.00	0.08-0.25
TPMR 110308-PF	11.00	6.35	3.18	0.80	•		•	•	0.50-3.50	0.07-0.28
TPMR 160304-PF	16.50	9.52	3.18	0.40	•	•	•	•	0.50-3.50	0.06-0.25
TPMR 160308-PF	16.50	9.52	3.18	0.80	•	•	•	•	0.80-3.00	0.08-0.28

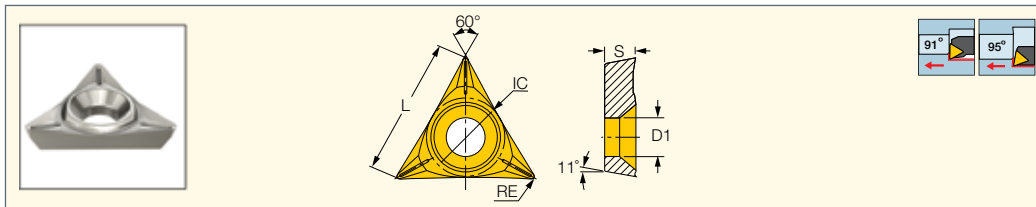
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: CTFPR/L (75) • CTGPR/L (74) • S-CTFPR/L (116)

ISOTURN

TPGT-SP

Super Positive Triangular Inserts with 11° Clearance for Fine Boring and Finish Turning



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	IC908	IC907	a _p (mm)	f (mm/rev)
TPGT 110202-SP	11.00	6.35	2.38	0.20	3.00	●	●	0.40-1.00	0.05-0.15

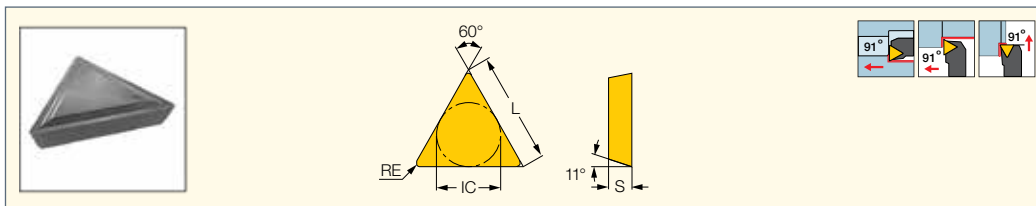
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E-STFPR-HEAD (116)

ISOTURN

TPMR-FTF

Triangular 11° Positive Inserts with a Positive Chipformer Exerting, Low Cutting Forces for Finish Turning Applications



Designation	Dimensions				IC20N	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
TPMR 110304-FTF	11.00	6.35	3.18	0.40	●	0.50-3.00	0.07-0.25
TPMR 160304-FTF	16.50	9.52	3.18	0.40	●	0.50-3.00	0.07-0.25

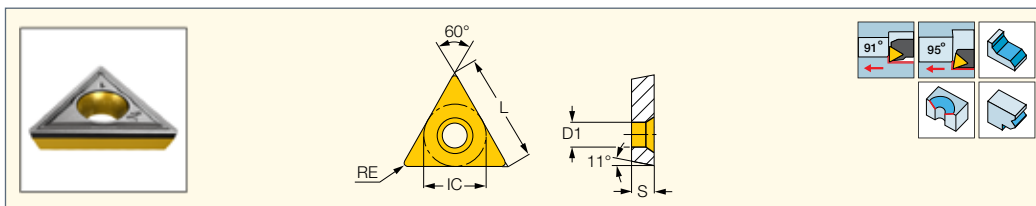
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: CTFPR/L (75) • CTGPR/L (74) • S-CTFPR/L (116)

ISOTURN

TPMT

Triangular 11° Positive Inserts with a Positive Chipformer Exerting Low Cutting Forces for Internal Finish Turning



Designation	Dimensions					Tough ↔ Hard								Recommended Machining Data				
	L	IC	S	RE	D1	IC830	IC635	IC50M	IC8350	IC8250	IC8150	IC520M	IC20	IC806	IC807	IC907	a _p (mm) ⁽¹⁾	f (mm/rev) ⁽²⁾
TPMT 110202	11.00	6.35	2.38	0.20	3.00	●							●			●	0.20-2.00	0.05-0.25
TPMT 110204	11.00	6.35	2.38	0.40	3.00	●					●		●			●	1.00-3.00	0.12-0.30
TPMT 110208	11.00	6.35	2.38	0.80	3.00	●				●	●		●			●	1.00-4.00	0.15-0.30
TPMT 160304	16.50	9.52	3.18	0.40	4.30	●			●	●			●			●	1.00-4.00	0.12-0.30
TPMT 160308	16.50	9.52	3.18	0.80	4.30	●	●	●	●	●	●		●			●	5.00-12.00	0.15-0.35

• For cutting speed recommendations, see pages ..

⁽¹⁾ For turning

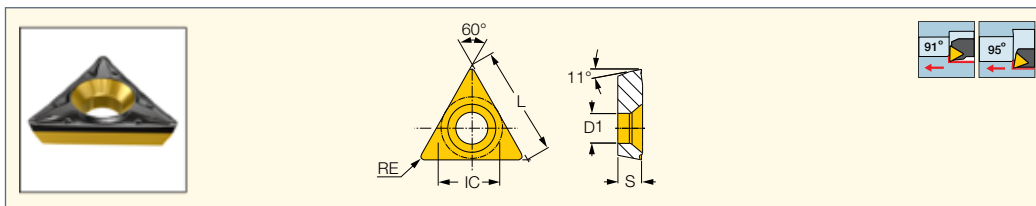
⁽²⁾ For turning

For tools, see pages: A/E/S-STFPR/L (117) • A/S-STLPR/L (118) • E-STFPR-HEAD (116)

ISOTURN

TPMT-PF

Triangular 11° Positive Inserts for Semi-Finishing and Finishing Applications



Designation	Dimensions					IC8150	Recommended Machining Data	
	L	IC ⁽¹⁾	S	RE	D1		a _p (mm)	f (mm/rev)
TPMT 110204-PF	11.00	6.35	2.38	0.40	3.00	●	0.50-3.00	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

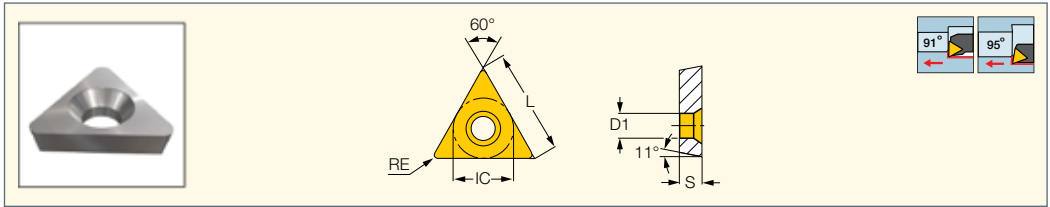
⁽¹⁾ Actual di=6.28, to be used in 6.35mm pocket size

For tools, see pages: A/E/S-STFPR/L (117) • A/S-STLPR/L (118) • E-STFPR-HEAD (116)

ISOTURN

TPGB

Triangular Inserts with an 11° Positive Flank for Short Chipping Materials



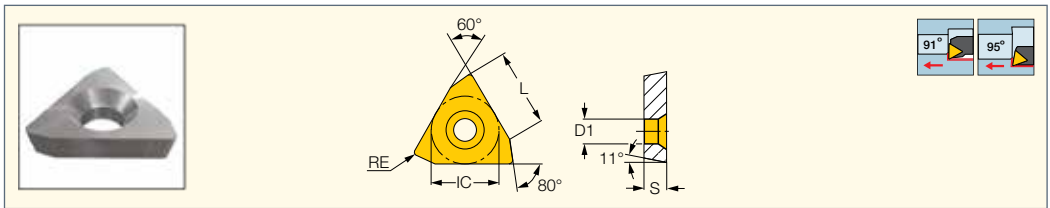
Designation	Dimensions						IC20	Recommended	Machining Data
	L	IC	S	RE	D1	a_p (mm)		f (mm/rev)	
TPGB 110204	11.00	6.35	2.38	0.40	3.00	●	1.00-3.00	0.05-0.25	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E/S-STFPR/L (117) • A/S-STLPR/L (118) • E-STFPR-HEAD (116)

ISOTURN

TPGB-XL

Triangular Inserts with an 11° Positive Flank for Short Chipping Materials



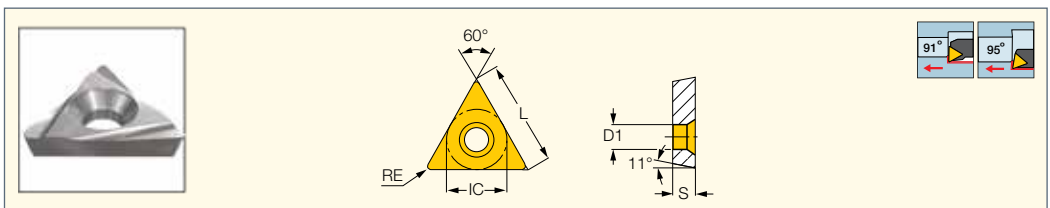
Designation	Dimensions						IC20	Recommended	Machining Data
	L	IC	S	RE	D1	a_p (mm)		f (mm/rev)	
TPGB 110204-XL	11.00	6.35	2.38	0.40	3.00	●	1.00-3.00	0.05-0.25	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E/S-STFPR/L (117) • A/S-STLPR/L (118) • E-STFPR-HEAD (116)

ISOTURN

TPGH-R/L

Triangular Inserts with an 11° Positive and Ground Chipformer for Finish Turning



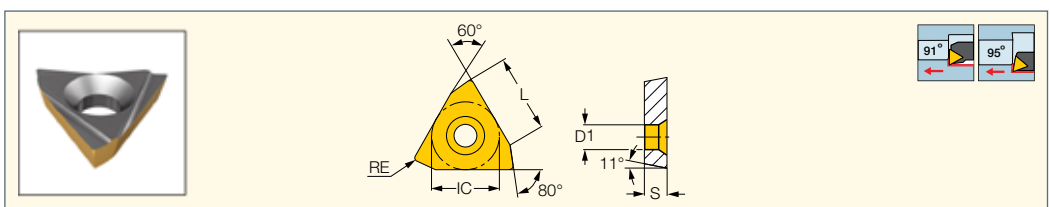
Designation	Dimensions						Tough ↔ Hard		Recommended	Machining Data
	L	IC	S	RE	D1	IC908	IC20	a_p (mm)	f (mm/rev)	
TPGH 110204-L	11.00	6.35	2.38	0.40	3.00		●	1.00-3.00	0.05-0.25	
TPGH 110208-L	11.00	6.35	2.38	0.80	3.00	●		1.00-3.00	0.05-0.25	
TPGH 160304-L	16.50	9.52	3.18	0.40	4.30		●	1.00-4.00	0.05-0.30	
TPGH 160304-R	16.50	9.52	3.18	0.40	4.30		●	1.00-4.00	0.05-0.30	
TPGH 160308-L	16.50	9.52	3.18	0.80	4.30		●	1.00-4.00	0.05-0.30	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E/S-STFPR/L (117) • A/S-STLPR/L (118)

ISOTURN

TPGH-XL

Triangular Inserts with an 11° Positive and Ground Chipformer for Finish Turning

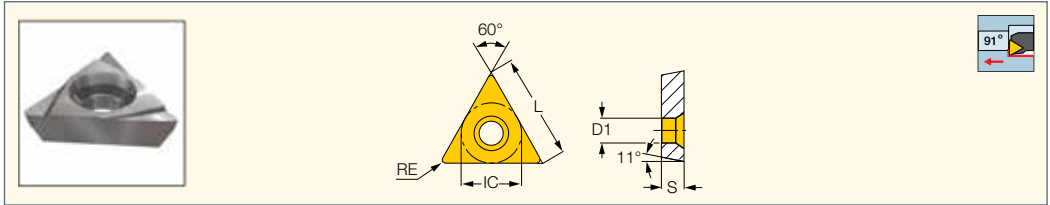


Designation	Dimensions						IC20	Recommended	Machining Data
	L	IC	S	RE	D1	a_p (mm)		f (mm/rev)	
TPGH 110204-XL	11.00	6.35	2.38	0.40	3.00	●	1.00-3.00	0.05-0.25	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
For tools, see pages: A/E/S-STFPR/L (117) • A/S-STLPR/L (118) • E-STFPR-HEAD (116)

TPGX

Triangular Inserts with an 11° Positive Flank and Ground Chipformer for Finish Turning



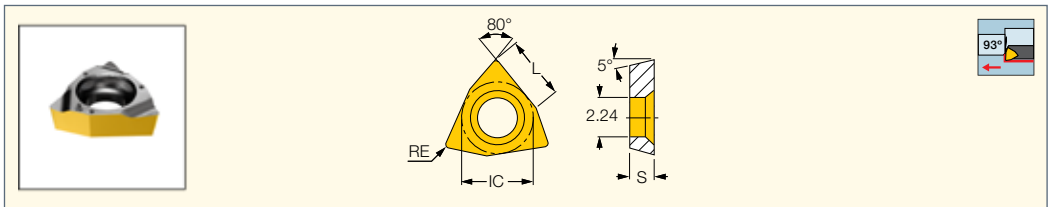
Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	D1	IC908	IC20	IC20N	IC520N	ap (mm)	f (mm/rev)
TPGX 090202-L	9.52	5.56	2.38	0.20	3.00	●	●	●	●	1.00-2.00	0.10-0.20
TPGX 090204-L	9.52	5.56	2.38	0.40	3.00	●	●	●	●	1.00-2.50	0.15-0.20
TPGX 110302-L	11.00	6.35	3.18	0.20	3.50	●	●	●	●	1.00-2.50	0.10-0.20
TPGX 110304-L	11.00	6.35	3.18	0.40	3.50	●	●	●	●	1.00-3.00	0.15-0.20
TPGX 110308-L	11.00	6.35	3.18	0.80	3.50		●			1.00-3.50	0.15-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E-STFPR-X (117) • MG STFPR-X (117)

WBG

Trigon Inserts with a 5° Positive Flank Ground Chipformer for Finish Turning



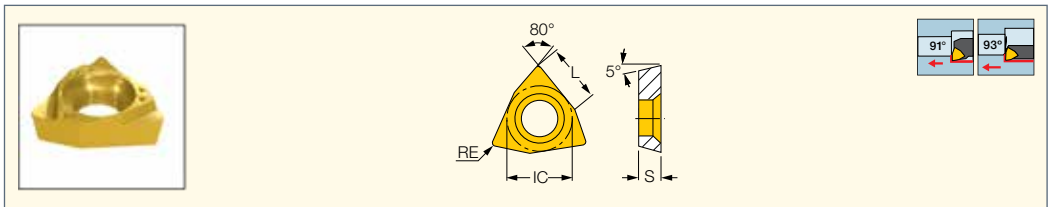
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IC830	IC908	IC807	IC907	ap (mm)	f (mm/rev)
WBG 060102L	2.18	3.97	1.59	0.20	●	●	●	●	0.10-1.00	0.05-0.10

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E/S-SWUBR/L (118) • MG-SWUBR/L (119) • PICIN-SWUBR/L (386)

WBMT

Trigon Inserts with a 5° Positive Flank Ground Chipformer for Finish Turning



Designation	Dimensions				Tough ↔ Hard								Recommended Machining Data	
	L	IC	S	RE	IC830	IC354	IC350	IC908	IC30N	IC530N	IC20N	IC520N	ap (mm)	f (mm/rev)
WBMT 060101R/L	2.18	3.97	1.59	0.10				●					0.40-2.00	0.10-0.15
WBMT 060102L	2.18	3.97	1.59	0.20	●	●	●		●	●	●	●	0.40-2.00	0.10-0.15
WBMT 060102R	2.18	3.97	1.59	0.20		●	●			●		●	0.40-2.00	0.10-0.15

• WBMT 06...R right-hand inserts used on left-hand tools and WBMT 06...L left-hand inserts used on right-hand tools

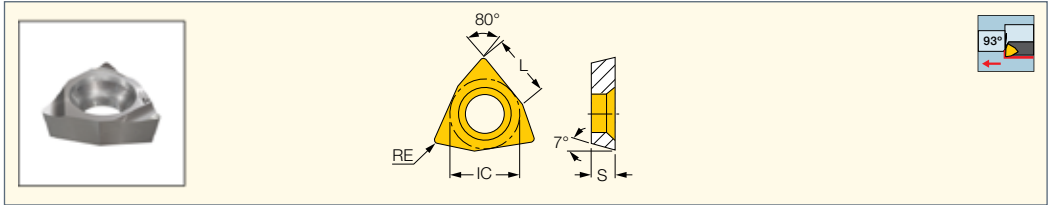
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E/S-SWUBR/L (118) • MG-SWUBR/L (119) • PICIN-SWUBR/L (386)

ISOTURN

WCGT

Trigon Inserts with a 7° Positive Flank and Chipformer for Finish Turning



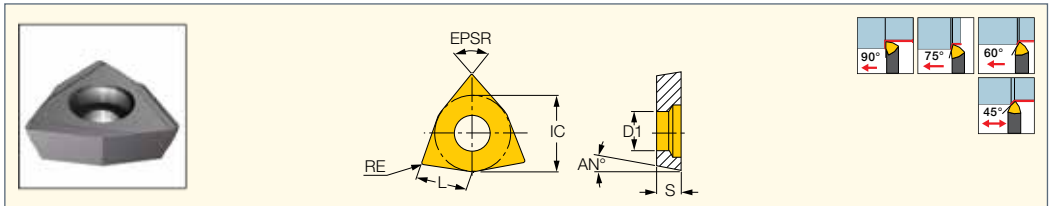
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IC908	IC30N	ap (mm)	f (mm/rev)
WCGT 020102L	2.18	3.97	1.59	0.20	●	●	0.40-2.00	0.05-0.10
WCGT 020104L	2.18	3.97	1.59	0.40	●	●	0.40-2.00	0.10-0.15

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E-SWUCR (119) • MG-SWUCR (119)

ISOTURN

WPEX

80° and 84° Precision Trigon Inserts with Positive 8° and 12° Clearance for Finishing Applications



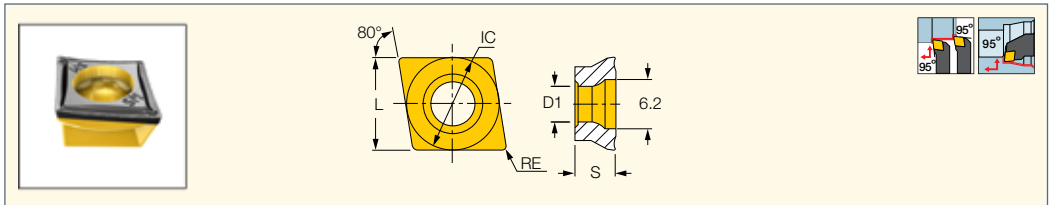
Designation	Dimensions							Tough ↔ Hard		Recommended Machining Data	
	L	S	RE	IC	D1	EPSR	AN	IC08	IC908	ap (mm)	f (mm/rev)
WPEX 040200R/L08	4.00	2.50	0.00	6.60	3.20	84.0	8.0	●		0.20-2.00	0.05-0.20
WPEX 040200R12	4.00	2.50	0.00	6.60	3.20	84.0	12.0	●		0.20-2.00	0.05-0.20
WPEX 040202R/L08	4.00	2.50	0.20	6.60	3.20	84.0	8.0	●		0.20-2.00	0.05-0.20
WPEX 050300R/L08	5.00	3.18	0.00	7.94	3.70	80.0	8.0	●	●	0.20-2.50	0.05-0.20
WPEX 050300R12	5.00	3.18	0.00	7.94	3.70	80.0	12.0	●	●	0.20-2.50	0.05-0.20
WPEX 050302R/L08	5.00	3.18	0.20	7.94	3.70	80.0	8.0	●	●	0.20-2.50	0.05-0.20
WPEX 050302R12	5.00	3.18	0.20	7.94	3.70	80.0	12.0	●	●	0.20-2.50	0.05-0.20
WPEX 050304R/L08	5.00	3.18	0.40	7.94	3.70	80.0	8.0	●	●	0.20-2.50	0.05-0.20
WPEX 050304R12	5.00	3.18	0.40	7.94	3.70	80.0	12.0	●	●	0.20-2.50	0.05-0.20
WPEX 060400R/L08	6.00	4.00	0.00	9.52	3.70	80.0	8.0	●	●	0.20-3.00	0.05-0.20
WPEX 060400R/L12	6.00	4.00	0.00	9.52	3.70	80.0	12.0	●	●	0.20-3.00	0.05-0.20
WPEX 060402R/L08	6.00	4.00	0.20	9.52	3.70	80.0	8.0	●	●	0.20-3.00	0.05-0.20
WPEX 060402R/L12	6.00	4.00	0.20	9.52	3.70	80.0	12.0	●	●	0.20-3.00	0.05-0.20
WPEX 060404R/L08	6.00	4.00	0.40	9.52	3.70	80.0	8.0	●	●	0.20-3.00	0.05-0.20
WPEX 060404R12	6.00	4.00	0.40	9.52	3.70	80.0	12.0	●	●	0.20-3.00	0.05-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: SWAPR-PAD (73) • SWAPR/L (73) • SWDPR/L (74)

CHAMTURN

CC95MT-SM

Single-Sided 80° Rhombic Inserts for Finishing (CHAMELEON Multifunction Pocket System)



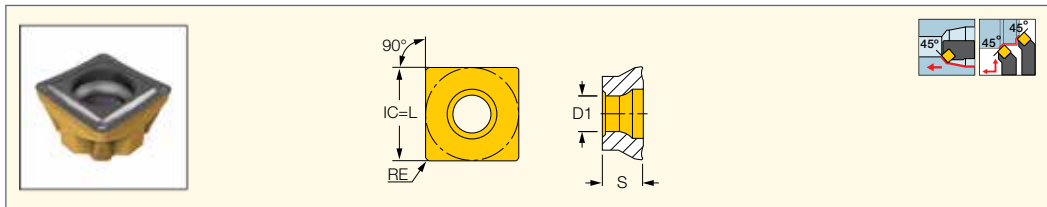
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	D1	IC890	IC8250	IC8150	ap (mm)	f (mm/rev)
CC95MT 100504-SM	9.50	9.52	5.00	0.40	4.50	●	●	●	0.50-3.00	0.07-0.24

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: S-SUXCR/L-CM (110) • SUXCR/L-CM (54)

CHAMTURN

SC45MT-SM

Single-Sided Square Inserts for Finishing Applications (CHAMELEON Multifunction Pocket System)



Designation	Dimensions				Tough → Hard			Recommended Machining Data	
	L	S	RE	D1	IC880	IC8250	IC8150	a _p (mm)	f (mm/rev)
SC45MT 100508-SM	9.53	5.00	0.80	4.50	●	●	●	0.50-3.00	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: S-SUXCR/L-CM (110) • SUXCR/L-CM (54)

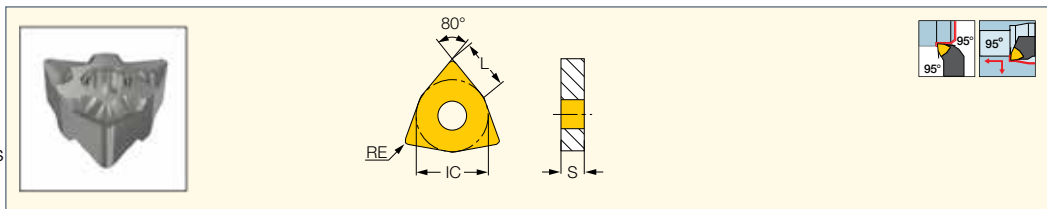
Inserts for Machining Aluminum

ISOTURN

ALUPTURN
POSITIVE DOUBLE SIDED

WNGG-F3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials



Designation	Dimensions				IC20	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
WNGG 060402-F3N-P	6.52	9.52	4.76	0.20	●	0.20-3.00	0.10-0.30
WNGG 060404-F3N-P	6.52	9.52	4.76	0.40	●	0.40-3.00	0.12-0.35
WNGG 060408-F3N-P	6.52	9.52	4.76	0.80	●	0.80-3.00	0.15-0.40

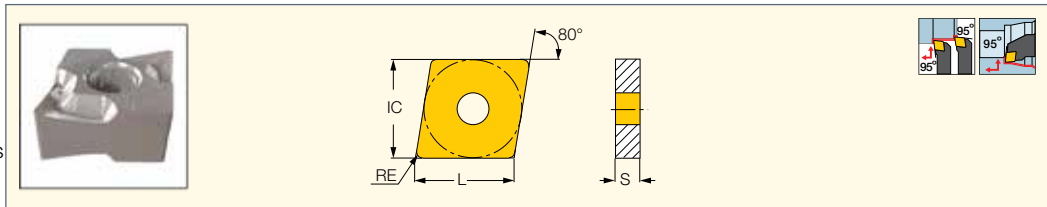
• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A-PWLNRL/X/G (104) • A/S-MWLNRL/W (103) • DWLNRL (10) • MWLNRL/W (18) • PWLNRL/X (11) • PWLNRL/X-JHP (12) • PWLNRL/X-JHP-MC (13)

ISOTURN

ALUPTURN
POSITIVE DOUBLE SIDED

CNGG-F3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials



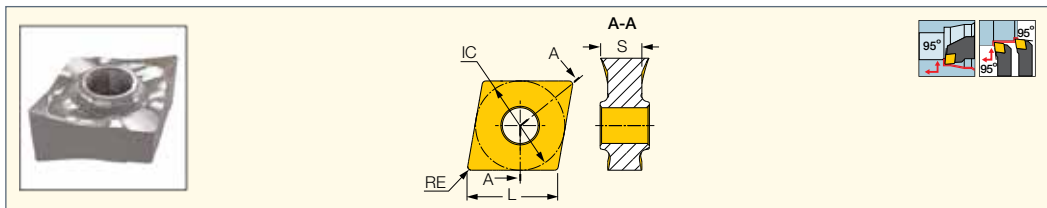
Designation	Dimensions				IC20	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
CNGG 090402-F3N-P	9.70	9.52	4.76	0.20	●	0.30-3.00	0.10-0.30
CNGG 090404-F3N-P	9.70	9.52	4.76	0.40	●	0.40-3.00	0.10-0.30
CNGG 090408-F3N-P	9.70	9.52	4.76	0.80	●	0.80-3.00	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/S-PCLNRL/X/G (102) • C#-PCLNRL/X-JHP (24) • DCLNRL (25) • PCLNRL/X (22) • PCLNRL/X-JHP (23) • PCLNRL/X-JHP-MC (23) • AVC-PCLNRL (96)

HELITURN LD

CNGX-M3N

Double-Sided Positive Rake Inserts with High Helical and Sharp Edge for Medium Machining on Non-Ferrous Materials



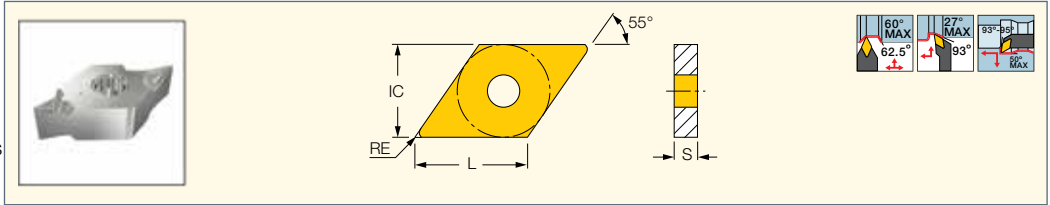
Designation	Dimensions				IC20	Recommended Machining Data	
	L	IC	S	RE		a _p (mm)	f (mm/rev)
CNGX 090604-M3N-P	9.70	9.52	4.40	0.40	●	0.40-3.00	0.10-0.30
CNGX 090608-M3N-P	9.70	9.52	4.40	0.80	●	0.80-3.00	0.10-0.30

• PCLNRL/...X and A...PCLNRL/L-X are most recommended as they were designed especially for this insert
 • For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/S-PCLNRL/X/G (102) • C#-PCLNRL/X-JHP (24) • DCLNRL (25) • PCLNRL/X (22) • PCLNRL/X-JHP (23) • PCLNRL/X-JHP-MC (23)



DNGG-M3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
DNGG 110402-M3N-P	11.63	9.52	4.76	0.20	●	0.30-3.00	0.10-0.30	
DNGG 110404-M3N-P	11.63	9.52	4.76	0.40	●	0.30-3.00	0.10-0.30	
DNGG 110408-M3N-P	11.63	9.52	4.76	0.80	●	0.30-3.00	0.10-0.30	

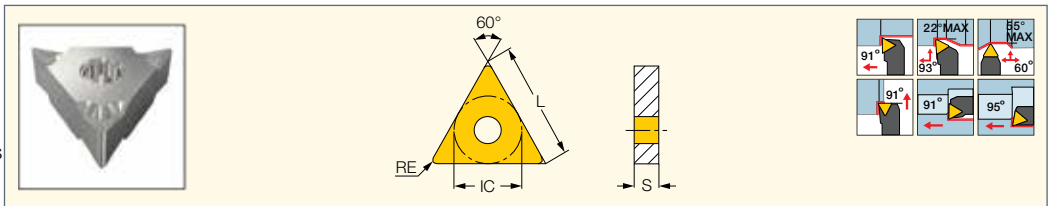
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L (97) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • PDJNR/L (28) • PDJNR/L-JHP (29)



TNGG-M3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
TNGG 160402-M3N-P	16.50	9.52	4.76	0.20	●	0.30-3.00	0.10-0.30	
TNGG 160404-M3N-P	16.50	9.52	4.76	0.40	●	0.30-3.00	0.10-0.30	
TNGG 160408-M3N-P	16.50	9.52	4.76	0.80	●	0.30-3.00	0.10-0.30	

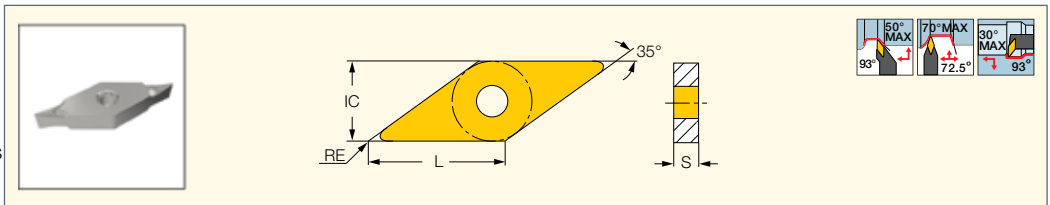
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • DTGMR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGMR/L (35) • PTGMR/L-X (36) • PTGMR/L-X-JHP (36) • PTGMR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)



VNGG-M3N

Double-Sided Sharp-Edged Positive and Polished Rake Inserts for Finishing on Aluminum and Other Non-Ferrous Materials



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
VNGG 160402-M3N-P	16.60	9.52	4.76	0.20	●	0.20-3.00	0.10-0.25	
VNGG 160404-M3N-P	16.60	9.52	4.76	0.40	●	0.40-3.00	0.12-0.30	

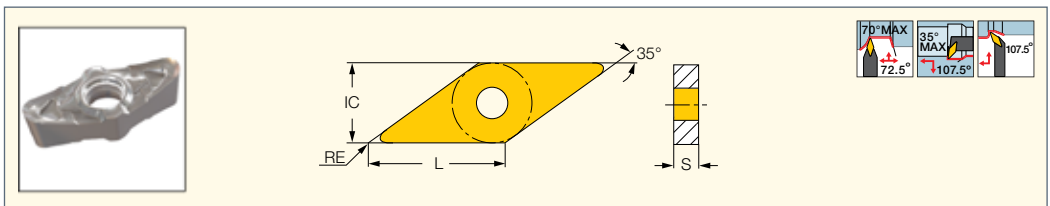
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: AVC-DVUNR/L (97) • MVJNR/L (33) • MVVNN (35)



VNGU-R3N

Double-Sided Sharp-Edged Positive Rake Inserts for Rough Machining on Aluminum and Other Non-Ferrous Materials



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
VNGU 220612-R3N	22.00	12.70	6.77	1.20	●	1.00-4.50	0.10-0.30	
VNGU 220616-R3N	22.00	12.70	6.51	1.60	●	1.50-4.50	0.10-0.35	
VNGU 220630-R3N	22.00	12.70	6.35	3.00	●	1.50-4.50	0.15-0.40	

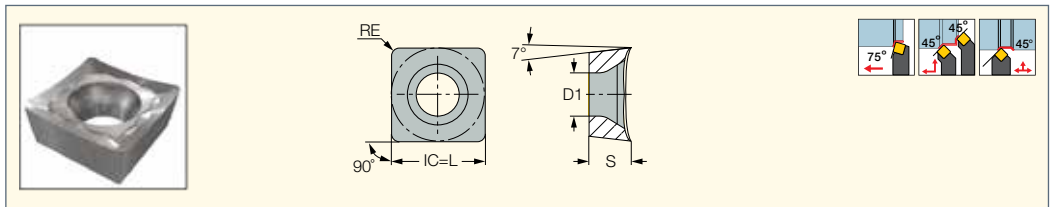
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-SVLFNR-AL-JHP (108) • A-SVQNR/L-AL-JHP (108) • SVHNR/L-AL-JHP (34) • SVVNN-AL-JHP (34)

ISOTURN

SCGT-AS

Square Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



Designation	Dimensions					IC20	Recommended Machining Data	
	IC	S	RE	D1	a _p (mm)		f (mm/rev)	
SCGT 09T308-AS	9.52	3.97	0.80	4.40	●	0.50-3.00	0.10-0.30	
SCGT 120404-AS	12.70	4.76	0.40	5.50	●	1.00-4.00	0.10-0.30	
SCGT 120408-AS	12.70	4.76	0.80	5.50	●	1.00-4.00	0.10-0.30	

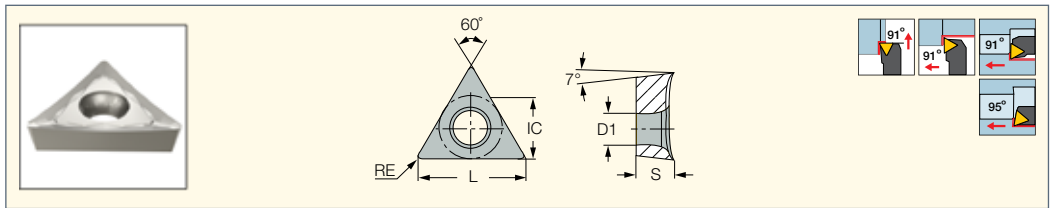
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: SSBCL/L (70) • SSSCL/L (70)

ISOTURN

TCGT-AS

Triangular Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	D1		a _p (mm)	f (mm/rev)
TCGT 110204-AS	11.00	6.35	2.38	0.40	2.80	●	0.20-3.00	0.05-0.30
TCGT 16T304-AS	16.50	9.52	3.97	0.40	4.40	●	0.50-3.00	0.05-0.30
TCGT 16T308-AS	16.50	9.52	3.97	0.80	4.40	●	0.50-3.00	0.10-0.30

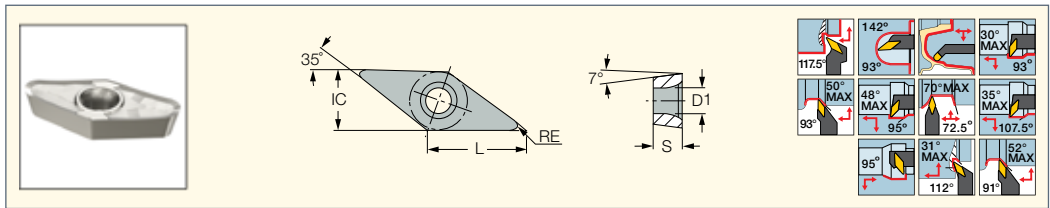
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E-STFCR-HEAD (115) • S-MTLCL/L-W (114) • S-STFCR/L (115) • S-STLCL/L (115) • STFCR/L (70) • STGCL/L (70)

ISOTURN

VCGT-AS

35° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	D1	IC920	IC20	a _p (mm)	f (mm/rev)
VCGT 110302-AS	11.10	6.35	3.18	0.20	2.90	●	●	0.20-2.50	0.05-0.20
VCGT 110304-AS	11.10	6.35	3.18	0.40	2.90	●	●	0.50-3.00	0.05-0.25
VCGT 160401-AS	16.60	9.52	4.76	0.10	4.40	●	●	0.20-2.50	0.05-0.20
VCGT 160402-AS	16.60	9.52	4.76	0.20	4.40	●	●	0.50-2.50	0.05-0.25
VCGT 160404-AS	16.60	9.52	4.76	0.40	4.40	●	●	0.50-3.00	0.05-0.25
VCGT 160408-AS	16.60	9.52	4.76	0.80	4.40	●	●	0.50-3.00	0.10-0.25
VCGT 160412-AS	16.60	9.52	4.76	1.20	4.40	●	●	0.50-3.00	0.10-0.25
VCGT 220530-AS	22.10	12.70	5.56	3.00	5.50	●	●	1.50-4.50	0.15-0.30

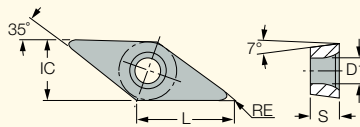
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-SVLCL/L (114) • A/S-SVLCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • AVC-SVUCR/L (95) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVWCN (69) • DTF50 SVXCR-16X2 (452) • DTF50 SVXCR-22 (452) • HSK A63WH-SVJCR/L (67) • NQCH-SVACR/L-S-JHP (67) • NQCH-Y-SVJCR-S-JHP (65) • PVACR/L-JHP (68) • PVACR/L-S (64) • S/A-SVJCR/L (114) • SVACR/L (67) • SVJCR-PAD (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVPCR/L (69) • SVWCN (454) • SVXCR/L (454) • Y-SVJCR (65) • Y-SVJCR-JHP (65) • AVC-SVLCR/L (96) • PVACR/L-JHP-MC (68)

ISOTURN

VCGT-AF

Inserts with a Very Positive Rake Angle and Sharp Cutting Edge for Semi-Finishing and Finishing on Aluminum



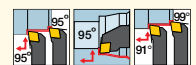
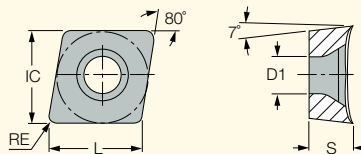
Designation	Dimensions						IC20	Recommended Machining Data	
	L	IC	S	RE	D1	a_p (mm)		f (mm/rev)	
VCGT 220508-AF	22.10	12.70	5.56	0.80	5.50	●	1.00-4.50	0.10-0.25	
VCGT 220512-AF	22.10	12.70	5.56	1.20	5.50	●	1.00-4.50	0.10-0.30	
VCGT 220516-AF	22.10	12.70	5.56	1.60	5.50	●	1.50-4.50	0.10-0.35	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/S-SVLCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • DTF50 SVXCR-22 (452)

ISOTURN

CCGT-AS

80° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



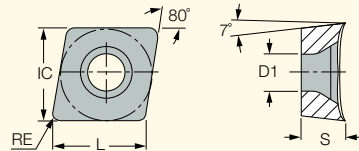
Designation	Dimensions						IC20	Recommended Machining Data	
	L	IC	S	RE	D1	a_p (mm)		f (mm/rev)	
CCGT 060201-AS	6.40	6.35	2.38	0.10	2.80	●	0.50-2.00	0.10-0.20	
CCGT 060202-AS	6.40	6.35	2.38	0.20	2.80	●	0.50-2.00	0.10-0.20	
CCGT 060204-AS	6.40	6.35	2.38	0.40	2.80	●	0.50-2.00	0.10-0.25	
CCGT 09T301-AS	9.70	9.52	3.97	0.10	4.40	●	0.50-2.50	0.10-0.25	
CCGT 09T302-AS	9.70	9.52	3.97	0.20	4.40	●	0.50-2.50	0.10-0.25	
CCGT 09T304-AS	9.70	9.52	3.97	0.40	4.40	●	0.50-2.50	0.10-0.25	
CCGT 09T308-AS	9.70	9.52	3.97	0.80	4.40	●	0.80-3.00	0.10-0.30	
CCGT 120402-AS	12.90	12.70	4.76	0.20	5.50	●	0.50-2.50	0.10-0.25	
CCGT 120404-AS	12.90	12.70	4.76	0.40	5.50	●	0.50-2.50	0.10-0.25	
CCGT 120408-AS	12.90	12.70	4.76	0.80	5.50	●	1.00-3.50	0.10-0.30	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCGT-AF

80° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



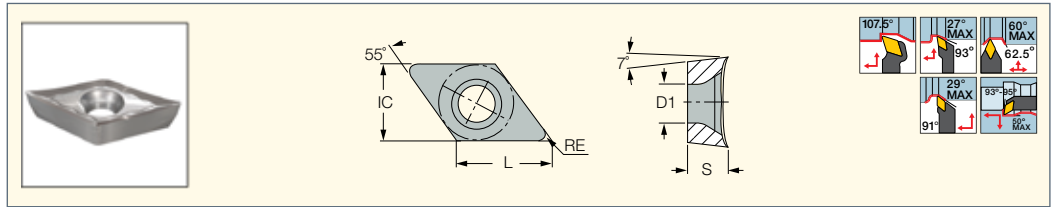
Designation	Dimensions						IC20	Recommended Machining Data	
	L	IC	S	RE	D1	a_p (mm)		f (mm/rev)	
CCGT 09T308-AF	9.70	9.52	3.97	0.80	4.40	●	0.80-3.00	0.15-0.25	
CCGT 120408-AF	12.90	12.70	4.76	0.80	5.50	●	1.00-3.50	0.15-0.30	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

DCGT-AS

55° Rhombic Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	D1	IC920	IC20	IC320	IC907	a _p (mm)	f (mm/rev)
DCGT 070201-AS	7.75	6.35	2.38	0.10	2.80		●			0.50-2.00	0.03-0.20
DCGT 070202-AS	7.75	6.35	2.38	0.20	2.80	●	●			0.50-2.00	0.05-0.20
DCGT 070204-AS	7.75	6.35	2.38	0.40	2.80		●			0.50-2.50	0.05-0.25
DCGT 11T301-AS	11.60	9.52	3.97	0.10	4.40		●			0.50-2.50	0.05-0.25
DCGT 11T302-AS	11.60	9.52	3.97	0.20	4.40		●	●	●	0.50-2.50	0.05-0.26
DCGT 11T304-AS	11.60	9.52	3.97	0.40	4.40		●	●	●	0.50-2.50	0.05-0.25
DCGT 11T308-AS	11.60	9.52	3.97	0.80	4.40		●	●		0.80-3.00	0.08-0.30

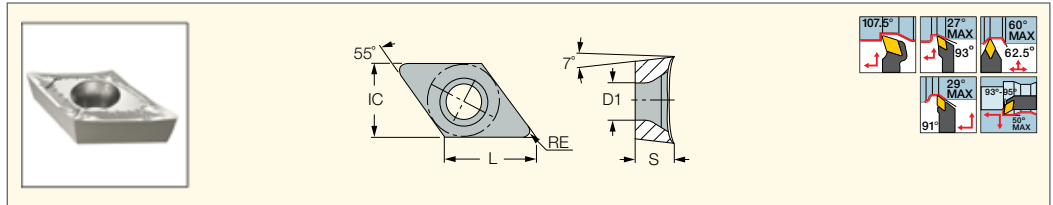
For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59) • C#-SDNCN (64) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

DCGT-AF

Inserts with a Very Positive Rake Angle and Sharp Cutting Edge for Semi-Finishing and Finishing on Aluminum



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	D1		a _p (mm)	f (mm/rev)
DCGT 11T304-AF	11.60	9.52	3.97	0.40	4.40	●	0.50-2.50	0.05-0.25

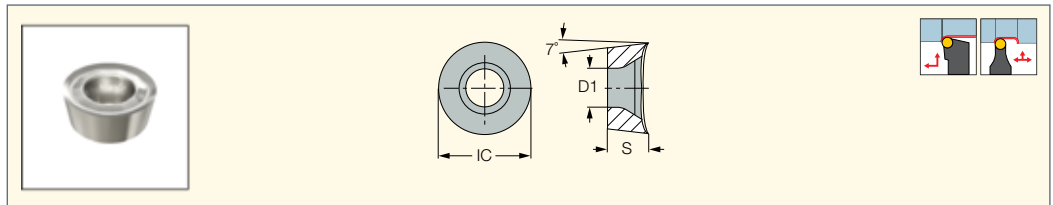
For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59) • C#-SDNCN (64) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

RCGT-AS

Round Inserts with a 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



Designation	Dimensions			IC20	Recommended Machining Data	
	IC	S	D1		a _p (mm)	f (mm/rev)
RCGT 0803M0-AS	8.00	3.18	3.40	●	1.00-4.00	0.20-0.40
RCGT 1003M0-AS	10.00	3.18	4.00	●	1.00-5.00	0.20-0.40
RCGT 10T3M0-AS	10.00	3.97	4.40	●	1.00-5.00	0.20-0.40

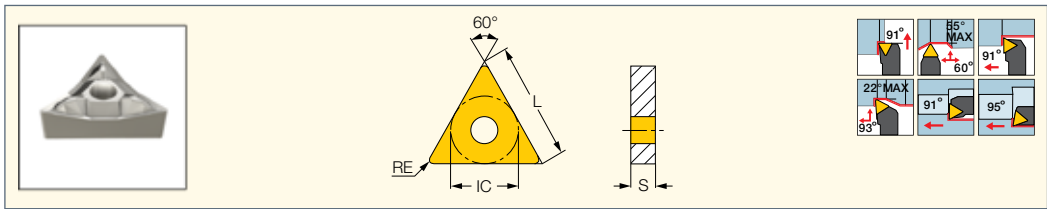
For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages: SRDCN (72) • SRGCR/L (71)

ISOTURN

TNMS-12

Triangular Single-Sided Inserts for Soft and Nonferrous Materials



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
TNMS 160404-12	16.50	9.52	4.76	0.40	●	0.50-3.00	0.07-0.32	
TNMS 160408-12	16.50	9.52	4.76	0.80	●	0.50-3.00	0.10-0.35	
TNMS 220404-12	22.00	12.70	4.76	0.40	●	1.00-4.00	0.07-0.32	
TNMS 220408-12	22.00	12.70	4.76	0.80	●	1.00-4.00	0.10-0.35	

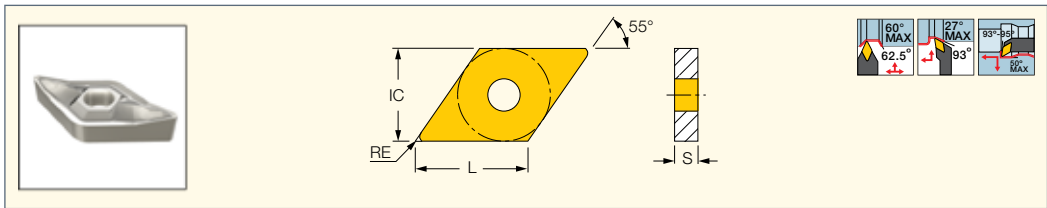
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-PTFNR/L (109)

ISOTURN

DNMS-12

55° Rhombic Single-Sided Inserts for Soft and Nonferrous Materials



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
DNMS 150408-12	15.50	12.70	4.76	0.80	●	1.00-4.00	0.07-0.35	

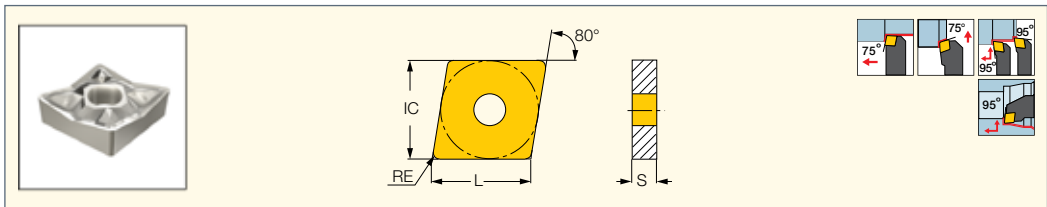
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDJNR/L (106) • C#-PDJNR/L-JHP (29) • PDJNR/L (28) • PDJNR/L-JHP (29)

ISOTURN

CNMS-12

80° Rhombic Single-Sided Inserts for Soft and Nonferrous Materials



Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
CNMS 120408-12	12.90	12.70	4.76	0.80	●	1.00-4.00	0.10-0.35	

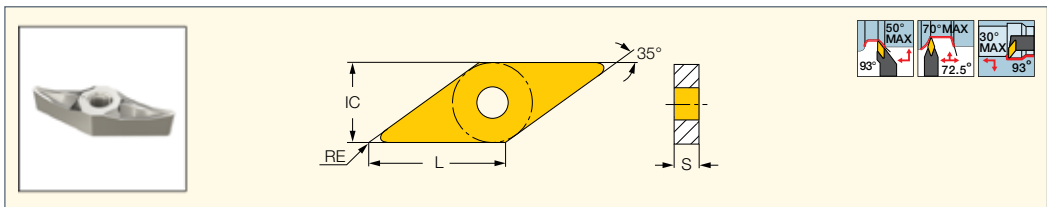
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23)

ISOTURN

VNMS-12

35° Rhombic Single-Sided Inserts for Soft and Nonferrous Materials

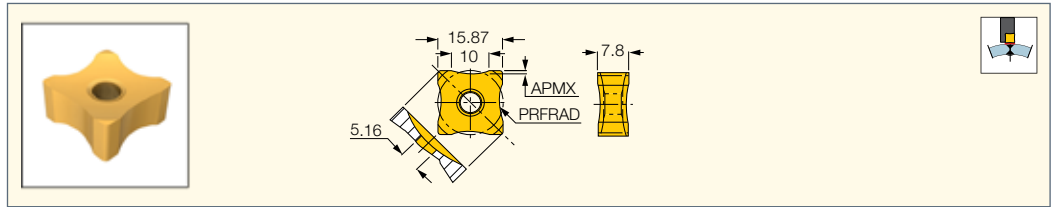


Designation	Dimensions					IC20	Recommended Machining Data	
	L	IC	S	RE	a_p (mm)		f (mm/rev)	
VNMS 160404-12	16.60	9.52	4.76	0.40	●	1.00-3.00	0.07-0.30	
VNMS 160408-12	16.60	9.52	4.76	0.80	●	1.00-3.50	0.07-0.33	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

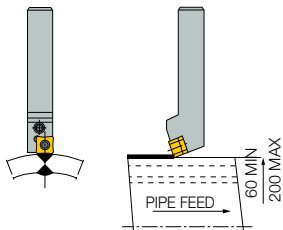
For tools, see pages: MVJNR/L (33) • MVVNN (35)

SNMX 150708R-..
 Pipe Skiving Inserts with a Positive Rake Used to Remove the Burr of Welded Tubes



Designation	Dimensions		Tough ← Hard	
	PRFRAD	APMX	IC8150	IC418
SNMX 150708R-11	11.00	1.20	•	
SNMX 150708R-13	13.00	1.00	•	
SNMX 150708R-15	15.00	0.86	•	
SNMX 150708R-18	18.00	0.71	•	
SNMX 150708R-20	20.00	0.64	•	
SNMX 150708R-22	22.00	0.58	•	
SNMX 150708R-25	25.00	0.50	•	
SNMX 150708R-27	27.00	0.47	•	
SNMX 150708R-30	30.00	0.42	•	
SNMX 150708R-35	35.00	0.36	•	
SNMX 150708R-40	40.00	0.31	•	
SNMX 150708R-45	45.00	0.28	•	
SNMX 150708R-50	50.00	0.25	•	•
SNMX 150708R-60	60.00	0.21	•	
SNMX 150708R-65	65.00	0.19	•	
SNMX 150708R-70	70.00	0.18	•	
SNMX 150708R-75	75.00	0.17	•	
SNMX 150708R-90	90.00	0.14	•	

For tools, see pages: PSANR/L (51)

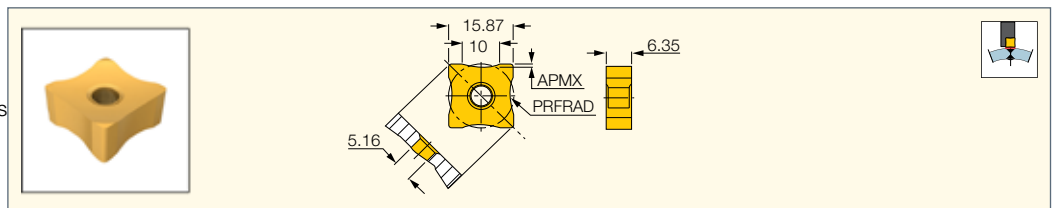


These inserts remove the burr immediately after the welding process (material temperature is usually 300-400°C). Cutting speed varies from 40 to 150 m/min, depending on the diameter of the tube.

Recommended:

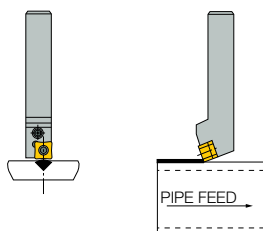
$$R = \frac{D(\text{pipe})}{2} + (1-2 \text{ mm})$$

SNMX 150608R-..
 Pipe Skiving Inserts Used to Remove the Burr of Welded Tubes



Designation	Dimensions		IC418
	PRFRAD	APMX	
SNMX 150608R-15	15.00	0.86	•
SNMX 150608R-90	90.00	0.14	•

For tools, see pages: PSANR/L (51)



These inserts remove the burr immediately after the welding process (material temperature is usually 300-400 °C). Cutting speed varies from 40 to 150 m/min, depending on the diameter of the tube.

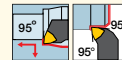
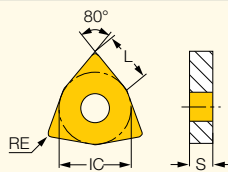
Recommended:

$$R = \frac{D(\text{pipe})}{2} + (1-2 \text{ mm})$$

ISOTURN

WNGA-Ceramic

Double-Sided Flat Rake Ceramic Inserts for Machining Cast Iron



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IS8	IS80	IS6	a _p (mm)	f (mm/rev)
WNGA 080408T	8.70	12.70	4.76	0.80	●			2.00-4.00	0.20-0.60
WNGA 080412T	8.70	12.70	4.76	1.20	●	●	●	2.00-5.00	0.03-0.95

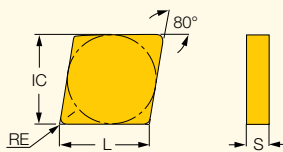
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-MWLN/L-W (103) • A/S-PWLN/L (104) • C#-MULNR/L-MW (16) • C#-PWLN/L-08-JHP (9) • DWLN/L (10)
 • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • MWLN/L-W (18)
 • PWLN/L (8) • PWLN/L-08-JHP (9) • PWLN/L-X (11) • PWLN/L-X-JHP (12) • PWLN/L-X-JHP-MC (13) • S-DWLN/L (99) • S-MULNR-MW (105)
 • DWLN/L-JHP-MC (10)

ISOTURN

CNGN-Ceramic

80° Rhombic Double-Sided Ceramic Inserts with a T-Land for Machining Cast Iron, Hardened Steel and Nickel Based Alloys



Designation	Dimensions				Tough ↔ Hard							Recommended Machining Data		
	L	IC	S	RE	IN7	IS35	IS25	IS8	IS80	IN23	IN22	IN420	a _p (mm)	f (mm/rev)
CNGN 120404T	12.90	12.70	4.76	0.40	●					●			1.00-3.00	0.10-0.43
CNGN 120408E	12.90	12.70	4.76	0.80		●							1.00-3.00	0.10-0.50
CNGN 120408T	12.90	12.70	4.76	0.80	●			●		●	●		1.00-3.00	0.10-0.50
CNGN 120412E	12.90	12.70	4.76	1.20		●							1.00-5.00	0.10-0.50
CNGN 120412T	12.90	12.70	4.76	1.20	●					●			1.00-4.00	0.10-0.50
CNGN 120416T	12.90	12.70	4.76	1.60	●								1.00-5.00	0.10-0.50
CNGN 120708E	12.90	12.70	7.94	0.80		●							1.00-4.00	0.10-0.50
CNGN 120708T	12.90	12.70	7.94	0.80	●	●	●			●			1.00-4.00	0.10-0.50
CNGN 120712E	12.90	12.70	7.94	1.20		●							1.00-5.00	0.10-0.50
CNGN 120712T	12.90	12.70	7.94	1.20	●		●	●					1.00-4.00	0.10-0.50
CNGN 120716T	12.90	12.70	7.94	1.60	●		●		●				1.00-5.00	0.10-0.50

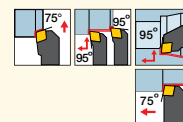
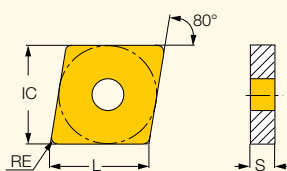
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: CCLNR/L (88)

ISOTURN

CNMG-Ceramic

80° Rhombic Double-Sided Inserts with a T-Land for Machining Cast Iron and Hardened Steel



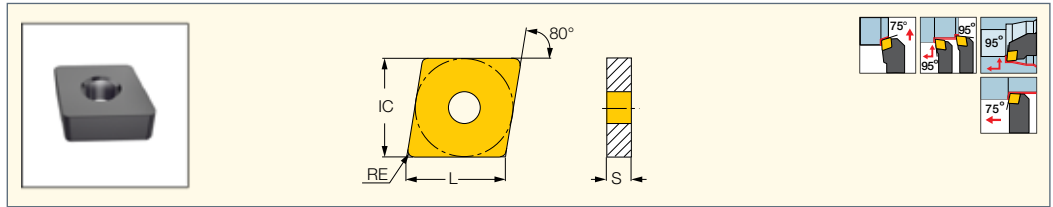
Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IN23	IN22	a _p (mm)	f (mm/rev)
CNMG 120404T	12.90	12.70	4.76	0.40	●		1.00-3.00	0.05-0.20
CNMG 120408T	12.90	12.70	4.76	0.80	●	●	1.00-3.00	0.05-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
 • DCBNR/L (26) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15)
 • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99)
 • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

ISOTURN

CNGA-Ceramic
80° Rhombic Double-Sided
Inserts with a T-Land
for Machining Cast Iron
and Hardened Steel



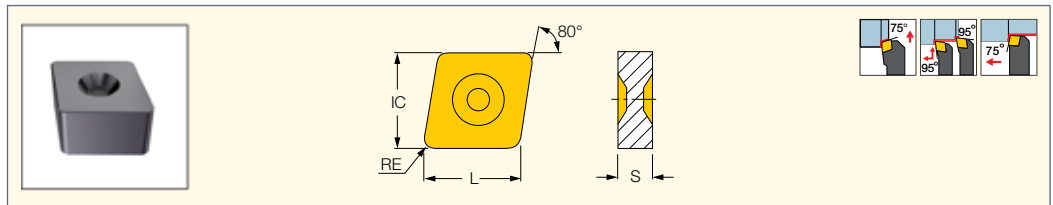
Designation	Dimensions				Tough ↔ Hard								Recommended Machining Data	
	L	IC	S	RE	IS35	IS25	IS8	IS80	IS6	IN23	IN22	IN420	a _p (mm)	f (mm/rev)
CNGA 120404T	12.90	12.70	4.76	0.40						•	•	•	1.00-3.00	0.05-0.20
CNGA 120408T	12.90	12.70	4.76	0.80	•	•	•	•	•	•	•	•	1.00-4.00	0.05-0.20
CNGA 120412T	12.90	12.70	4.76	1.20			•	•	•	•	•	•	1.00-4.00	0.05-0.20
CNGA 120416T	12.90	12.70	4.76	1.60			•	•	•	•			1.00-5.00	0.05-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24)
C#-PCLNR/L-X-JHP (24) • DCBNR/L (26) • DCLNR/L (25) • DCLNR/L-JHP-MC (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16)
• HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCBNR/L (22) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23)
• PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105)

ISOTURN

CNGX-Ceramic
80° Rhombic Double-Sided
Dimpled Ceramic Inserts with a
T-Land for Machining Cast Iron



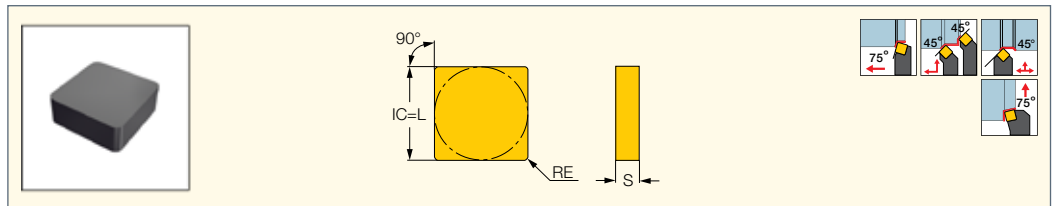
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IS8	IS80	IS6	a _p (mm)	f (mm/rev)
CNGX 120712T	12.90	12.70	7.94	1.20	•	•	•	1.00-3.00	0.07-0.43
CNGX 120716T	12.90	12.70	7.94	1.60	•	•	•	1.00-3.00	0.07-0.43

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: TCBNR/L-CH (88) • TCKNR/L-CH (88) • TCLNR/L-CH (88)

ISOTURN

SNGN-Ceramic
Square Double-Sided Ceramic
Inserts with a Flat Rake for
Machining Cast Iron, Hardened
Steel and Super Alloys



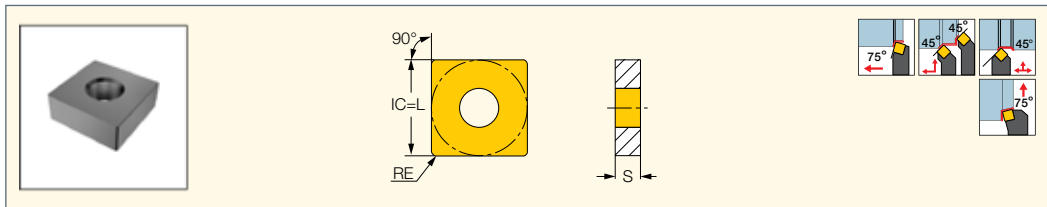
Designation	Dimensions			Tough ↔ Hard							Recommended Machining Data	
	IC	S	RE	IW7	IS8	IS80	IS6	IN23	IN22	IN420	a _p (mm)	f (mm/rev)
SNGN 120404T	12.70	4.76	0.40						•		0.10-3.50	0.10-0.50
SNGN 120408T	12.70	4.76	0.80	•	•			•	•	•	0.10-3.50	0.10-0.50
SNGN 120412T	12.70	4.76	1.20	•	•	•	•	•	•	•	0.10-5.00	0.10-0.50
SNGN 120416T	12.70	4.76	1.60	•	•	•			•	•	0.10-5.00	0.10-0.50
SNGN 120708T	12.70	7.94	0.80	•					•	•	0.10-5.00	0.10-0.50
SNGN 120712T	12.70	7.94	1.20	•		•		•			0.10-5.00	0.10-0.50
SNGN 120716T	12.70	7.94	1.60		•				•		0.10-5.00	0.10-0.50
SNGN 150712T	15.88	6.35	1.20	•							0.10-5.00	0.10-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: CSDNN-CE/CEA (89)

ISOTURN

SNGA-Ceramic
 Square Double-Sided
 Ceramic Inserts with a Flat
 Rake for Machining Cast
 Iron and Hardened Steel

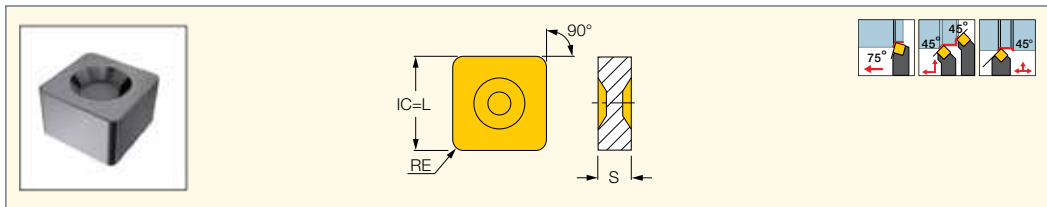


Designation	Dimensions			Tough ↔ Hard				Recommended Machining Data	
	IC	S	RE	IS8	IN23	IN22	IN420	ap (mm)	f (mm/rev)
SNGA 120404T	12.70	4.76	0.40			•		0.10-3.00	0.05-0.30
SNGA 120408T	12.70	4.76	0.80		•	•	•	0.10-3.50	0.05-0.30
SNGA 120412T	12.70	4.76	1.20	•	•			0.10-4.00	0.05-0.30
SNGA 120416T	12.70	4.76	1.60	•				0.10-4.50	0.05-0.30

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** C#-MULNR/L-MW (16) • DSBNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)
- HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41) • PSKNR/L (41)
- PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

SNGX-Ceramic
 Square Double-Sided Dimpled
 Ceramic Inserts with a Flat
 Rake for Machining Cast Iron

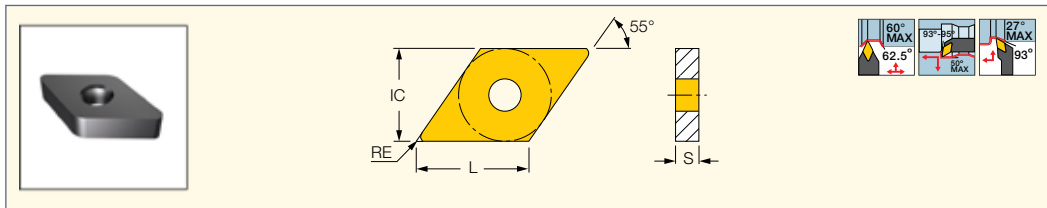


Designation	Dimensions			Tough ↔ Hard			Recommended Machining Data	
	IC	S	RE	IS8	IS80	IS6	ap (mm)	f (mm/rev)
SNGX 120712T	12.70	7.94	1.20	•	•	•	0.10-5.00	0.10-0.50
SNGX 120716T	12.70	7.94	1.60	•	•	•	0.10-5.00	0.10-0.50

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** TSDNN-CH (89)

ISOTURN

DNGA-Ceramic
 55° Rhombic Double-Sided
 Ceramic Inserts for Machining
 Cast Iron and Hardened Steel



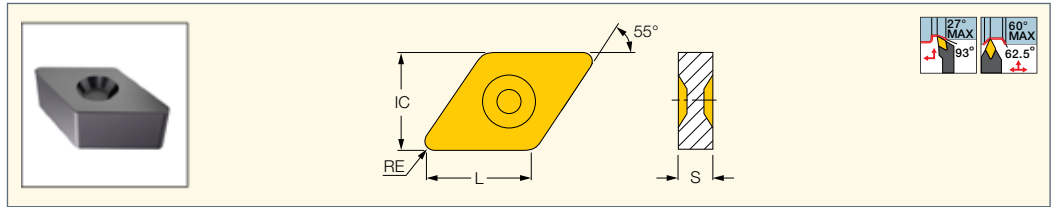
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	IS8	IN23	IN22	IN420	ap (mm)	f (mm/rev)
DNGA 150404T	15.50	12.70	4.76	0.40		•	•	•	0.10-3.00	0.07-0.50
DNGA 150408T	15.50	12.70	4.76	0.80	•	•	•	•	0.10-3.50	0.07-0.50
DNGA 150412T	15.50	12.70	4.76	1.20		•	•	•	0.10-4.00	0.07-0.50
DNGA 150604T	15.50	12.70	6.35	0.40		•	•	•	0.10-3.50	0.07-0.50
DNGA 150608T	15.50	12.70	6.35	0.80		•	•	•	0.10-4.00	0.07-0.50
DNGA 150612T	15.50	12.70	6.35	1.20		•	•	•	0.10-5.00	0.07-0.50

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31)
- HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNGX-Ceramic

55° Rhombic Double-Sided
Dimpled Ceramic Inserts
for Machining Cast Iron



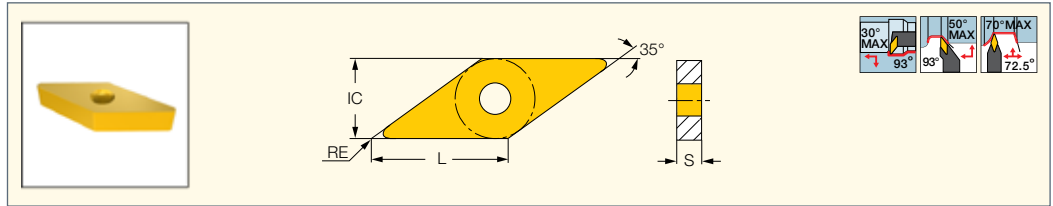
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IS8	IS80	IS6	a _p (mm)	f (mm/rev)
DNGX 150712T	15.50	12.70	7.94	1.20	•	•	•	0.10-4.00	0.10-0.50
DNGX 150716T	15.50	12.70	7.94	1.60	•	•	•	0.10-5.00	0.10-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

VNGA-Ceramic

35° Rhombic Double-Sided
Ceramic Inserts with a
T-Land for Machining Cast
Iron and Hardened Steel



Designation	Dimensions				Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	IN22	IN420	a _p (mm)	f (mm/rev)
VNGA 160404T	16.60	9.52	4.76	0.40	•	•	0.70-2.50	0.06-0.30
VNGA 160408T	16.60	9.52	4.76	0.80	•	•	0.80-3.00	0.08-0.35

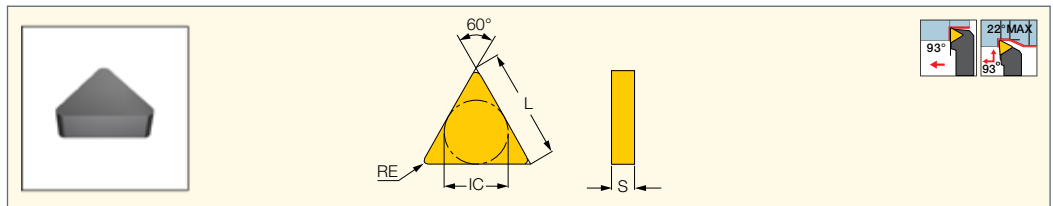
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: MVJNR/L (33) • MVVN (35)

ISOTURN

TNGN-Ceramic

Triangular Double-Sided
Ceramic Inserts for Machining
Cast Iron, Hardened Steel
and Nickel Based Alloys



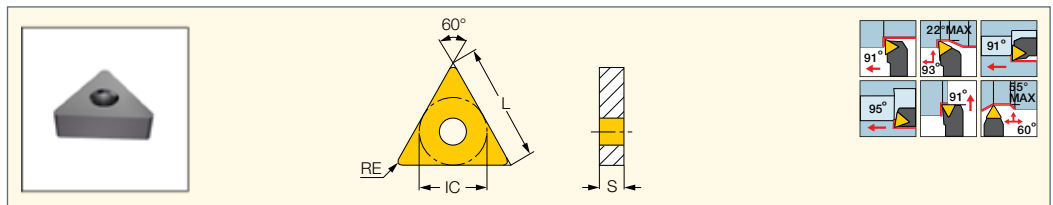
Designation	Dimensions				Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	IW7	IS8	IS80	IN23	IN22	IN420	a _p (mm)	f (mm/rev)
TNGN 160408T	16.50	9.52	4.76	0.80	•	•	•	•	•	•	1.00-3.50	0.10-0.35
TNGN 160412T	16.50	9.52	4.76	1.20	•	•	•	•	•	•	0.10-4.00	0.10-0.40

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

TNGA-Ceramic

Triangular Double-Sided Ceramic
Inserts for Machining Super
Alloys and Hardened Steel



Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IN23	IN22	IN420	a _p (mm)	f (mm/rev)
TNGA 160404T	16.50	9.52	4.76	0.40	•	•	•	0.10-3.00	0.07-0.50
TNGA 160408T	16.50	9.52	4.76	0.80	•	•	•	0.10-3.50	0.07-0.50
TNGA 160412T	16.50	9.52	4.76	1.20	•	•	•	0.10-4.00	0.07-0.50
TNGA 220408T	22.00	12.70	4.76	0.80	•	•	•	0.10-5.00	0.07-0.50
TNGA 220416T	22.00	12.70	4.76	1.60	•	•	•	0.10-5.00	0.07-0.50

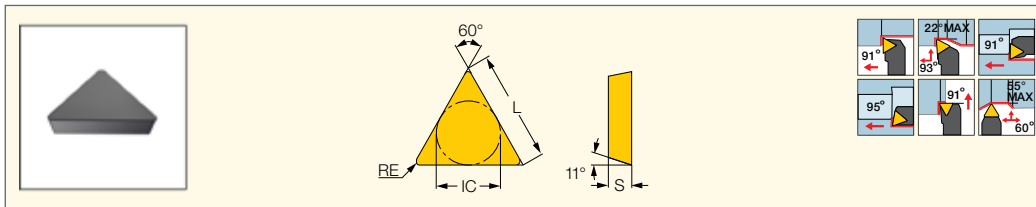
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • C#-DTGNR/L (44) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37)
• PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TPGN-Ceramic

Triangular Ceramic Inserts with an 11° Positive Flank for Machining Hardened Steel



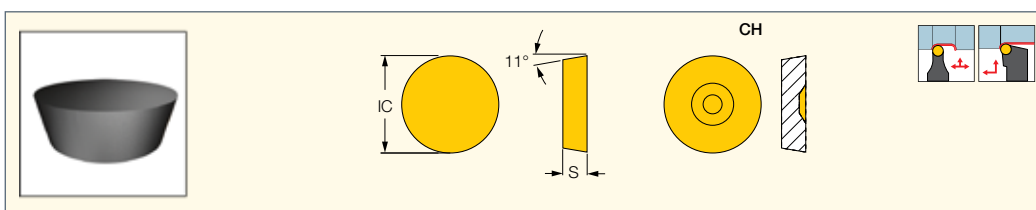
Designation	Dimensions				Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	IN23	IN22	IN420	a _p (mm)	f (mm/rev)
TPGN 090204T	9.60	5.56	2.38	0.40		●		0.10-1.50	0.07-0.30
TPGN 110304T	11.00	6.35	3.18	0.40	●	●	●	0.10-1.50	0.07-0.30
TPGN 110308T	11.00	6.35	3.18	0.80	●	●	●	0.10-3.00	0.07-0.40
TPGN 160304T	16.50	9.52	3.18	0.40	●	●	●	0.10-4.00	0.07-0.50
TPGN 160308T	16.50	9.52	3.18	0.80	●	●	●	0.10-4.00	0.07-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: CTFPR/L (75) • CTGPR/L (74) • S-CTFPR/L (116)

ISOTURN

RPGN-Ceramic

Round Ceramic Inserts for Machining Nickel Based Alloys and Hardened Steel



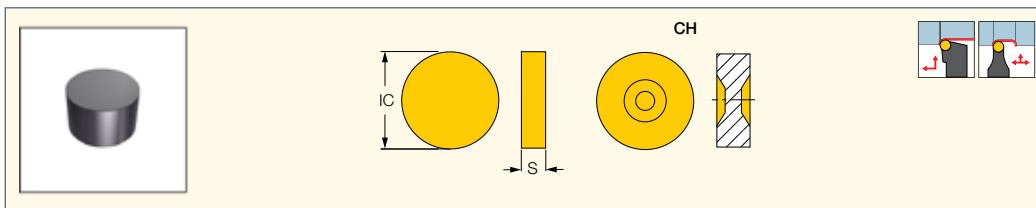
Designation	Dimensions		Tough ↔ Hard			Recommended Machining Data	
	IC	S	IW7	IS35	IS25	a _p (mm)	f (mm/rev)
RPGN 090300E	9.52	3.17	●			0.10-2.00	0.07-0.20
RPGN 120400E	12.70	4.76		●	●	0.10-3.00	0.07-0.20
RPGN 120400E-CH (1)	12.70	4.76		●	●	0.10-3.00	0.07-0.20
RPGN 120400T	12.70	4.76	●	●	●	0.10-3.00	0.07-0.20
RPGN 120400T-CH (1)	12.70	4.76		●	●	0.10-3.00	0.07-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 (1) Insert with a dimple

ISOTURN

RNGN-Ceramic

Round Double-Sided Ceramic Inserts for Machining Cast Iron, Nickel Based Alloys and Hardened Steel



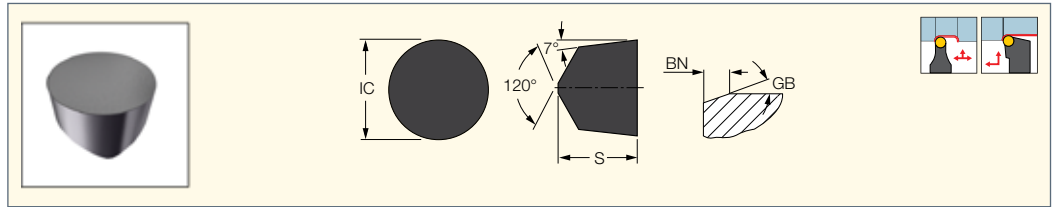
Designation	Dimensions		Tough ↔ Hard						Recommended Machining Data	
	IC	S	IW7	IS35	IS25	IN23	IN22	IN420	a _p (mm)	f (mm/rev)
RNGN 090300T	9.52	3.18	●				●		0.10-2.00	0.07-0.20
RNGN 090400T	9.52	4.76	●				●		0.10-2.00	0.07-0.20
RNGN 120400T	12.70	4.76	●				●	●	0.10-3.50	0.07-0.50
RNGN 120700 S6 (1)	12.70	7.94	●						0.10-2.00	-
RNGN 120700E	12.70	7.94	●	●	●				0.10-2.00	0.07-0.20
RNGN 120700E-CH (2)	12.70	7.94		●	●				0.10-2.00	0.07-0.20
RNGN 120700T	12.70	7.94	●	●	●	●	●	●	0.10-4.50	0.07-0.50
RNGN 120700T-CH (2)	12.70	7.94		●	●				0.10-4.50	0.07-0.50
RNGN 120700TE	12.70	7.94		●	●				0.10-4.50	0.07-0.50
RNGN 120700T02020	12.70	7.94	●						0.10-2.00	0.07-0.20
RNGN 150700T	15.88	7.94	●						0.10-3.00	0.07-0.20
RNGN 190700T	19.05	7.94	●						0.10-3.00	0.07-0.20
RNGN 190700TE	19.05	7.94		●	●				0.10-3.00	0.07-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 (1) For milling nickel based superalloys; reference recommendations for milling Inconel 718: 0.12 mm/t 900-1000 m/min
 (2) Insert with a dimple
 For tools, see pages: CRDNN (90) • CRGNR/L (90)

ISOTURN

RCGX-Ceramic

Round Ceramic Inserts for Machining Nickel Based Alloys and Hardened Steel



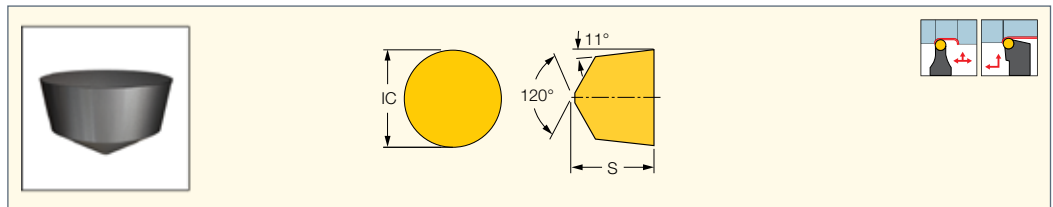
Designation	Dimensions				Tough ↔ Hard				Recommended Machining Data	
	IC	S	GB	BN	IW7	IS35	IS25	IN23	a _p (mm)	f (mm/rev)
RCGX 090700E	9.52	7.94	25.0	0.20	●	●	●		0.10-3.00	0.07-0.50
RCGX 090700T	9.52	7.94	25.0	0.20	●	●	●	●	0.10-3.00	0.07-0.50
RCGX 090700TE	9.52	7.94	25.0	0.20					0.10-3.00	0.07-0.50
RCGX 120700E	12.70	7.94	25.0	0.20	●	●	●		0.10-4.00	0.07-0.50
RCGX 120700T	12.70	7.94	25.0	0.20	●	●	●	●	0.10-4.00	0.07-0.50

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

RPGX-Ceramic

Round Ceramic Inserts for Machining Nickel Based Alloys and Hardened Steel



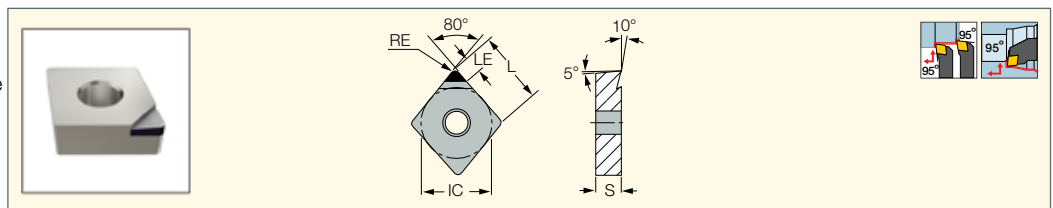
Designation	Dimensions		Tough ↔ Hard			Recommended Machining Data	
	IC	S	IW7	IS35	IS25	a _p (mm)	f (mm/rev)
RPGX 090700E	9.52	7.94		●	●	0.50-3.00	0.10-0.45
RPGX 090700T	9.52	7.94	●	●	●	0.50-3.00	0.10-0.45
RPGX 120700E	12.70	7.94		●	●	0.50-4.50	0.10-0.45
RPGX 120700T	12.70	7.94	●	●	●	0.50-4.50	0.10-0.45

• Tools can be supplied on request. • For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

CNMA (PCD)

80° Rhombic Inserts with a Single PCD Top Corner Tip and Positive Rake for Finishing Applications



Designation	Dimensions						Recommended Machining Data	
	L	IC	S	RE	LE	ID5	a _p (mm)	f (mm/rev)
CNMA 120404D	12.90	12.70	4.76	0.40	3.9	●	0.10-3.00	0.05-0.26
CNMA 120408D	12.90	12.70	4.76	0.80	3.6	●	0.10-3.00	0.05-0.26

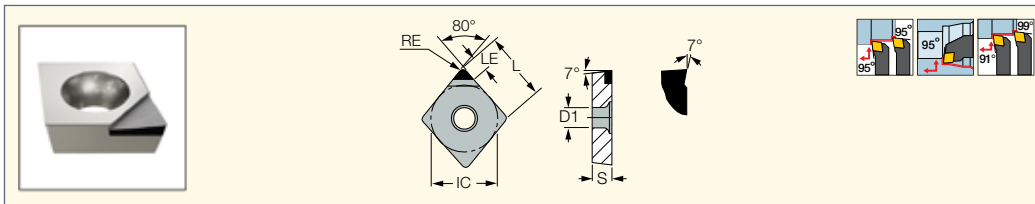
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
 • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20)
 • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102)
 • DCLNR/L-JHP-MC (25)

ISOTURN

CCMT (PCD)

Inserts with a Single PCD Top Corner Tip, 7° Clearance and Positive Rake Angle for Finishing Aluminum



Designation	Dimensions						ID5	Recommended Machining Data	
	L	IC	S	RE	LE	D1		a _p (mm)	f (mm/rev)
CCMT 060202D	6.30	6.35	2.38	0.20	3.1	2.80	●	0.08-3.00	0.05-0.30
CCMT 060204D	6.30	6.35	2.38	0.40	3.0	2.80	●	0.10-3.00	0.05-0.30
CCMT 09T304D	9.70	9.52	3.97	0.40	3.9	4.40	●	0.10-3.00	0.05-0.30

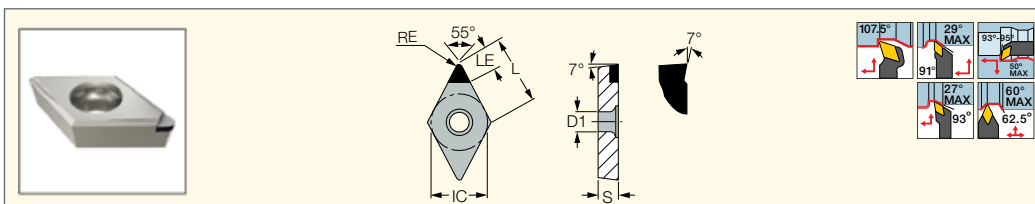
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

DCMT (PCD)

55° Rhombic Inserts with a PCD Single Top Corner Tip, 7° Clearance and Positive Rake Angle for Finishing Applications



Designation	Dimensions						ID5	Recommended Machining Data	
	L	IC	S	RE	LE	D1		a _p (mm)	f (mm/rev)
DCMT 11T302D	11.60	9.52	3.97	0.20	3.7	4.40	●	0.10-3.00	0.05-0.30
DCMT 11T304D	11.60	9.52	3.97	0.40	3.6	4.40	●	0.10-3.00	0.05-0.30
DCMT 11T308D	11.60	9.52	3.97	0.80	3.3	4.40	●	0.10-3.00	0.05-0.29

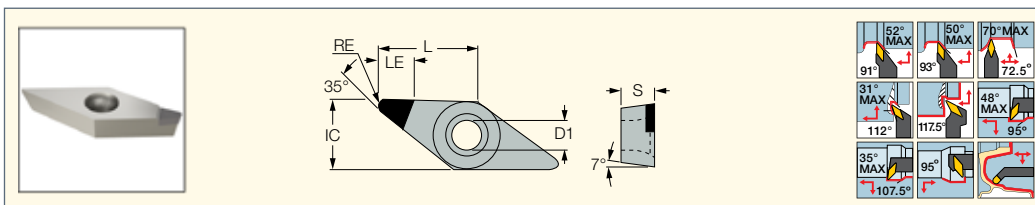
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59) • C#-SDNCN (64) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

VCMT (CBN)

35° Rhombic Single Brazed Tip Corner Inserts for Finishing Cast Iron



Designation	Dimensions						ID55	Recommended Machining Data	
	IC	S	RE	L	LE	D1		a _p (mm)	f (mm/rev)
VCMT 160404T	9.52	4.76	0.40	16.60	4.40	4.40	●	0.10-3.00	0.05-0.30
VCMT 160408T	9.52	4.76	0.80	16.60	4.00	4.40	●	0.10-3.00	0.05-0.30

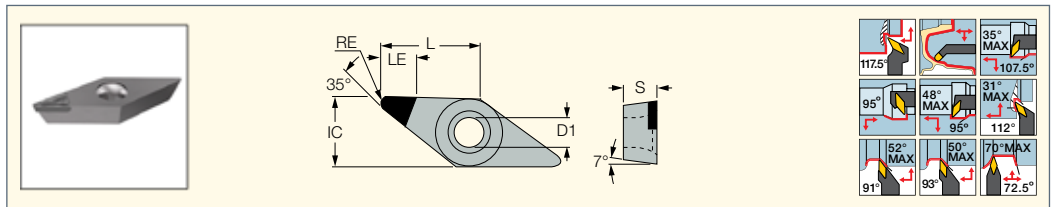
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454) • AVC-SVLCR/L (96)

ISOTURN

VCGT-DW (PCD)

Inserts with 7° Clearance and a Single PCD Top Corner Tip Chipformer for Machining Aluminum



Designation	Dimensions						ID5	Recommended Machining Data	
	L	IC	S	RE	LE	D1		ap (mm)	f (mm/rev)
VCGT 160404-DW	16.60	9.52	4.76	0.40	6.60	4.40	●	0.10-3.00	0.05-0.30
VCGT 160408-DW	16.60	9.52	4.76	0.80	6.40	4.40	●	0.10-3.00	0.05-0.30
VCGT 160412-DW	16.60	9.52	4.76	1.20	6.30	4.40	●	0.10-3.00	0.05-0.30
VCGT 220516-DW	22.10	12.70	5.56	1.60	6.30	5.50	●	0.10-3.00	0.05-0.30
VCGT 220520-DW	22.10	12.70	5.56	2.00	6.20	5.50	●	0.10-3.00	0.05-0.30
VCGT 220530-DW	22.10	12.70	5.56	3.00	6.00	5.50	●	0.10-3.00	0.05-0.30

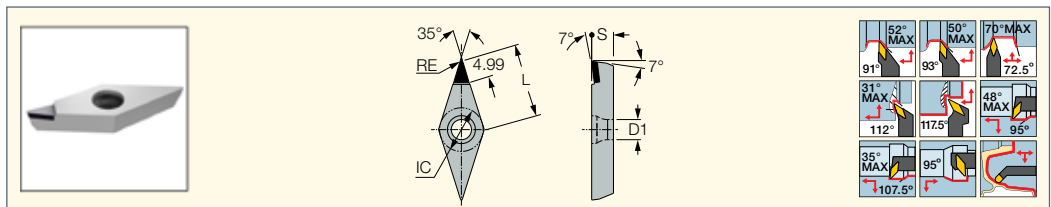
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • DTF50 SVXCR-16X2 (452) • DTF50 SVXCR-22 (452) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454) • AVC-SVLCR/L (96)

ISOTURN

VCGT (PCD)

35° Rhombic Single Brazed Tip Corner Inserts for Finishing Aluminum (PCD)



Designation	Dimensions					ID5	Recommended Machining Data	
	IC	S	RE	L	D1		ap (mm)	f (mm/rev)
VCGT 160404D	9.52	4.76	0.40	16.60	4.40	●	0.10-3.00	0.05-0.30
VCGT 160408D	9.52	4.76	0.80	16.60	4.40	●	0.10-3.00	0.05-0.30

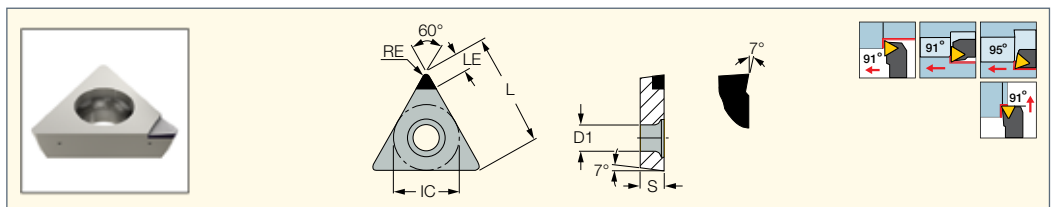
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-SVLBCR/L (114) • A/S-SVLFCR/L; A-SVUCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L-VH (98) • C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454) • AVC-SVLCR/L (96)

ISOTURN

TCMT (PCD)

Inserts with a Single PCD Top Corner Tip, 7° Clearance and Positive Rake Angle for Finishing Aluminum



Designation	Dimensions						ID5	Recommended Machining Data	
	L	IC	S	RE	LE	D1		ap (mm)	f (mm/rev)
TCMT 110204D	11.00	6.35	2.38	0.40	3.8	2.80	●	0.10-3.00	0.05-0.30

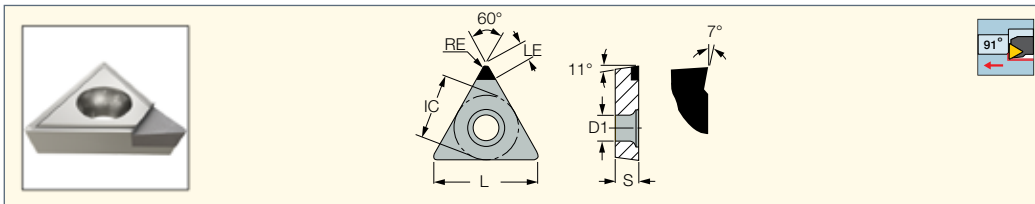
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E-STFCR-HEAD (115) • S-STFCR/L (115) • S-STLCR/L (115) • STFCR/L (70) • STGCR/L (70)

ISOTURN

TPGX (PCD)

Triangular Inserts with PCD
Single Top Corner Braze Tip,
11° Clearance and Positive Rake
Angle for Finishing Aluminum



Designation	Dimensions						ID5	Recommended Machining Data	
	L	IC	S	RE	LE	D1		a _p (mm)	f (mm/rev)
TPGX 090202	9.52	5.56	2.38	0.20	3.0	2.50	●	0.10-3.00	0.05-0.30
TPGX 090204	9.52	5.56	2.38	0.40	3.0	2.50	●	0.10-3.00	0.05-0.30
TPGX 110302	11.00	6.35	3.18	0.20	3.4	3.50	●	0.10-3.00	0.05-0.30
TPGX 110304	11.00	6.35	3.18	0.40	3.8	3.50	●	0.10-3.00	0.05-0.30

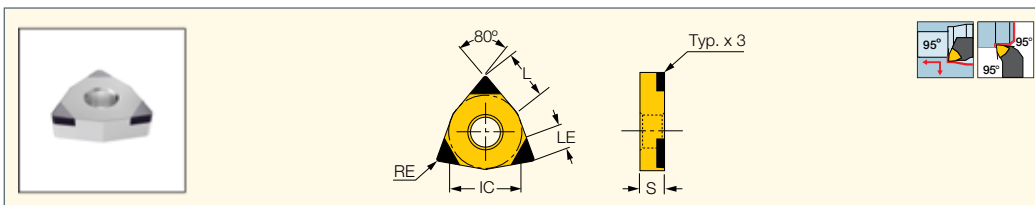
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E-STFPR-X (117) • MG STFPR-X (117)

ISOTURN

WNGA-M3 (CBN)

Multi-Cornered CBN Inserts for
Machining Hardened Steel



Designation	Dimensions						IB20H	Recommended Machining Data	
	L	IC	S	RE	LE	a _p (mm)		f (mm/rev)	
WNGA 080408-M3	8.70	12.70	4.76	0.80	2.2	●	0.05-0.50	0.05-0.20	

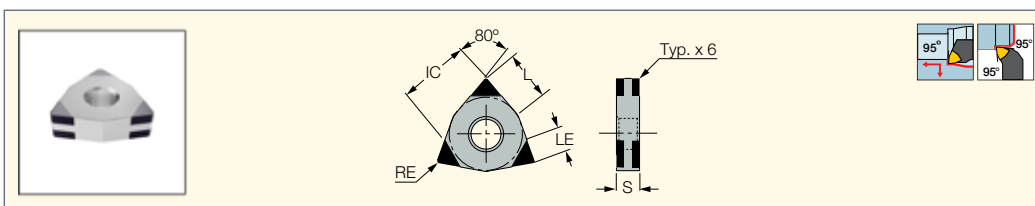
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-MWLNRL-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9) • DWLNRL/L (10)
• HSK A63WH-MULNRL-L12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16) • HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18)
• PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105)
• DWLNRL/L-JHP-MC (10)

ISOTURN

WNGA-MC/M6 (CBN)

Multi-Cornered CBN Inserts for
Machining Hardened Steel



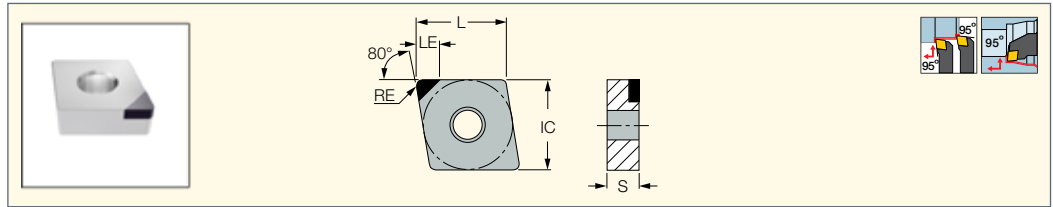
Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	IB55	IB10HC	a _p (mm)	f (mm/rev)	
WNGA 080404T-MC	8.70	12.70	4.76	0.40	3.1	●		0.05-0.50	0.05-0.20	
WNGA 080408-M6	8.70	12.70	4.76	0.80	2.2		●	0.05-0.50	0.05-0.20	
WNGA 080408T-MC	8.70	12.70	4.76	0.80	3.1	●		0.05-0.50	0.05-0.20	
WNGA 080412T-MC	8.70	12.70	4.76	1.20	3.1	●		0.05-0.50	0.05-0.20	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-MWLNRL-W (103) • A/S-PWLNRL/L (104) • C#-MULNRL/L-MW (16) • C#-PWLNRL/L-08-JHP (9) • DWLNRL/L (10)
• HSK A63WH-MULNRL-L12MWX2 (17) • HSK A63WH-MULNRL/L-MW (16) • HSK A63WH-MUMNRL-MW (17) • MULNRL/L-12MW (15) • MWLNRL/L-W (18)
• PWLNRL/L (8) • PWLNRL/L-08-JHP (9) • PWLNRL/L-X (11) • PWLNRL/L-X-JHP (12) • PWLNRL/L-X-JHP-MC (13) • S-DWLNRL/L (99) • S-MULNRL-MW (105)
• DWLNRL/L-JHP-MC (10)

ISOTURN

CNMA-T/M1/WG (CBN)
80° Rhombic Inserts with a Single CBN Top Corner Tip for Machining Cast Iron, Hardened Steel and Super Alloys



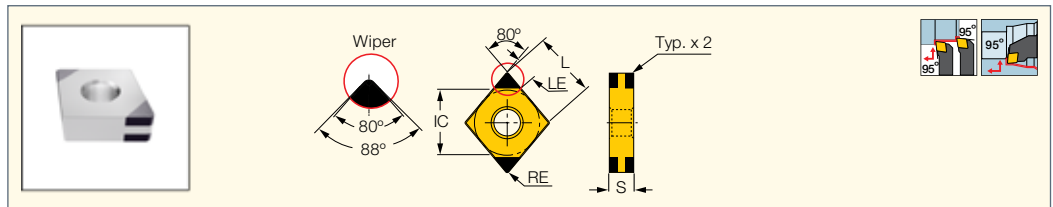
Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	LE	IB90	IB85	IB20H	IB55	IB50	a _p (mm)	f (mm/rev)
CNMA 120404T	12.90	12.70	4.76	0.40	3.2	●			●	●	0.05-0.50	0.05-0.26
CNMA 120408-M1	12.90	12.70	4.76	0.80	3.5			●			0.05-0.50	0.05-0.30
CNMA 120408T	12.90	12.70	4.76	0.80	3.4	●	●		●		0.05-0.50	0.05-0.30
CNMA 120408T-WG (1)	12.90	12.70	4.76	0.80	3.5	●	●		●	●	0.05-0.50	0.05-0.30
CNMA 120412-M1	12.90	12.70	4.76	1.20	3.5			●			0.05-0.50	0.05-0.30
CNMA 120412T	12.90	12.70	4.76	1.20	4.0				●		0.05-0.50	0.05-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
(1) Wiper insert for high feed finishing, eliminates grinding.

- For tools, see pages:** A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
• DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20)
• PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102)
• DCLNR/L-JHP-MC (25)

ISOTURN

CNMA-MW4 (CBN)
80° Rhombic Inserts with 4 CBN Wiper Edge Tips for Machining Hardened Steel



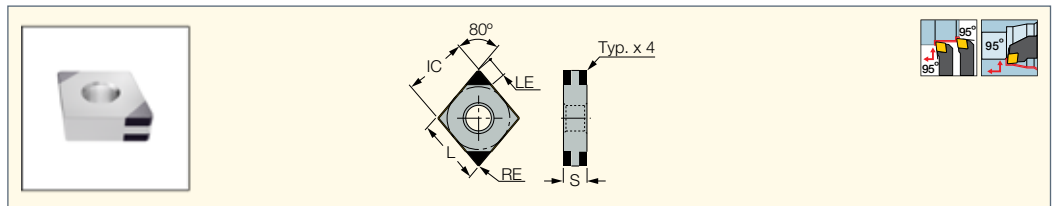
Designation	Dimensions						IB25HC	Recommended Machining Data	
	L	IC	S	RE	LE	a _p (mm)		f (mm/rev)	
CNMA 120408-MW4	12.90	12.70	4.76	0.80	2.2	●	0.05-0.50	0.05-0.40	
CNMA 120412-MW4	12.90	12.70	4.76	1.20	2.4	●	0.05-0.50	0.05-0.40	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages:** A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
• DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20)
• PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102)
• DCLNR/L-JHP-MC (25)

ISOTURN

CNGA-4 (CBN)
4-Cornered CBN Inserts for Machining Hardened Steel



Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	LE	IB25HC	IB55	IB10HC	a _p (mm)	f (mm/rev)
CNGA 120404T-MC	12.90	12.70	4.76	0.40	3.1		●		0.05-0.50	0.05-0.20
CNGA 120408-M4	12.90	12.70	4.76	0.80	2.2	●	●	●	0.05-0.50	0.05-0.20
CNGA 120408T-MC	12.90	12.70	4.76	0.80	3.1		●		0.05-0.50	0.05-0.20
CNGA 120408T-WG-MC (1)	12.90	12.70	4.76	0.80	3.1		●		0.05-0.50	0.05-0.20
CNGA 120412-M4	12.90	12.70	4.76	1.20	2.4	●	●	●	0.05-0.50	0.05-0.20
CNGA 120412T-MC	12.90	12.70	4.76	1.20	3.1		●		0.05-0.50	0.05-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

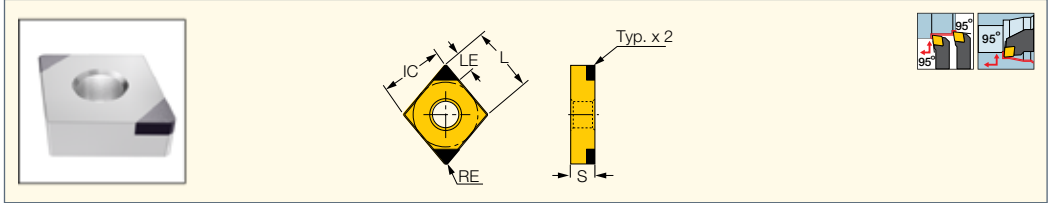
(1) Wiper corner configuration

- For tools, see pages:** A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24)
• DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20)
• PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102)
• DCLNR/L-JHP-MC (25)

ISOTURN

CNGA-2 (CBN)

80° Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys



Designation	Dimensions					Tough ↔ Hard						Recommended Machining Data	
	L	IC	S	RE	LE	IB10S	IB05S	IB20H	IB20HC	IB10H	IB10HC	ap (mm)	f (mm/rev)
CNGA 120404-F2	12.90	12.70	4.76	0.40	2.3				•		•	0.05-0.50	0.05-0.20
CNGA 120404-M2	12.90	12.70	4.76	0.40	2.3	•	•		•		•	0.05-0.30	0.05-0.20
CNGA 120404-R2	12.90	12.70	4.76	0.40	2.2			•				0.05-0.50	0.05-0.20
CNGA 120408-F2	12.90	12.70	4.76	0.80	2.2		•		•	•		0.05-0.30	0.05-0.18
CNGA 120408-MW2	12.90	12.70	4.76	0.80	2.2				•		•	0.05-0.50	0.05-0.20
CNGA 120408-M2	12.90	12.70	4.76	0.80	2.2	•		•		•		0.05-0.30	0.05-0.18
CNGA 120408-R2	12.90	12.70	4.76	0.80	2.2			•				0.05-0.50	0.05-0.20
CNGA 120408-S2	12.90	12.70	4.76	0.80	2.2		•					0.05-0.50	0.05-0.20
CNGA 120412-F2	12.90	12.70	4.76	1.20	2.4				•		•	0.05-0.50	0.05-0.20
CNGA 120412-M2	12.90	12.70	4.76	1.20	2.4	•		•		•	•	0.05-0.30	0.05-0.20
CNGA 120412-R2	12.90	12.70	4.76	1.20	2.4				•			0.05-0.50	0.05-0.20

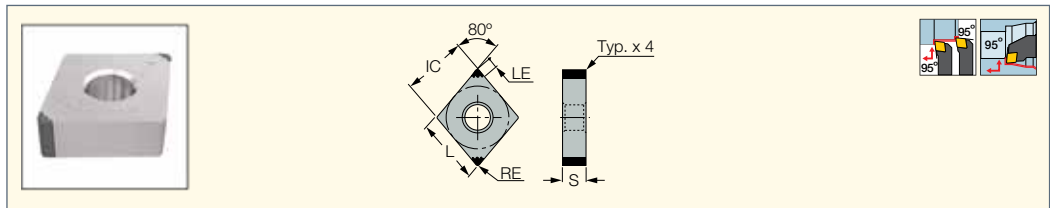
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

ISOTURN

CNGA-J(CBN)

Multi-Cornered CBN Inserts for Machining Hardened Steel



Designation	Dimensions					Recommended Machining Data	
	L	IC	S	RE	LE	ap (mm)	f (mm/rev)
CNGA 120408-M4-J	12.90	12.70	4.76	0.80	1.50	0.12-0.80	0.10-0.30
CNGA 120408-R4-J	12.90	12.70	4.76	0.80	1.50	0.12-0.80	0.10-0.30

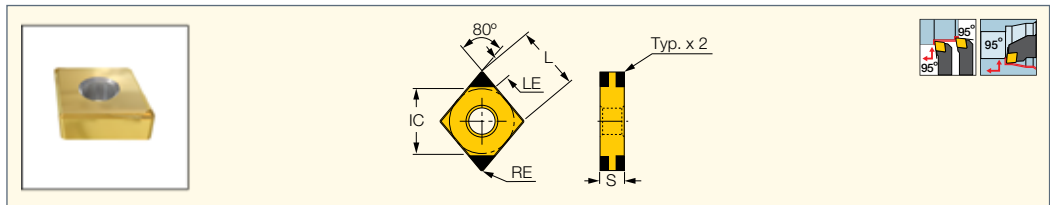
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105)

ISOTURN

CNGG-M4HF/M4HM (CBN)

80° Rhombic Inserts with 4 Chipbreaking CBN Tips for Machining Hardened Steel



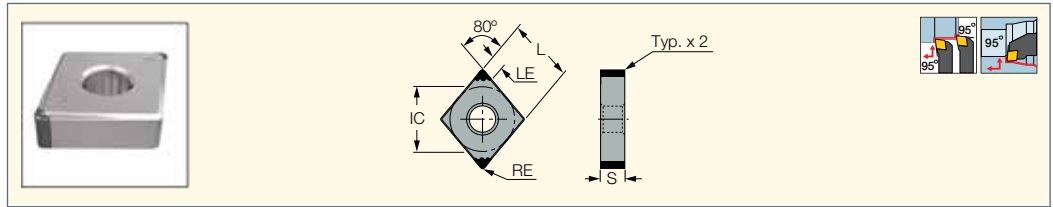
Designation	Dimensions						IB25HA	Recommended Machining Data	
	L	IC	S	RE	LE	ap (mm)		f (mm/rev)	
CNGG 120408-M4HF	12.90	12.70	4.76	0.80	2.2	•	0.20-0.75	0.05-0.20	
CNGG 120412-M4HM	12.90	12.70	4.76	1.20	2.4	•	0.50-1.00	0.05-0.20	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PCLNR/L (101) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCLNR/L (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105) • A/S-PCLNR/L-X/G (102) • DCLNR/L-JHP-MC (25)

CNGG-J(CBN)

80° Rhombic Inserts with 4 Chipbreaking CBN Tips for Machining Hardened Steel



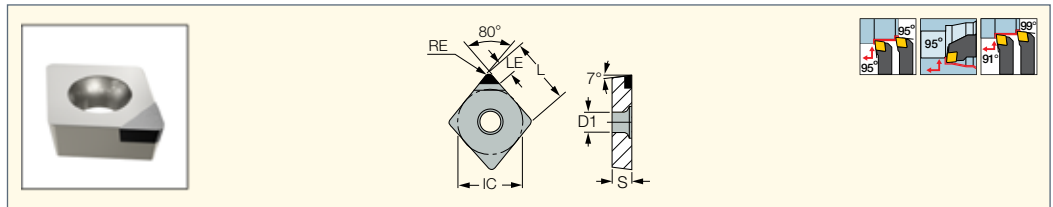
Designation	Dimensions						Recommended Machining Data	
	L	IC	S	RE	LE	a _p (mm)	f (mm/rev)	
CNGG 120408-M4HM-J	12.90	12.70	4.76	0.80	1.50	0.12-0.80	0.10-0.30	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages:** A/S-PCLNR/L (101) • A/S-PCLNR/L-X/G (102) • C#-MULNR/L-MW (16) • C#-PCLNR/L-12-JHP (21) • C#-PCLNR/L-X (24) • C#-PCLNR/L-X-JHP (24) • DCLNR/L (25) • DCLNR/L-JHP-MC (25) • HSK A63WH-MULNR-J12MWX2 (17) • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PCLNR/L (20) • PCLNR/L-12-JHP (21) • PCLNR/L-X (22) • PCLNR/L-X-JHP (23) • PCLNR/L-X-JHP-MC (23) • S-DCLNR/L (99) • S-MULNR-MW (105)

CCGW/CCMT (CBN)

80° Rhombic Inserts with a Single CBN Top Corner Tip and 7° Clearance for Machining Hardened Steel



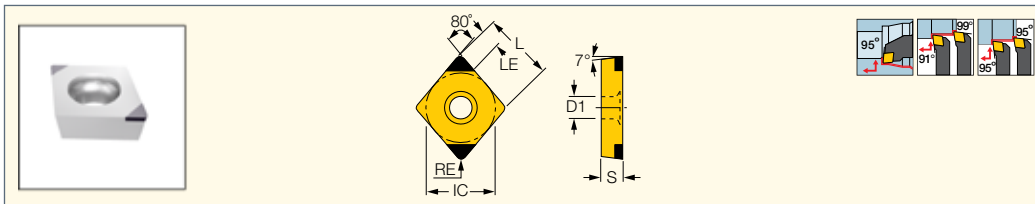
Designation	Dimensions							Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB05H	IB55	IB10H	a _p (mm)	f (mm/rev)	
CCGW 03X102T01015-1	3.63	3.57	1.39	0.20	2.0	1.90	●		●	0.05-0.50	0.05-0.20	
CCGW 03X104T01015-1	3.63	3.57	1.39	0.40	2.3	1.90	●		●	0.05-0.50	0.05-0.20	
CCGW 04T102T01015-1	4.44	4.37	1.79	0.20	2.0	2.30	●		●	0.05-0.50	0.05-0.20	
CCGW 04T104T01015-1	4.44	4.37	1.79	0.40	2.3	2.30	●		●	0.05-0.50	0.05-0.20	
CCMT 060202T	6.30	6.35	2.38	0.20	2.6	2.80		●		0.05-0.50	0.05-0.20	
CCMT 060204T	6.30	6.35	2.38	0.40	2.7	2.80		●		0.05-0.50	0.05-0.20	
CCMT 09T304T	9.70	9.52	3.97	0.40	2.9	4.40		●		0.05-0.50	0.05-0.20	
CCMT 09T308T	9.70	9.52	3.97	0.80	3.6	4.40		●		0.05-0.50	0.05-0.20	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

- For tools, see pages:** A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55) • PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • PICIN-SCLCR/L (386) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

CCGW/CCMW-2 (CBN)
80° Positive Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys

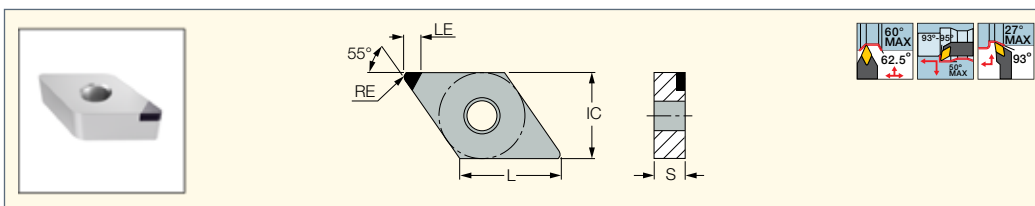


Designation	Dimensions						Tough ↔ Hard					Recommended Machining Data	
	IC	L	S	RE	LE	D1	IB05S	IB20H	IB20HC	IB10H	IB10HC	a _p (mm)	f (mm/rev)
CCGW 060202-F2	6.35	6.30	2.38	0.20	2.3	2.80			•		•	0.05-0.50	0.05-0.20
CCGW 060204-F2	6.35	6.30	2.38	0.40	2.3	2.80			•		•	0.05-0.50	0.05-0.20
CCGW 09T304-F2	9.52	9.70	3.97	0.40	2.3	4.40			•		•	0.05-0.50	0.05-0.20
CCGW 09T308-F2	9.52	9.70	3.97	0.80	2.2	4.40			•		•	0.05-0.50	0.05-0.20
CCGW 060202-M2	6.35	6.30	2.38	0.20	2.3	2.80					•	0.05-0.50	0.05-0.20
CCGW 060204-M2	6.35	6.30	2.38	0.40	2.3	2.80	•				•	0.05-0.50	0.05-0.20
CCMW 060202-M2	6.35	6.30	2.38	0.20	2.3	2.80		•		•		0.05-0.50	0.05-0.20
CCMW 060204-M2	6.35	6.30	2.38	0.40	2.3	2.80		•		•		0.05-0.50	0.05-0.20
CCGW 09T304-M2	9.52	9.70	3.97	0.40	2.3	4.40	•				•	0.05-0.50	0.05-0.30
CCGW 09T308-M2	9.52	9.70	3.97	0.80	2.2	4.40	•		•		•	0.05-0.50	0.05-0.30
CCMW 09T304-M2	9.52	9.70	3.97	0.40	2.3	4.40		•		•		0.05-0.50	0.05-0.15
CCMW 09T308-M2	9.52	9.70	3.97	0.80	2.2	4.40		•		•		0.05-0.50	0.05-0.30
CCGW 060204-R2	6.35	6.30	2.38	0.40	2.3	2.80			•			0.05-0.50	0.05-0.20
CCGW 09T304-R2	9.52	9.70	3.97	0.40	2.3	4.40			•			0.05-0.50	0.05-0.20
CCGW 09T308-R2	9.52	9.70	3.97	0.80	2.2	4.40			•			0.05-0.50	0.05-0.20

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/E/S-SCLCR/L (111) • C#-SCLCR/L-JHP (54) • E-SCLCR/L-HEAD (110) • NQCH-SCACR/L-JHP (55)
- PCLCR/L-S (55) • PCLCR/L-S-JHP (56) • SCACR/L-S (55) • SCLCR-PAD (55) • SCLCR/L (54) • AVC-SCLCR/L (95) • PCLCR/L-JHP-MC (56)

ISOTURN

DNMA (CBN)
CBN Inserts with a Flat Rake for Machining Hardened Steel



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	IB55	IB50	a _p (mm)	f (mm/rev)
DNMA 150404T	15.50	12.70	4.76	0.40	2.8	•		0.05-0.50	0.05-0.20
DNMA 150408T	15.50	12.70	4.76	0.80	3.2	•	•	0.05-0.50	0.05-0.20
DNMA 150412T	15.50	12.70	4.76	1.20	3.0	•		0.05-0.50	0.05-0.20
DNMA 150604T	15.50	12.70	6.35	0.40	2.8	•		0.05-0.50	0.05-0.20
DNMA 150608T	15.50	12.70	6.35	0.80	3.2	•		0.05-0.50	0.05-0.20

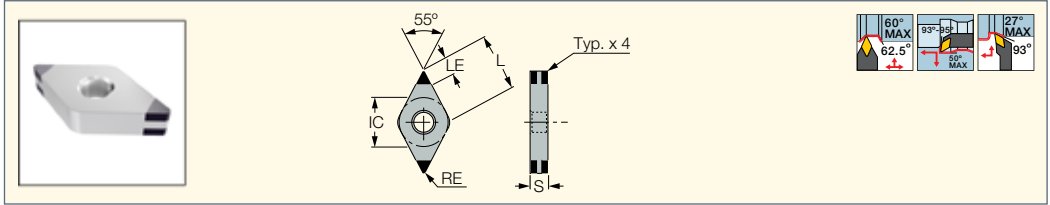
- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31)
- HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)



ISOTURN

DNGA-4 (CBN)

55° Rhombic 4-Cornered CBN Inserts for Machining Hardened Steel



Designation	Dimensions					Tough ← Hard			Recommended Machining Data	
	L	IC	S	RE	LE	IB25HC	IB55	IB10HC	a _p (mm)	f (mm/rev)
DNGA 150404T-MC	15.50	12.70	4.76	0.40	2.9		•		0.05-0.50	0.05-0.18
DNGA 150408-M4	15.50	12.70	4.76	0.80	2.1	•		•	0.05-0.50	0.05-0.18
DNGA 150408T-MC	15.50	12.70	4.76	0.80	3.0		•		0.05-0.50	0.05-0.18
DNGA 150412-M4	15.50	12.70	4.76	1.20	2.0	•		•	0.05-0.50	0.05-0.18
DNGA 150412T-MC	15.50	12.70	4.76	1.20	3.0		•		0.05-0.50	0.05-0.18
DNGA 150604T-MC	15.50	12.70	6.35	0.40	2.9		•		0.05-0.50	0.05-0.18
DNGA 150608T-MC	15.50	12.70	6.35	0.80	3.0		•		0.05-0.50	0.05-0.18
DNGA 150612T-MC	15.50	12.70	6.35	1.20	3.0		•		0.05-0.50	0.05-0.18

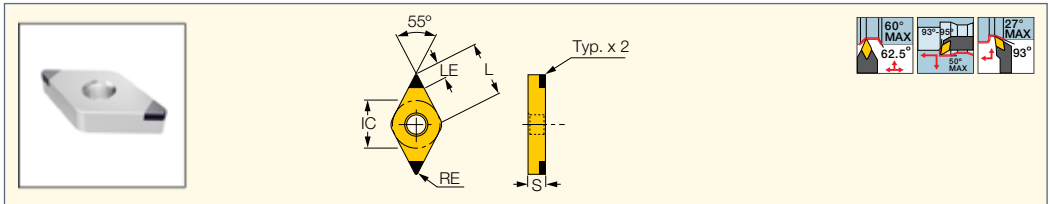
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • AVC-DDUNR/L-VH (98) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • AVC-DDUNR/L (97) • DDJNR/L-JHP-MC (30)

ISOTURN

DNGA-2 (CBN)

55° Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys



Designation	Dimensions					Tough ← Hard					Recommended Machining Data	
	L	IC	S	RE	LE	IB10S	IB20H	IB20HC	IB10H	IB10HC	a _p (mm)	f (mm/rev)
DNGA 150404-F2	15.50	12.70	4.76	0.40	2.5			•		•	0.10-0.50	0.05-0.30
DNGA 150404-M2	15.50	12.70	4.76	0.40	2.5	•		•		•	0.10-0.50	0.05-0.30
DNGA 150408-F2	15.50	12.70	4.76	0.80	2.1			•		•	0.10-0.50	0.05-0.30
DNGA 150408-M2	15.50	12.70	4.76	0.80	2.1	•		•		•	0.10-0.50	0.05-0.30
DNGA 150408-R2	15.50	12.70	4.76	0.80	2.1		•				0.05-0.50	0.05-0.20
DNGA 150412-F2	15.50	12.70	4.76	1.20	2.0			•	•		0.10-0.50	0.05-0.30
DNGA 150412-M2	15.50	12.70	4.76	1.20	2.0	•		•		•	0.10-0.50	0.05-0.30
DNGA 150412-R2	15.50	12.70	4.76	1.20	2.0		•				0.05-0.50	0.05-0.20

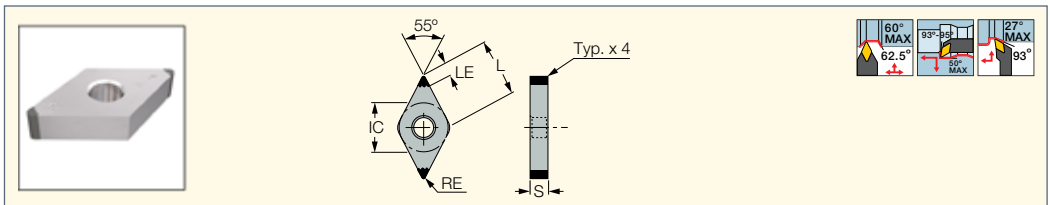
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106) • DDJNR/L-JHP-MC (30)

ISOTURN

DNGA-J(CBN)

55° Rhombic Multi-Cornered CBN Inserts for Machining Hardened Steel



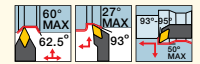
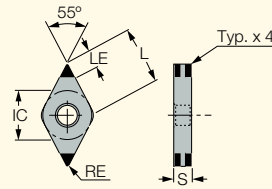
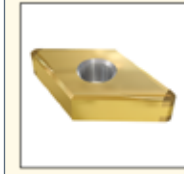
Designation	Dimensions				Recommended Machining Data	
	L	IC	RE	LE	a _p (mm)	f (mm/rev)
DNGA 150408-R4-J	15.50	12.70	0.80	1.60	0.12-0.80	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/S-PDUNR/L (106) • C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • DDJNR/L-JHP-MC (30) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28) • PDJNR/L-JHP (29) • S-DDUNR/L (106)

ISOTURN

DNGG-M4HF/M4HM (CBN)
55° Rhombic Inserts with 4
Chipbreaking CBN Tips for
Machining Hardened Steel

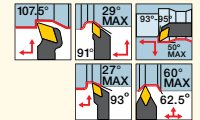
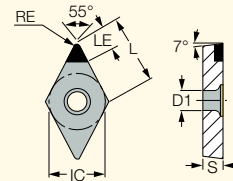
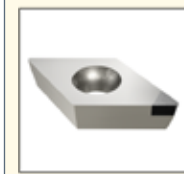


Designation	Dimensions						IB25HA	Recommended Machining Data	
	L	IC	S	RE	LE	a _p (mm)		f (mm/rev)	
DNGG 150408-M4HF	15.50	12.70	4.76	0.80	2.1	●	0.20-0.75	0.05-0.20	
DNGG 150412-M4HM	15.50	12.70	4.76	1.20	2.0	●	0.50-1.00	0.05-0.20	

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** C#-DDJNR/L (31) • C#-PDJNR/L-JHP (29) • HSK A63WH-DDJNR/L (31) • HSK A63WH-DDNNN (31) • PDJNR/L (28)
- PDJNR/L-JHP (29) • S-DDUNR/L (106) • DDJNR/L-JHP-MC (30)

ISOTURN

DCMT (CBN)
55° Rhombic Inserts with
a Single CBN Top Corner
Tip and 7° Clearance for
Machining Hardened Steel

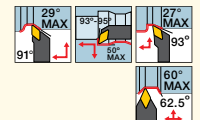
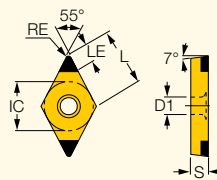


Designation	Dimensions							IB55	Recommended Machining Data	
	L	IC	S	RE	LE	D1	a _p (mm)		f (mm/rev)	
DCMT 11T304T	11.60	9.52	3.97	0.40	3.4	4.40	●	0.05-0.50	0.05-0.20	
DCMT 11T308T	11.60	9.52	3.97	0.80	3.1	4.40	●	0.05-0.50	0.05-0.20	

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)
- C#-SDNCN (64) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57) • SDACR/L (60) • SDHCR/L (59)
- SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

DCGW/DCMW-2 (CBN)
55° Positive Rhombic Inserts
with 2 CBN Tips for Machining
Hardened Steel, Sintered Metals
and High Temperature Alloys



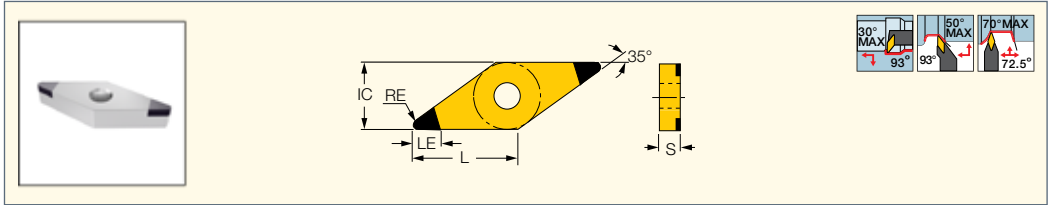
Designation	Dimensions							Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB05S	IB20H	IB20HC	IB10H	IB10HC	a _p (mm)	f (mm/rev)	
DCGW 070202-F2	7.70	6.35	2.38	0.20	2.5	2.80			●		●	0.05-0.50	0.05-0.30	
DCGW 070204-F2	7.70	6.35	2.38	0.40	2.5	2.80			●		●	0.05-0.50	0.05-0.30	
DCGW 11T302-F2	11.60	9.52	3.97	0.20	2.5	4.40			●		●	0.05-0.50	0.05-0.30	
DCGW 11T304-F2	11.60	9.52	3.97	0.40	2.5	4.40			●		●	0.05-0.50	0.05-0.30	
DCGW 11T308-F2	11.60	9.52	3.97	0.80	2.1	4.40			●		●	0.05-0.50	0.05-0.30	
DCGW 070202-M2	7.70	6.35	2.38	0.20	2.5	2.80			●		●	0.05-0.50	0.05-0.30	
DCGW 070204-M2	7.70	6.35	2.38	0.40	2.5	2.80	●		●		●	0.05-0.50	0.05-0.30	
DCGW 070208-M2	7.70	6.35	2.38	0.80	2.5	2.80	●		●		●	0.05-0.50	0.05-0.30	
DCGW 11T302-M2	11.60	9.52	3.97	0.20	2.1	4.40			●		●	0.05-0.50	0.05-0.30	
DCMW 11T304-M2	11.60	9.52	3.97	0.40	2.5	4.40		●		●	●	0.05-0.50	0.05-0.12	
DCGW 11T308-M2	11.60	9.52	3.97	0.80	2.1	4.40	●		●		●	0.05-0.50	0.05-0.30	
DCMW 11T308-M2	11.60	9.52	3.97	0.80	2.1	4.40		●		●	●	0.05-0.50	0.05-0.15	
DCGW 11T304T01315	11.60	9.52	3.97	0.40	2.5	4.40	●		●		●	0.05-0.50	0.05-0.30	
DCGW 11T304-S2	11.60	9.52	3.97	0.40	2.5	4.40	●		●		●	0.05-0.50	0.05-0.30	

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages:** A/E/S-SDUCR/L (112) • AVC-SDUCR/L (95) • AVC-SDUCR/L-VH (98) • C#-SDJCR-JHP (59) • C#-SDJCR/L (59)
- C#-SDNCN (64) • E-SDUCR/L-HEAD (113) • NQCH-SDACR/L-S-JHP (60) • NQCH-Y-SDJCR-S-JHP (58) • PDACR/L-JHP (62) • PDACR/L-S (57)
- SDACR/L (60) • SDHCR/L (59) • SDJCR-PAD (59) • SDJCR/L (58) • SDNCN (64) • Y-SDJCR (58) • Y-SDJCR-JHP (58) • PDACR/L-JHP-MC (62)

ISOTURN

VNGA-2 (CBN)

35° Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys



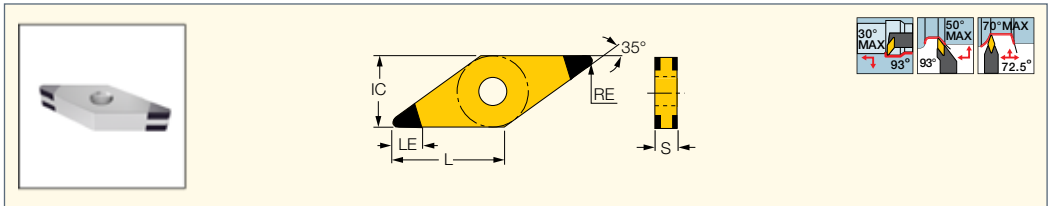
Designation	Dimensions					Tough ↔ Hard					Recommended Machining Data	
	L	IC	S	RE	LE	IB10S	IB20H	IB20HC	IB10H	IB10HC	a _p (mm)	f (mm/rev)
VNGA 160404-F2	16.60	9.52	4.76	0.40	3.1			•		•	0.05-0.50	0.05-0.30
VNGA 160404-M2	16.60	9.52	4.76	0.40	3.1	•		•		•	0.05-0.50	0.05-0.30
VNGA 160408-F2	16.60	9.52	4.76	0.80	2.2			•		•	0.05-0.50	0.05-0.30
VNGA 160408-M2	16.60	9.52	4.76	0.80	2.2	•		•	•		0.05-0.50	0.05-0.30
VNGA 160408-R2	16.60	9.52	4.76	0.80	2.2		•				0.05-0.50	0.05-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: MVJNR/L (33) • MVVNN (35)

ISOTURN

VNGA-4 (CBN)

35° Rhombic Inserts with 4 CBN Tips for Machining Hardened Steel



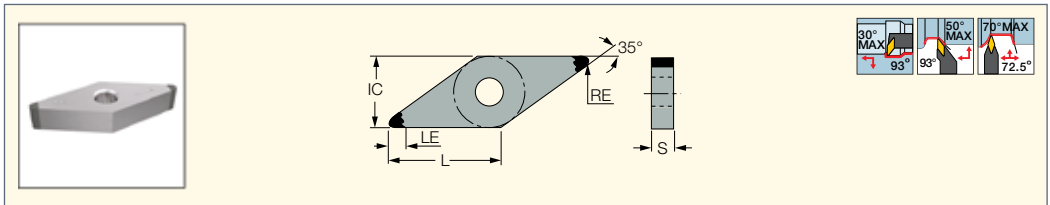
Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	IB25HC	IB10HC	a _p (mm)	f (mm/rev)
VNGA 160408-M4	16.60	9.52	4.76	0.80	2.2	•	•	0.05-0.30	0.02-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: MVJNR/L (33) • MVVNN (35)

ISOTURN

VNGA-J(CBN)

35° Rhombic Inserts with 4 CBN Tips for Machining Hardened Steel



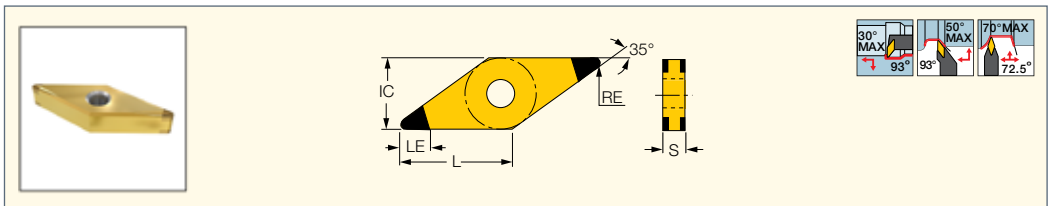
Designation	Dimensions					Recommended Machining Data	
	L	IC	S	RE	LE	a _p (mm)	f (mm/rev)
VNGA 160408-R4-J	16.60	9.53	4.76	0.80	1.70	0.12-0.80	0.10-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: MVVNN (35)

ISOTURN

VNGG-M4HM (CBN)

35° Rhombic Insert with 4 Chipbreaking CBN Tips for Machining Hardened Steel



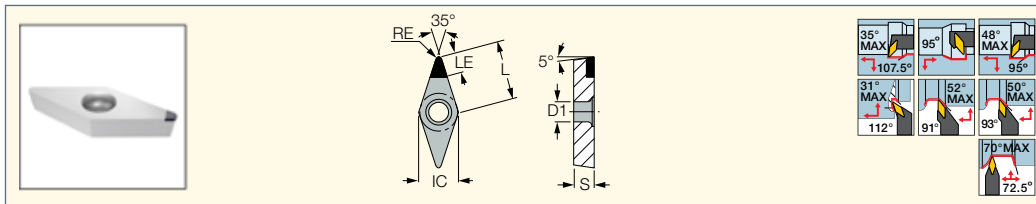
Designation	Dimensions					IB25HA	Recommended Machining Data	
	L	IC	S	RE	LE		a _p (mm)	f (mm/rev)
VNGG 160408-M4HM	16.60	9.52	4.76	0.80	2.2	•	0.50-0.80	0.05-0.20

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: MVJNR/L (33) • MVVNN (35)

ISOTURN

VBMT (CBN)

Single Corner CBN Tipped Inserts with a Flat Rake for Machining Hardened Steel



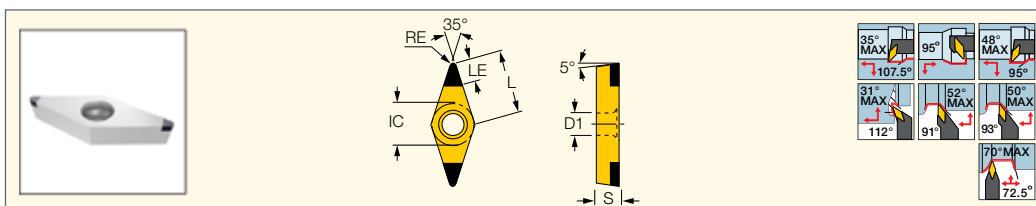
Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB55	IB50	a _p (mm)	f (mm/rev)
VBMT 160404T	16.60	9.52	4.76	0.40	4.5	4.40	●	●	0.05-0.39	0.05-0.11

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

VBGW/VBMW-2 (CBN)

35° Positive Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel



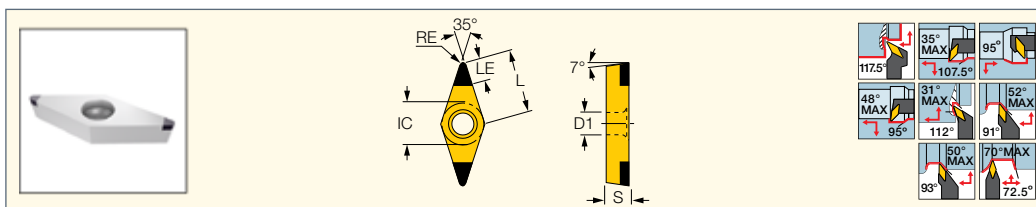
Designation	Dimensions						Tough ↔ Hard				Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB20H	IB20HC	IB10H	IB10HC	a _p (mm)	f (mm/rev)
VBGW 110304-F2	11.10	6.35	3.18	0.40	3.1	2.80		●		●	0.10-0.50	0.05-0.20
VBGW 160404-F2	16.60	9.52	4.76	0.40	3.1	4.40		●		●	0.10-0.50	0.05-0.20
VBGW 160408-F2	16.60	9.52	4.76	0.80	2.2	4.40		●		●	0.10-0.50	0.05-0.20
VBMW 110304-M2	11.10	6.35	3.18	0.40	3.1	2.80	●		●		0.05-0.50	0.05-0.20
VBGW 160404-M2	16.60	9.52	4.76	0.40	3.1	4.40		●		●	0.05-0.50	0.05-0.20
VBMW 160404-M2	16.60	9.52	4.76	0.40	3.1	4.40	●		●		0.05-0.50	0.05-0.20
VBGW 160408-M2	16.60	9.52	4.76	0.80	2.2	4.40		●		●	0.05-0.50	0.05-0.20
VBMW 160408-M2	16.60	9.52	4.76	0.80	2.2	4.40	●		●		0.05-0.39	0.05-0.11

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

ISOTURN

VCGW-2 (CBN)

35° Positive Rhombic Inserts with 2 CBN Tips for Machining Hardened Steel



Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB20HC	IB10HC	a _p (mm)	f (mm/rev)
VCGW 160404-F2	16.60	9.52	4.76	0.40	3.1	4.40	●	●	0.10-0.50	0.05-0.30
VCGW 160404-M2	16.60	9.52	4.76	0.40	3.1	4.40	●	●	0.10-0.50	0.05-0.30
VCGW 160408-F2	16.60	9.52	4.76	0.80	2.2	4.40	●	●	0.10-0.50	0.05-0.30
VCGW 160408-M2	16.60	9.52	4.76	0.80	2.2	4.40	●	●	0.10-0.50	0.05-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

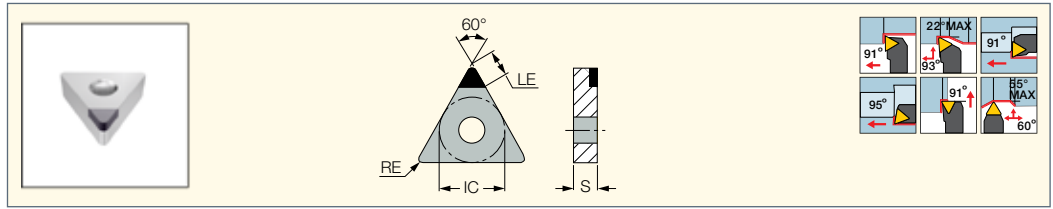
For tools, see pages: AVC-SVLCR/L-VH (98) • A/S-SVLBCR/L (114) • A/S-SVLCR/L; A-SVJCR/L (113) • A/S-SVQCR/L (113) • AVC-SVLCR/L (96)

• C#-SVJCR/L (66) • C#-SVJCR/L-JHP (66) • C#-SVVCN (69) • HSK A63WH-SVJCR/L (67) • SVJCR/L (453) • SVJCR/L-16-JHP (454) • SVVCN (454) • SVXCR/L (454)

ISOTURN

TNMA (CBN)

Triangular Inserts with a Single Corner CBN Tip for Machining Cast Iron and Hardened Steel



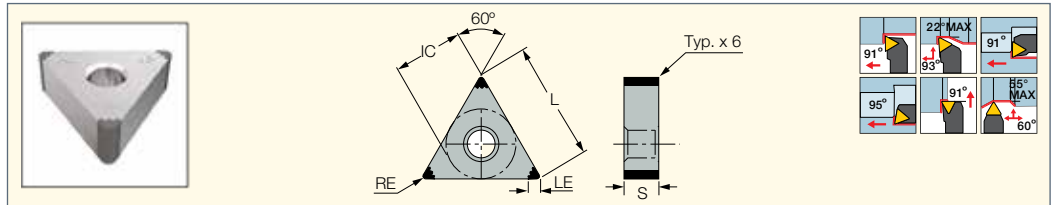
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	LE	IB85	IB55	IB50	a _p (mm)	f (mm/rev)
TNMA 160404T	16.50	9.52	4.76	0.40	3.9	●	●	●	0.05-0.50	0.05-0.25
TNMA 160408T	16.50	9.52	4.76	0.80	3.5		●		0.05-0.50	0.05-0.25

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNGA-J(CBN)

Triangular Multi-Cornered CBN Inserts for Machining Hardened Steel



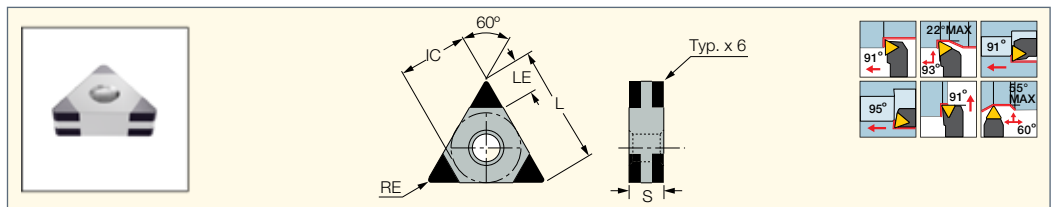
Designation	Dimensions				Recommended Machining Data	
	L	IC	RE	LE	a _p (mm)	f (mm/rev)
TNGA 160408-R6-J	16.50	9.52	0.80	1.60	0.12-0.80	0.10-0.30

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNGA-MC/M6 (CBN)

Triangular Multi-Cornered CBN Inserts for Machining Hardened Steel



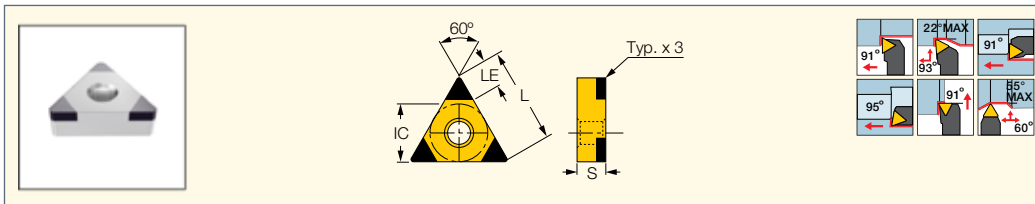
Designation	Dimensions					Tough ↔ Hard			Recommended Machining Data	
	L	IC	S	RE	LE	IB25HC	IB55	IB10HC	a _p (mm)	f (mm/rev)
TNGA 160404T-MC	16.50	9.52	4.76	0.40	3.2		●		0.05-0.50	0.05-0.20
TNGA 160408-M6	16.50	9.52	4.76	0.80	1.9	●		●	0.05-0.50	0.05-0.20
TNGA 160408T-MC	16.50	9.52	4.76	0.80	1.9		●		0.05-0.50	0.05-0.20

- For user guide and cutting speed recommendations, see pages 122-134, 236-248
- For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TNGA-M3 (CBN)

Triangular Inserts with 3 CBN Tips for Machining Hardened Steel, Sintered Metals and High Temperature Alloys



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	IB10S	IB20H	a _p (mm)	f (mm/rev)
TNGA 160404-M3	16.50	9.52	4.76	0.40	2.2	●		0.10-0.50	0.05-0.30
TNGA 160408-M3	16.50	9.52	4.76	0.80	1.9	●	●	0.05-0.50	0.05-0.30
TNGA 160412-M3	16.50	9.52	4.76	1.20	2.4	●		0.10-0.50	0.05-0.30

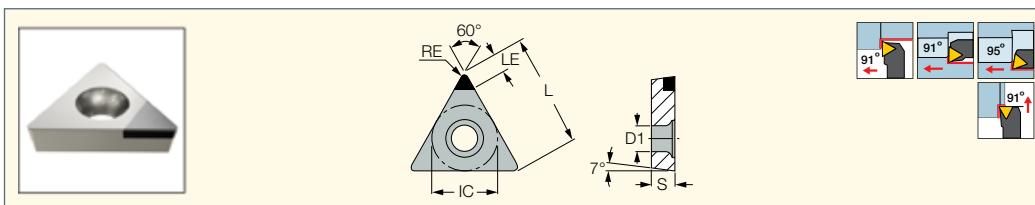
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A-PTFNR/L-X/G (108) • DTGNR/L (44) • MTENN-W (38) • MTJNR/L-W (38) • PTFNR/L (37) • PTGNR/L (35) • PTGNR/L-X (36) • PTGNR/L-X-JHP (36) • PTGNR/L-X-JHP-MC (37) • S-MTLNR/L-W (109) • S-PTFNR/L (109)

ISOTURN

TCMT (CBN)

Triangular Positive Inserts with a Single CBN Flat Rake Tip for Machining Hardened Steel



Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB55	IB50	a _p (mm)	f (mm/rev)
TCMT 110204T	11.00	6.35	2.38	0.40	3.5	2.85	●	●	0.05-0.50	0.05-0.13

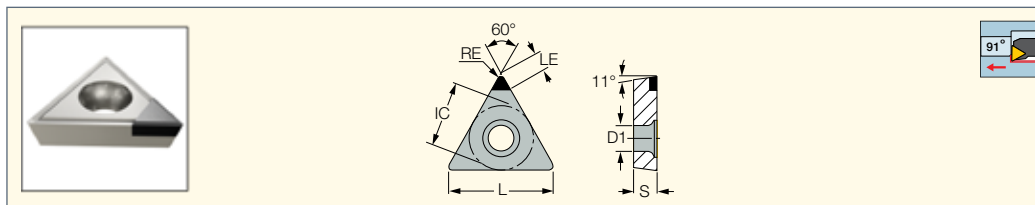
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: E-STFCR-HEAD (115) • S-STFCR/L (115) • S-STLCR/L (115) • STFCR/L (70) • STGCR/L (70)

ISOTURN

TPGX (CBN)

Triangular Inserts with CBN Single Top Corner Brazed Tip, 11° Clearance for Machining Cast Iron and Hardened Steel



Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB90	IB50	a _p (mm)	f (mm/rev)
TPGX 090202T	9.52	5.56	2.38	0.20	2.5	2.50	●	●	0.05-0.50	0.03-0.20
TPGX 090204T	9.52	5.56	2.38	0.40	2.6	2.50	●	●	0.05-0.50	0.03-0.20
TPGX 110302T	11.00	6.35	3.18	0.20	3.3	3.50	●	●	0.05-0.50	0.03-0.20
TPGX 110304T	11.00	6.35	3.18	0.40	3.0	3.50	●	●	0.05-0.50	0.03-0.20

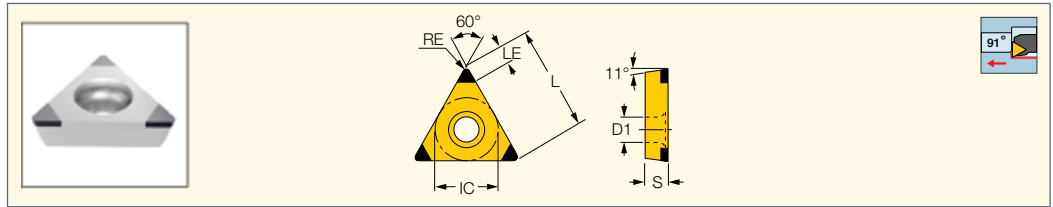
• For user guide and cutting speed recommendations, see pages 122-134, 236-248

For tools, see pages: A/E-STFPR-X (117) • MG STFPR-X (117)

ISOTURN

TPGW-M3 (CBN)

Triangular Positive Inserts with 3 CBN Tips for Machining Sintered Metals and High Temperature Alloys



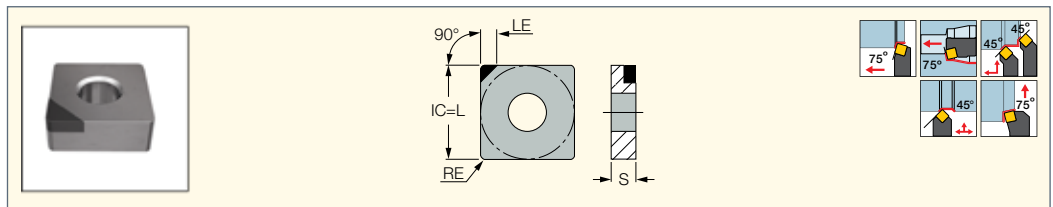
Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data	
	L	IC	S	RE	LE	D1	IB06S	IB10HC	a _p (mm)	f (mm/rev)
TPGW 110204-M3	11.00	6.35	2.38	0.40	2.2	2.80	●		0.05-0.50	0.05-0.30
TPGW 110208-M3	11.00	6.35	2.38	0.80	2.2	2.80	●		0.05-0.50	0.05-0.30
TPGW 110304-M3	11.00	6.35	3.18	0.40	2.2	3.40	●	●	0.05-0.50	0.05-0.30
TPGW 110308-M3	11.00	6.35	3.18	0.80	2.1	3.40	●		0.05-0.50	0.05-0.30

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: A/E-STFPR-X (117)

ISOTURN

SNMA (CBN)

Square CBN Tipped Inserts with a Single Flat Rake for Machining Cast Iron and Hardened Steel



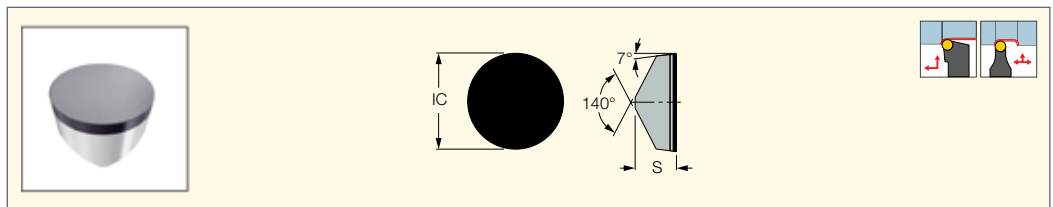
Designation	Dimensions					IB65	Recommended Machining Data	
	IC	S	RE	LE	a _p (mm)		f (mm/rev)	
SNMA 120408T	12.70	4.76	0.80	4.5	●	0.05-0.50	0.05-0.30	

• For user guide and cutting speed recommendations, see pages 122-134, 236-248
 For tools, see pages: C#-MULNR/L-MW (16) • DSNR/L (40) • DSDNN (39) • DSKNR/L (39) • DSSNR/L (39) • HSK A63WH-MULNR-J12MWX2 (17)
 • HSK A63WH-MULNR/L-MW (16) • HSK A63WH-MUMNN-MW (17) • MULNR/L-12MW (15) • PSBNR/L (43) • PSDNN (41) • PSDNN-JHP (41) • PSKNR/L (41)
 • PSSNR/L (42) • PSSNR/L-JHP (42)

ISOTURN

RCGX (CBN)

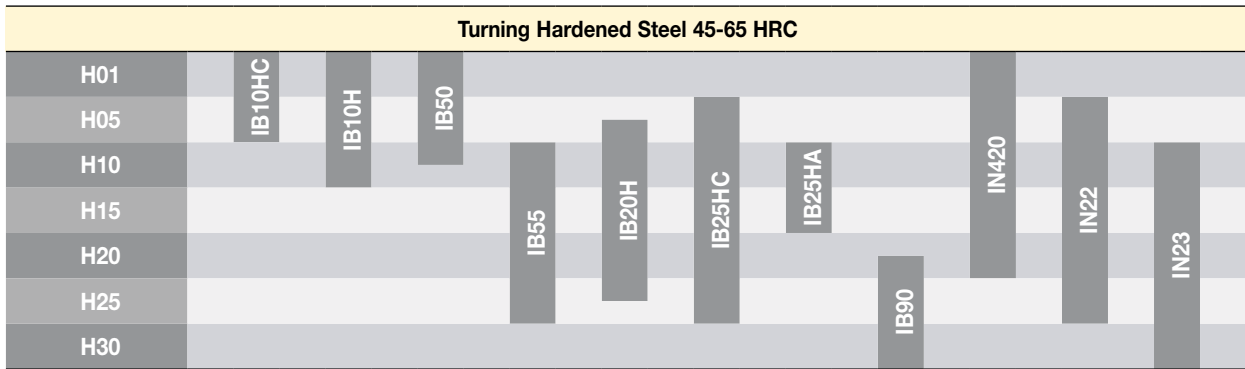
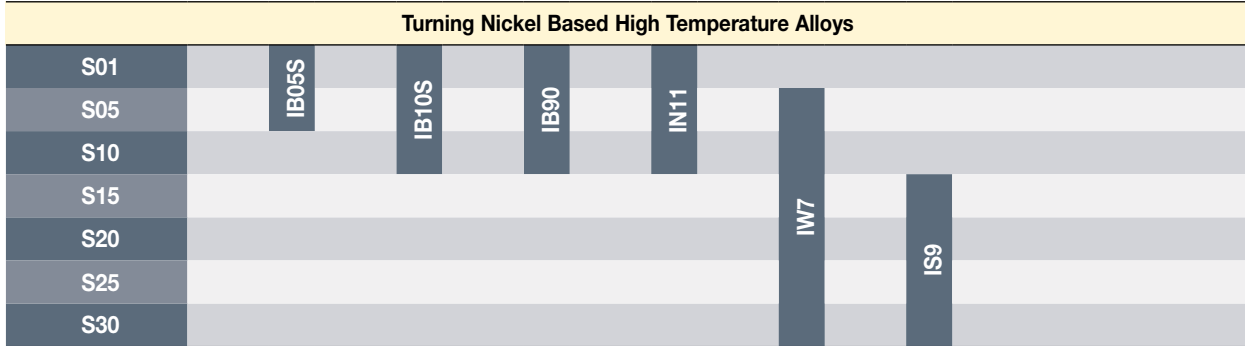
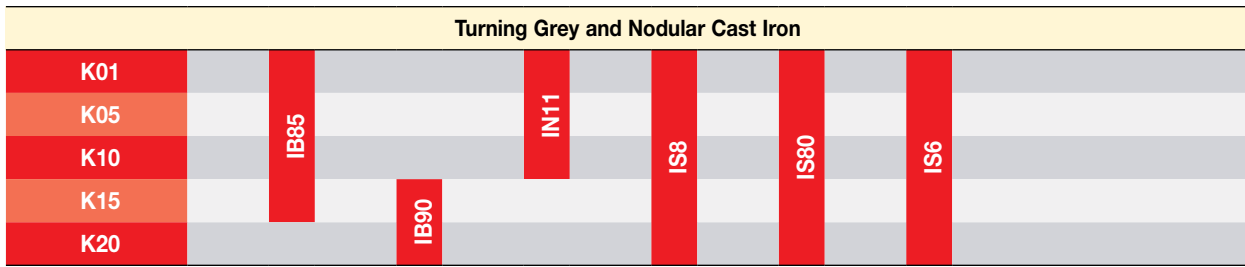
CBN Round Inserts with a Flat Rake for Machining Cast Iron and Hardened Steel



Designation	Dimensions		IB90	Recommended Machining Data	
	IC	S		a _p (mm)	f (mm/rev)
RCGX 060300T	6.35	3.18	●	0.05-0.50	0.05-0.25
RCGX 090300T	9.52	3.18	●	0.05-0.50	0.05-0.25
RCGX 120400T	12.70	4.76	●	0.05-0.50	0.05-0.25

• For user guide and cutting speed recommendations, see pages 122-134, 236-248

Application Range of Ceramic Inserts According to ISO Standard



Ceramic Cutting Tools

IN11 Al₂O₃

High Speed Finishing on Cast Iron and Steel

- Improves toughness and wear resistance
- ZrO₂ additive
- Good for high speed turning on steel and cast iron

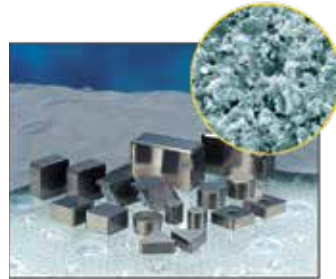
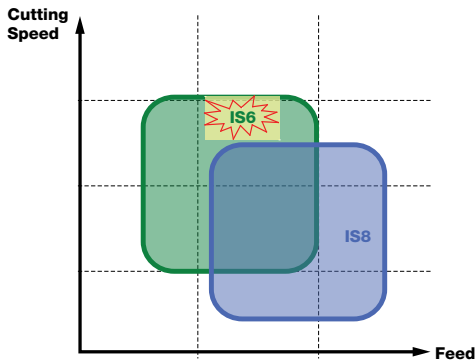


IN22 Al₂O₃-TiCN

Turning of Hardened Steel and Difficult-to-Cut Material

- High speed machining of steel, tool steel, hardened steel, chilled cast iron, high chromium steel, etc.
- Suitable for light roughing-to-finishing of cast iron

Application Range for Machining Cast Iron



IN23 Al₂O₃-TiC

Medium-to-Finishing Cutting on Cast Iron

- Light interrupted turning on grey cast iron and nodular cast iron
- Milling with finishing conditions on grey cast iron



IS6 SiAlON

Features

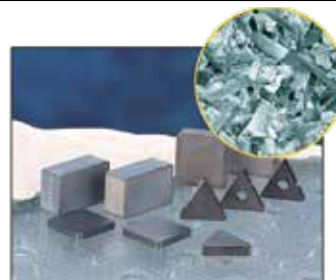
- High speed roughing and finish machining on cast iron
- Higher cutting speeds, when compared to SiN based ceramic grades
- Can be used for both wet and dry machining
- Suitable for turning automotive parts such as brake drums, brake disks, etc.
- High productivity in rough turning on steel mill rolls composed of high-Cr steel, HSS (High Speed Steel) and adamite



IS8 Si₃N₄

Turning and Milling of Grey Cast Iron

- Roughing and interrupted cutting of cast iron
- Machining on nodular cast iron and superalloy



Ceramic Cutting Tools

IS80 CVD Coated Si3N4

High Speed Rough Turning on Grey Cast Iron

- Multi-layered coating on IS8 matrix
- Roughing and interrupted cutting of cast iron

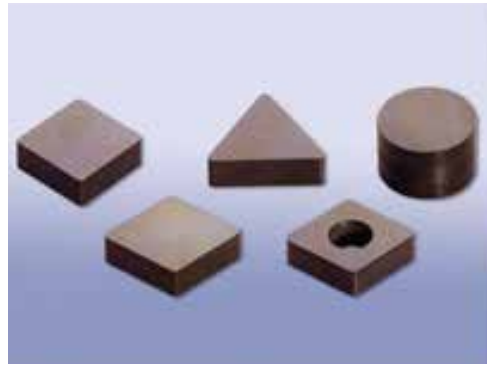


* Coolant is not recommended for interrupted cutting

IS9 Si3N4

Turning Nickel Based Alloys

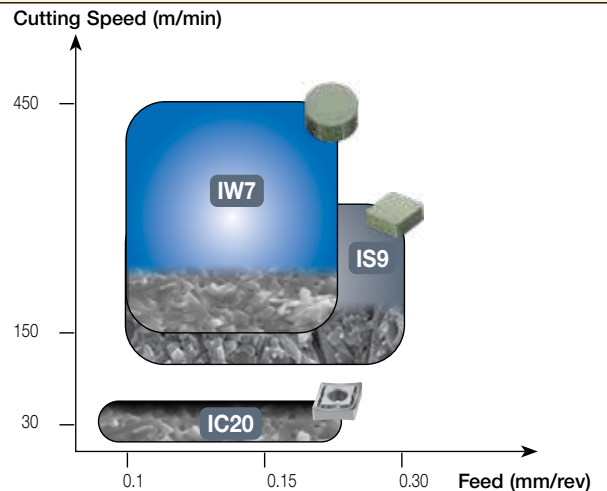
- Very tough Si3N4 ceramic grade with high cutting edge stability
- Machining on nickel based high temperature alloys, in roughing to finishing applications
- Honing is the standard edge preparation







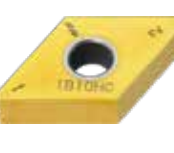




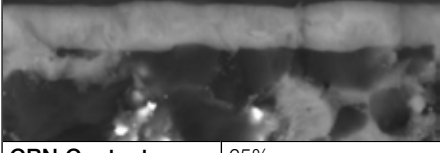
IW7 AL2O3+SiC Whiskers

Main Advantages

- High hardness (HV 2,100)
- High fracture toughness due to SiC (silicon carbide) whisker - reinforced ceramics
- Excellent thermal shock resistance, which enables using coolant and interrupted cut machining
- Excellent for roughing and semi-finishing operations at 8-10 times faster cutting speeds when compared with carbide grades
- Good oxidation resistance due to its alumina substrate



ISO-H Hard Materials Turning

<p>IB10H (fine grain 0.5µm)</p> <p>Uncoated, fine grain PCBN grade.</p> <p>Application Used at medium cutting speed, continuous or light interrupted cut on hardened steels. Provides excellent surface finish. Workpiece hardness range: 50-65 HRC.</p>		 <table border="1"> <tr> <td>CBN Content</td> <td>53.5%</td> </tr> <tr> <td>Binder</td> <td>TiN-Al</td> </tr> </table>	CBN Content	53.5%	Binder	TiN-Al
CBN Content	53.5%					
Binder	TiN-Al					
<p>IB20H</p> <p>Uncoated, general purpose PCBN grade. Good balance between wear and impact resistance. Composed of both fine and medium CBN grain sizes.</p> <p>Application Continuous to medium interrupted cut on hardened steel.</p>		 <table border="1"> <tr> <td>CBN Content</td> <td>65%</td> </tr> <tr> <td>Binder</td> <td>TiN-Al</td> </tr> </table>	CBN Content	65%	Binder	TiN-Al
CBN Content	65%					
Binder	TiN-Al					
<p>IB10HC</p> <p>TiN coated, PCBN grade with excellent wear resistance. Composed of very fine grain CBN.</p> <p>Application Medium to high speed, continuous machining on hardened steel.</p>		 <table border="1"> <tr> <td>CBN Content</td> <td>53.5%</td> </tr> <tr> <td>Binder</td> <td>TiN-Al</td> </tr> </table>	CBN Content	53.5%	Binder	TiN-Al
CBN Content	53.5%					
Binder	TiN-Al					
<p>IB25HC</p> <p>Ti (C, N, O) coated grade, composed of medium CBN grain.</p> <p>Application High speed, continuous to light interrupted machining.</p>		 <table border="1"> <tr> <td>CBN Content</td> <td>75%</td> </tr> <tr> <td>Binder</td> <td>TiN-Al</td> </tr> </table>	CBN Content	75%	Binder	TiN-Al
CBN Content	75%					
Binder	TiN-Al					
<p>IB25HA</p> <p>Ti (C,N,O) coated grade composed of medium CBN grain.</p> <p>Application General purpose machining on hardened steel.</p>		 <table border="1"> <tr> <td>CBN Content</td> <td>65%</td> </tr> <tr> <td>Binder</td> <td>TiN-Al</td> </tr> </table>	CBN Content	65%	Binder	TiN-Al
CBN Content	65%					
Binder	TiN-Al					

ISO-S

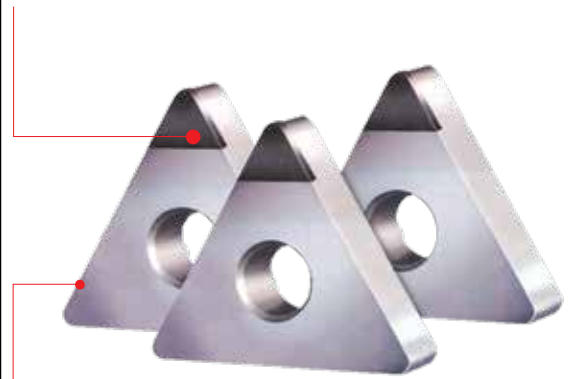
<p>IB05S</p> <p>Super fine, CBN grain with a very high CBN content.</p> <p>Application Turning on ferrous sintered metals.</p>		 <table border="1"> <tr> <td>CBN Content</td> <td>95%</td> </tr> <tr> <td>Binder</td> <td>Co-Al-WC</td> </tr> </table>	CBN Content	95%	Binder	Co-Al-WC
CBN Content	95%					
Binder	Co-Al-WC					
<p>IB10S</p> <p>A very high CBN content grade, featuring high hardness.</p> <p>Application Turning on ferrous sintered metals such as valve seats and Ti alloys components.</p>		 <table border="1"> <tr> <td>CBN Content</td> <td>95%</td> </tr> <tr> <td>Binder</td> <td>Co-Al-WC</td> </tr> </table>	CBN Content	95%	Binder	Co-Al-WC
CBN Content	95%					
Binder	Co-Al-WC					

CBN Inserts

Features

- Suitable for difficult-to-cut materials such as sintered metal, hardened steel and super alloys.
- Saves machining costs and shortens the work cycle by enabling machining of hardened steel.
- Provides an excellent surface finish.
- Significant improvement in productivity by high speed machining on hardened steel.
- Capable of high speed cutting of cast iron.

Cubic Boron Nitride



Tungsten Carbide

ISCAR's CBN upgrade supports the worldwide increase in demand for CBN tipped inserts.

ISCAR features 7 CBN (Cubic Boron Nitride) grades for two main workpiece material groups:

For hardened steel:

ISO-H: IB10H, IB20H, IB10HC, IB25HC, IB25HA

For high temperature alloys:

ISO-S: IB05S, IB10S



CBN Grades

Grades & Applications for Hardened Steel

		Material	New Grade	Composition (% CBN)	Features and Applications
ISO-H UNCOATED	Hardened Steels	Wear Resistance ↑	IB10H	53.5	Excellent surface finish. Super fine grain. Continuous cut.
			IB20H	65	Composed of both fine and medium CBN grains. General-purpose grade for continuous to light interrupted machining.
			IB50	50	Finishing on hardened steel (45-65 HRC) and nodular cast iron. Continuous cutting.
			IB55	60	Semi-finishing on hardened steel (45-65 HRC) and nodular cast iron. Interrupted cutting.
ISO-H COATED		Wear Resistance ↑	IB10HC	53.5	TiN coated grade very fine CBN grain. High speed continuous machining.
			IB25HC	75	Ti (C, N, O) coated CBN grade. High speed continuous to interrupted machining.
			IB25HA	65	Ti (C, N) coated CBN grade. High toughness. General purpose coated grade. Available with two types of chipbreakers (HF, HM).
		Toughness ↓			

Grades & Applications for Cast Iron

		Material	New Grade	Composition (% CBN)	Features and Applications
ISO-K	Cast Iron & Hard Metal	Wear Resistance ↑	IB85	85	Hardened steel and cast iron (>45 HRC). Grey cast iron and nodular cast irons. Powdered metal/sintered iron. Super alloys/heat resistant alloys. Sintered tungsten carbide >17% Co. High speed cutting of cast iron.
			IB90	90	High speed cutting on cast iron, cutting cemented tungsten carbide, sintered metal and super alloy.
		Toughness ↓			

Grades & Applications for High Temperature Alloys

		Material	New Grade	Composition (% CBN)	Features and Applications
ISO-S	Exotic Materials	Wear Resistance ↑	IB05S	95	Super fine grain CBN for machining ferrous sintered metals.
			IB10S	95	For machining valve seats, sintered metals and Ti alloys.
		Toughness ↓	IB90	90	Cutting cemented tungsten carbide, sintered metal and super alloy.

Edge Preparation and Recommended Applications

T-Land Sizes for Standard Items

Grade	T (mm)	a°
IN22	0.20	25°
IN23	0.20	25°
IS80	0.20	25°
IS8	0.20	25°
IS9	0.10	25°
IN11	0.20	20°
IB50	0.14	20°
IB55	0.14	20°
IB85	0.14	20°
IB90	0.14	20°
IS6	0.20	25°
IW7	0.10	25°
IN420	0.2	25°

F	<p>sharp</p>	For finishing and super finishing
E	<p>r0.03-0.04</p>	For semi-finishing and finishing $f < 0.2$ mm/rev
T	<p>T α°</p>	For semi-roughing and roughing $f > 0.2$ mm/rev
S	<p>T α° r0.03-0.04</p>	For heavy roughing and interrupted cutting

Silicon Nitride for Cast Iron and High Temperature Alloys

What is ISCANITE?

ISCANITE is a cutting tool material containing over 90 percent silicon nitride. ISCANITE is produced by unique hot pressing methods to achieve full density, and provides superior toughness along with high thermal-shock resistance. These characteristics make ISCANITE an ideal cutting tool material with impact resistance near that of coated carbides, and the heat and wear resistance of aluminum-oxide ceramics.

Which material can ISCANITE machine?

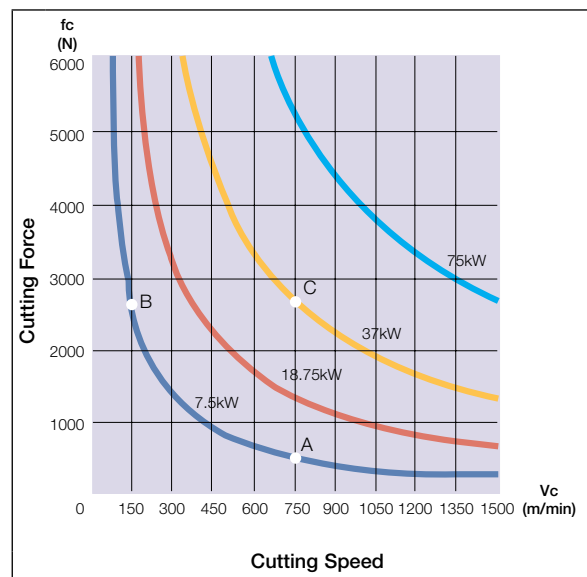
ISCANITE is primarily used on cast iron and high temperature alloys, brass and composites. Steel is the only material usually avoided because of various chemical incompatibilities.

ISCANITE Benefits

ISCANITE will increase your productivity, reduce your machining costs and can drastically reduce tool forces. ISCANITE increases productivity through additional metal removal rates and can fully utilize the machine's potential. Machining costs are reduced with increased tool life, along with less downtime for indexing, gauging, and adjustments.

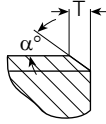
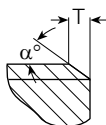
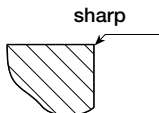
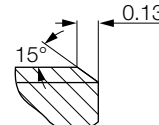
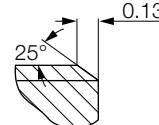
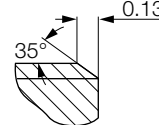
Cutting Speed and Cutting Force

It is preferable to machine at higher cutting speeds and lower cutting forces (Point A is preferred over Point B.) In this case, pressure is reduced on the workpiece and any tendency of the workpiece to move or vibrate. If the available machine power is higher, or the machine can be stepped up, the use higher cutting speeds of 750 m/min is possible, with the same cutting force as at Point B. (See Point C.) The positive influence of the cutting speed and feed on machining conditions: higher cutting speeds are recommended and possible for silicon nitride inserts.

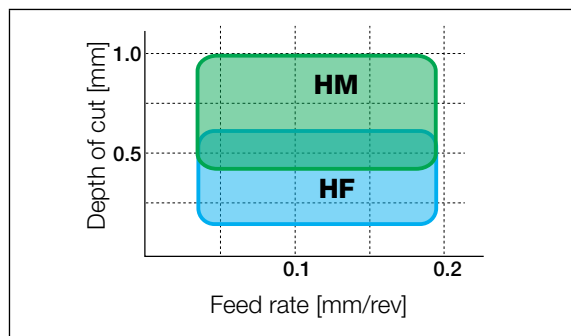
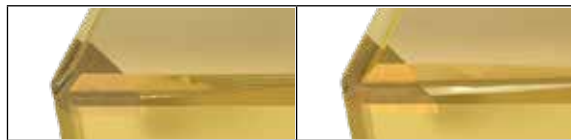


New Edge Preparations

For the following grades: IB10HC, IB10H, IB20H, IB25HC, IB25HA, IB05S, IB10S.




Existing	
T	 <p>For continuous and interrupted cut</p>
New Edge Preparation Program	
T	 <p>For continuous and interrupted cut</p>
S	 <p>For high surface finish</p>
F	 <p>For finishing at continuous cut</p>
M	 <p>For medium, continuous up to light interrupted cut</p>
R	 <p>For light to heavy interrupted cut-rough machining</p>

Chip Breaking Area for Hardened Steel

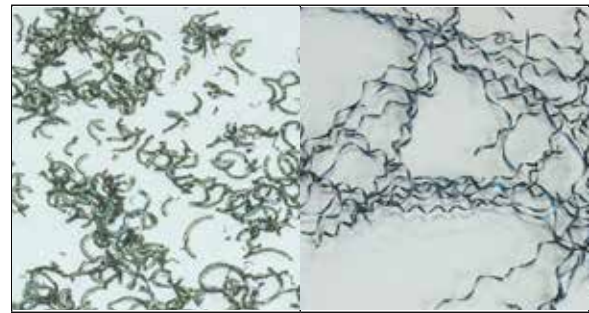


New Innovative Chipbreakers for Hardened Steel

CBN inserts with two types of chipbreakers: HF and HM

Existing Method	New Chipbreakers
 <p>No chip control suitable for long linear cuts</p>	HF Type Excellent chip control at small depths of cut 
	HM Type Used for large depth of cut 

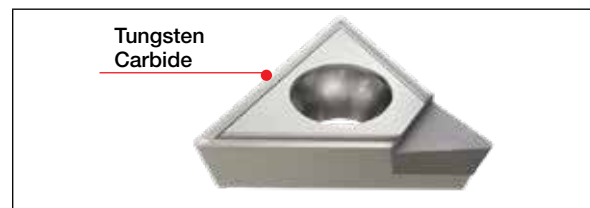
When turning hard materials, long and tangled chips are produced. The HF or HM chipformers provide excellent chip control at various depths of cut.



PCD Inserts

Features

- Excellent surface finishing on aluminum, nonferrous metals and non-metal materials.
 - Longer tool life in high speed machining, due to high wear resistance and excellent thermal conductivity.
- Note: Not for use on steel or cast iron



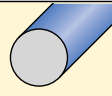
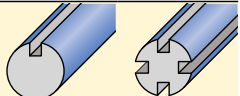
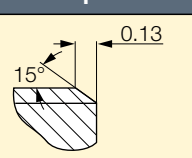
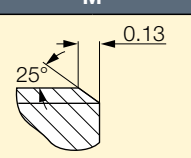
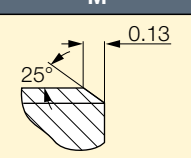
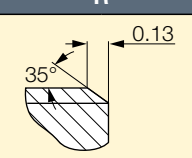
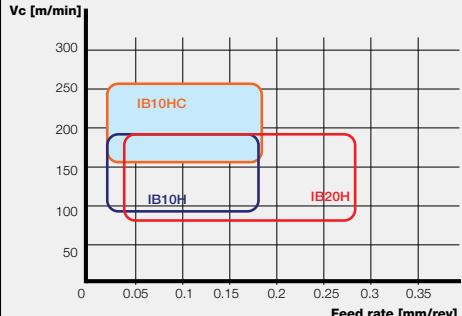
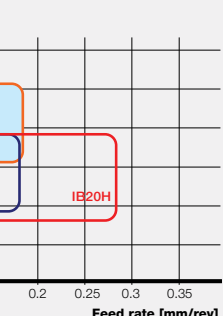
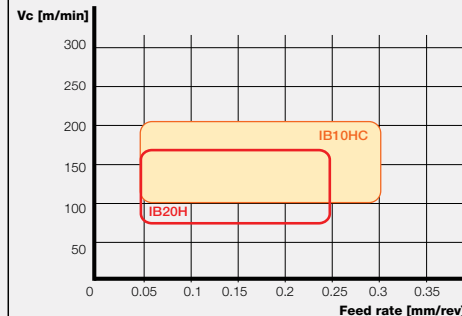
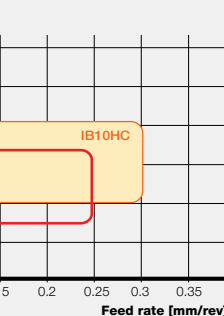
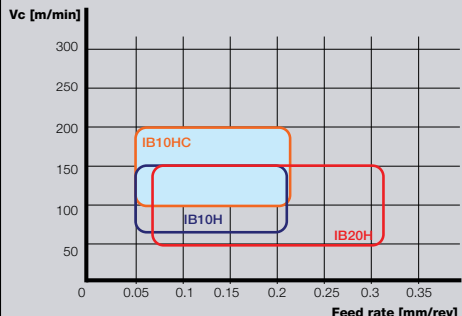
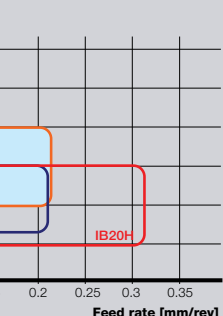
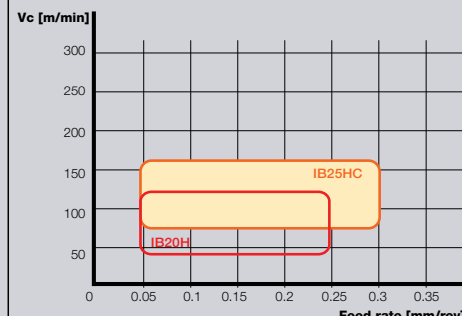
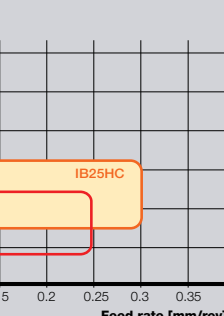
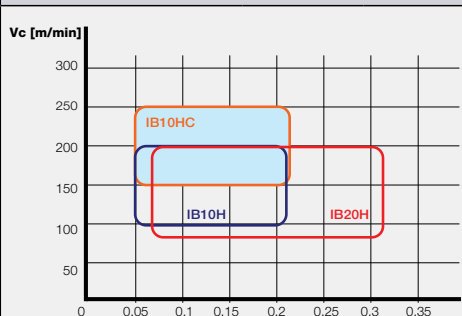
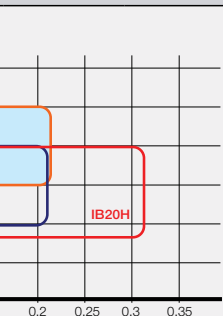
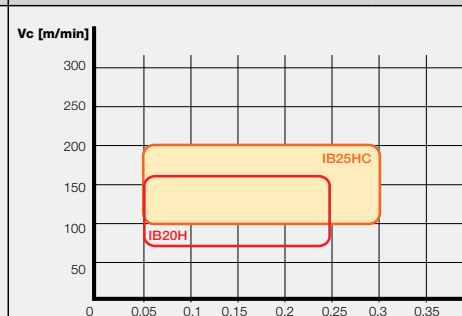
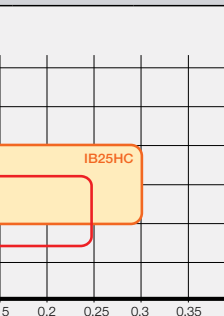
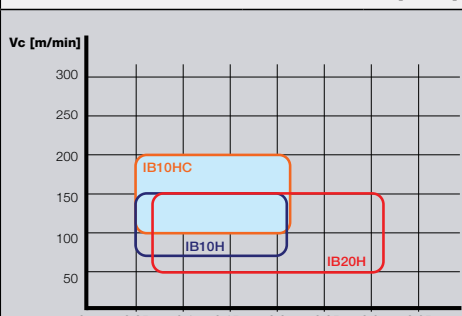
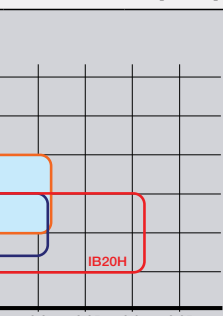
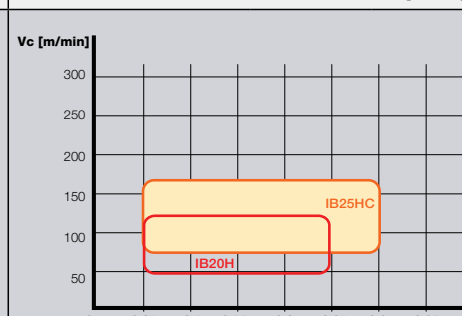
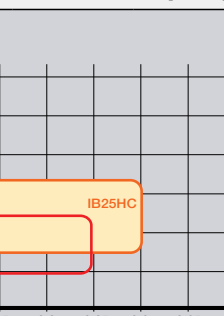
Grades and Application

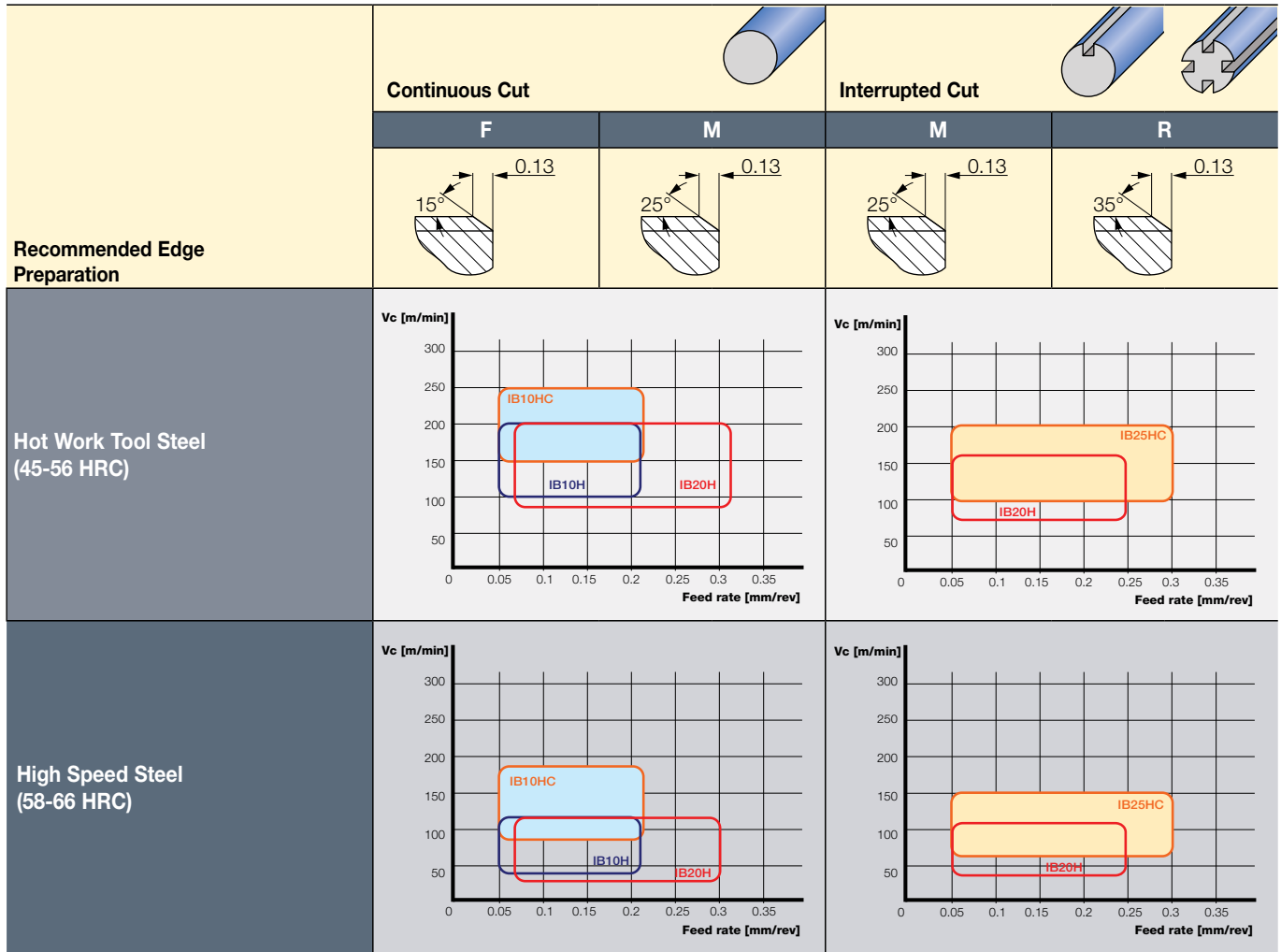
Binder	Diamond Size	Grade	Feature and Application
High Cobalt	8-9 μm	ID5	Suitable for Al alloy (Si < 12%), Cu alloy General purpose cutting of nonferrous metal

Recommended Cutting Condition Turning

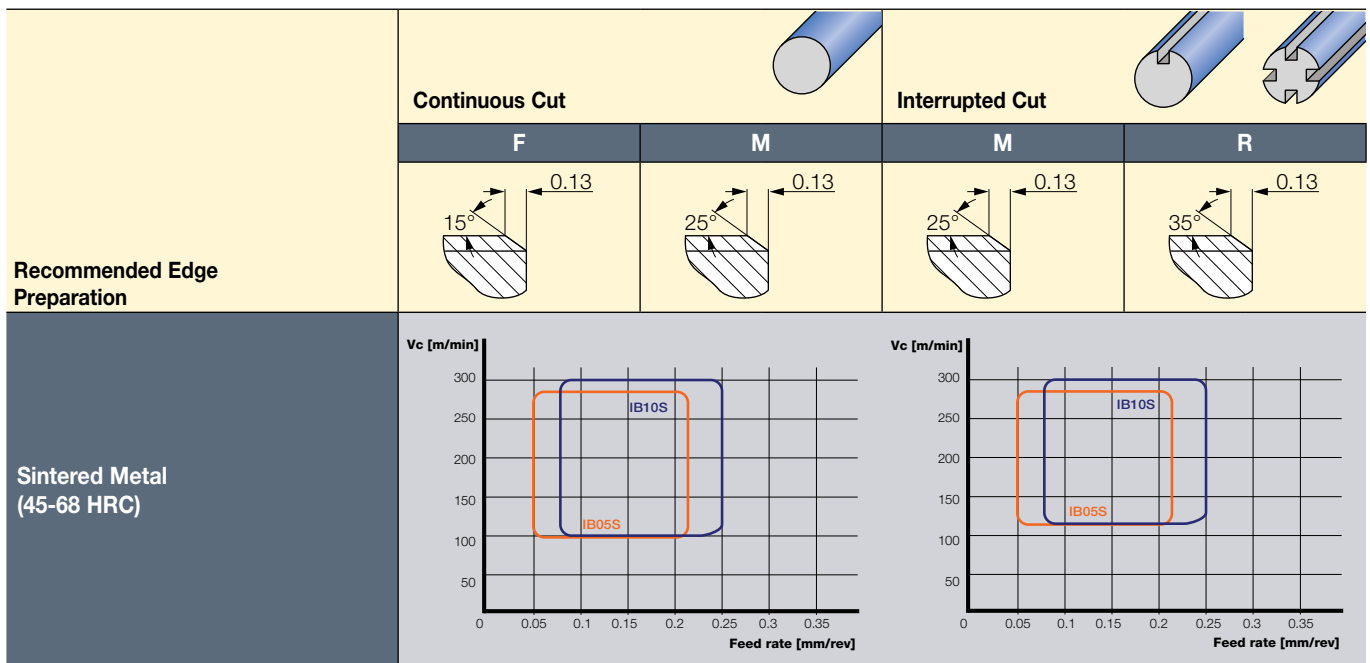
Workpiece	Cutting Speed (m/min)	Feed (mm/rev)	Depth of Cut (mm)	Grades
Al alloy (4-9% Si)	800-2500	0.1-0.3		ID5
Al alloy (9-14% Si)	600-1280	0.1-0.3	0.05-3.0	ID5
Cu alloy	600-1000	0.05-0.2	0.05-3.0	ID5

Cutting Parameters and Application Recommendations
Machining Areas of ISO-H Grades

Recommended Edge Preparation	Continuous Cut 		Interrupted Cut 	
	F	M	M	R
				
Case Hardened Steel (55-62 HRC)				
Bearing Steel (58-65 HRC)				
High Tensile Steel (45-56 HRC)				
Cold Work Tool Steel (55-64 HRC)				



Machining Areas of ISO-S Grades



Machining Data and Speed Recommendations for Turning

ISO	Material	Condition	Tensile Strength Rm [N/mm ² =MPa]	Hardness HB	Material Group No.	
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		>= 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quench and temper	850	250	3
		>= 0.55 %C	Annealed	750	220	4
		Quench and temper	1000	300	5	
	Low alloy steel and cast steel (less than 5% all element)	Annealed	600	200	6	
		Quench and tempered	930	275	7	
			1000	300	8	
			1200	350	9	
	High alloyed steel, cast steel and tool steel	Annealed	680	200	10	
Quench and temper		1100	325	11		
Ferritic/martensitic		680	200	12		
Martensitic		820	240	13		

ISO	Material	Condition	Tensile Strength Rm [N/mm ² =MPa]	Hardness HB	Material No.
M	Stainless steel	Austenitic	600	180	14

ISO	Material	Condition	Tensile Strength Rm [N/mm ² =MPa]	Hardness HB	Material No.
K	Grey cast iron (GG)	Pearlitic/ferritic		180	15
		Pearlitic/martensitic		260	16
	Ductile cast iron (nodular) (GGG)	Ferritic		160	17
		Pearlitic		250	18
	Malleable cast iron	Ferritic		130	19
		Pearlitic		230	20

ISO	Material	Condition	Tensile Strength Rm [N/mm ² =MPa]	Hardness HB	Material No.	
N	Aluminum-wrought alloys	Not cureable		60	21	
		cured		100	22	
	Aluminum-cast alloys	<=12% Si	Not cureable		75	23
			cured		90	24
		>12% Si	High temp.		130	25
		>1% Pb	Free cutting		110	26
	Copper alloys	Brass		90	27	
		Electrolytic copper		100	28	
	Non-metallic	Duroplastics, fiber plastics				29
		hard rubber				30

ISO	Material	Condition	Tensile Strength Rm [N/mm ² =MPa]	Hardness HB	Material No.
S	High temp. alloys	Fe based	Annealed	200	31
			Cured	280	32
	Super alloys	Ni or Co based	Annealed	250	33
			Cured	350	34
			Cast	320	35
	Titanium		Rm 400		36
	Ti alloys	Alpha+beta alloys cured	Rm 1050		37

ISO	Material	Condition	Tensile Strength Rm [N/mm ² =MPa]	Hardness HB	Material
H	Hardened steel	Hardened		55 HRC	38
		Hardened		60 HRC	39
	Chilled cast iron	Cast		400	40
	Cast iron	Hardened		55 HRC	41

Cermets		Cermets + PVD		Carbide + PVD	Carbide + CVD				
IC20N	IC30N	IC520N	IC530N	IC3028/830	IC8250	IC8150	IC5005/428	IC807/907	IC8350
250-400	230-380	250-420	230-400	120-200	230-380	280-420	300-450	140-230	125-210
220-350	200-330	220-380	200-350	100-170	200-340	240-380	260-400	120-205	110-185
180-320	160-300	180-350	160-320	80-150	170-300	200-340	220-360	100-180	95-165
210-340	190-320	210-370	190-340	90-160	190-320	220-360	240-380	115-190	105-175
160-300	140-280	160-330	140-300	80-130	160-280	180-320	200-340	95-170	90-155
180-320	160-300	180-350	160-320	80-150	170-300	200-340	220-360	100-180	95-165
170-300	150-280	170-330	150-300	70-130	160-280	200-320	220-340	95-170	90-155
160-250	140-230	160-280	140-250	60-120	140-250	190-300	210-320	85-150	75-135
150-220	130-200	150-250	130-230	50-100	120-220	180-280	200-300	70-130	65-120
180-300	160-280	180-330	160-300	80-130	170-280	200-320	220-340	100-170	95-155
150-220	130-200	150-250	130-230	50-100	120-220	180-280	200-300	70-30	65-120
210-340	190-320	210-370	190-340	90-160	190-320	220-360	240-380		
180-320	160-300	180-350	160-320	80-150	170-300	240-380	260-400		

Cermets + PVD		Carbide + PVD			Carbide + CVD	
IC520N	IC530N	IC807/907	IC808/908	IC3028/830	IC6015	IC6025
150-280	140-250	100-200	90-200	50-120	140-250	120-180






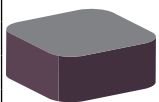

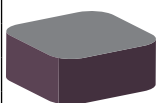

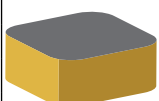

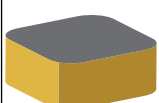



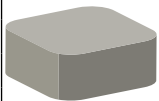
Carbide + CVD			Ceramics				Ceramics + CVD	CBN	
IC5005/ 428	IC5010/ 4028	IC8150	IN11	IN23	IS6	IS8	IS80	IB90/85	IB50
160-300	160-300	140-280		150-400	500-900	80-300			200-400
140-280	140-280	120-240		100-350	500-900	50-250			150-350
350-700	300-600	250-350	300-800	300-600	500-1200	300-1000	400-1000	500-12000	
300-600	250-500	200-300	200-600	200-500	500-1200	250-800	300-800	400-1000	
200-350	250-400	180-320							350-500
180-280	200-320	150-250							150-400

Carbide	PCD
IC20	ID5
1000-2500	600-2500
300-1000	600-2500
300-1000	600-2500
200-600	600-2500
250-600	600-1000
180-400	600-800
150-300	600-800

Carbide		Carbide + PVD				Whiskers	CBN			
IC07	IC20	IC804	IC806	IC907	IC3028	IW7	IB05S	IB10S	IB90	IB85
40-55	35-45			50-80	30-40					
30-45	25-35			40-65	20-30					
30-40	25-30	65 - 105	50-80	45-60	20-25	150-450				
20-30	15-25	50 - 90	40-70	35-45	10-20		100-250	100-250	100-200	120-240
25-35	20-30	40 - 85	30-65	30-50	15-25					
100-160	80-160			150-200	130-160					
50-60	50-60			50-100	30-60					

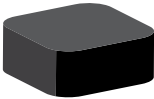
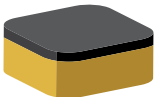
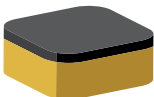
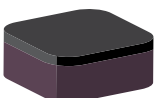
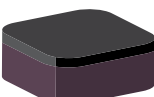
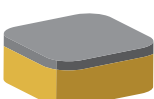
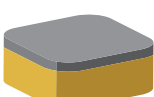
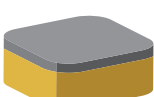
Ceramics				CBN							Carbide + PVD
IN22	IN420	IN23	IS8	IB10HC	IB10H	IB50/55	IB20H	IB25HC	IB25HA	IB85/90	IC907
50-150	60 - 170	40-120		150-350	100-220	100-140	100-220	100-220	90-200	80-140	40-100
50-120	60 - 140	40-100		150-350	100-220	80-120	100-220	100-220	90-200	60-120	30-60
30-200	30 - 230									70-150	
		80-120	60-100							100-140	

ISCAR Turning Grades Chart

	Grade	ISO	Grade Description	Coating Layers	Coating Color*	Uncoated
PVD COATED	IC520N	P05-P25	A hard cermet grade with PVD coating. Suitable for finishing operations on steels and stainless steel at high cutting speeds and low feeds. Features excellent surface finish, very good wear resistance and prevents built-up edge.			
		M05-M15				
	IC530N	P25-P35	Tough cermet grade with PVD coating. Recommended for Semi-Finishing and finishing operations on steels at medium to high cutting speeds and low feeds. Features excellent surface finish, high wear resistance, plastic deformation durability and prevents built-up edge.			
		M20-M30				
	IC804		A very hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for semi-finishing and finishing operations under stable conditions on high temperature alloys and Titanium alloys moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability.			
		S05-S15				
IC806		A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Excellent for machining high temperature alloys and Titanium alloys, at moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability.				
	M05-M15					
	S10-S20					
IC807	P10-P20	A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steels, alloy steels, austenitic stainless steel, high temperature alloys and hard steels at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability.				
	M05-M15					
	K15-K30					
	S10-S20					
	H05-H15					
IC830	P30-P45	A tough substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade features high toughness and recommended for interrupted cuts and machining under unstable conditions. May be used on high temperature alloys at low cutting speeds.				
	M25-M40					
	S20-S30					
IC907	P10-P20	A hard submicron grain size substrate with PVD coating suitable for a wide range of materials such as steels, alloy steels, hard steels, austenitic stainless steel and heat resistant alloys at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability.				
	M05-M15					
	K15-K30					
	S10-S20					
	H05-H15					
IC908	P15-P30	A tough submicron grain size substrate with PVD coating, recommended for general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. Features high wear resistance and chipping durability.				
	M20-M30					
	K20-K40					
	S15-S30					
	H20-H30					






* For coated grades

ISCAR Turning Grades Chart

	Grade	ISO	Grade Description	Coating Layers	Coating Color*	Uncoated
CVD COATED	IC428	K05-K20	A hard substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds.	Al ₂ O ₃		
		TiC				
		Base				
	IC5005	P05-P15	A very hard substrate with MTCVD coating with a special SUMOTEC surface treatment. Suitable for machining gray and nodular cast iron at high cutting speeds under stable conditions.	TiN		
		K05-K15		Al ₂ O ₃		
		H15-H25		TiCN		
	IC5010	K10-K20	A hard substrate with MTCVD coating with a special SUMOTEC surface treatment. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds, provides very good resistance to chipping.	TiN		
				Al ₂ O ₃		
				TiCN		
	IC6015	M05-M25	A hard substrate with cobalt enriched outer layer and MTCVD coating and a special SUMOTEC surface treatment. Suitable for finishing and medium turning of stainless steel at high cutting speeds. Features long tool life and high wear resistance.	TiN		
S10-S20		Al ₂ O ₃				
		TiCN				
IC6025	M15-M35	A very tough substrate with MTCVD coating with a special SUMOTEC surface treatment. Recommended for machining stainless steel at moderate cutting speeds and medium to high feeds. Features very high toughness with excellent results in heavy machining operations, unstable conditions, and interrupted cut.	TiN			
	S20-S30		Al ₂ O ₃			
			TiCN			
IC8150	P10-P25	A hard substrate with a cobalt enriched layer, MTCVD coating with a special SUMOTEC surface treatment. Recommended for high speed machining of steels, alloy steels and martensitic stainless steel with moderate feeds under stable conditions. Features excellent thermal stability, resistance to wear and plastic deformation durability.	TiN			
	M10-M20		Al ₂ O ₃			
	K10-K25		TiCN			
IC8250	P15-P35	A tough substrate with a cobalt enriched layer and MTCVD coating with a special SUMOTEC surface treatment. Recommended for general use machining of steels, alloy steels and martensitic stainless steel in a wide range of conditions. Features high toughness and good wear resistance.	TiN			
	M15-M25		Al ₂ O ₃			
	Base					
IC8350	P20-P45	A very tough substrate with cobalt enriched layer and MTCVD coating and a special SUMOTEC surface treatment. Suitable for machining steels and alloy steels at low to medium cutting speeds and medium to high feeds. Features very high toughness with excellent results in heavy machining, unstable conditions, and interrupted cuts.	TiN			
	M20-M30		Al ₂ O ₃			
	Base					










* For coated grades

ISCAR Turning Grades Chart

	Grade	ISO	Grade Description	Coating Layers	Coating Color*	Uncoated
UNCOATED	IC4		A very hard-uncoated carbide grade, suitable for machining aluminum alloys, aluminum alloys with high silicon content and other non-ferrous materials at high cutting speeds.	Base		
		N01-N15				
		S05-S15				
	IC08	M15-M30	A tough uncoated submicron carbide grade, suitable for steels, stainless steel and high temperature alloys at low cutting speeds. Good choice for non-ferrous materials.	Base		
		N10-N25				
		S20-S30				
	IC20	K10-K20	A hard-uncoated carbide grade for machining aluminum and other non-ferrous materials at medium to high cutting speeds. Can be used for cast iron at low cutting speeds. Suitable also for machining high temperature and Titanium alloys, at low cutting speeds.	Base		
N05-N25						
S10-S20						
H10-H20						
CERMET	IC20N	P05-P25	A very hard cermet grade for turning and grooving. Recommended for finishing operations on steels and alloy steels at high cutting speeds and low feeds. Features excellent surface finish, high wear resistance, plastic deformation durability and prevents built-up edge.	Base		
		M05-M15				
	IC30N	P10-P30	A hard cermet grade, suitable for machining, steels and stainless steel at medium to high cutting speeds and low feeds. Features excellent surface finish, very good wear resistance and prevents built-up edge.	Base		
		M10-M20				










* For coated grades

Advanced Cutting Materials

	Grade	ISO	Grade Description	Coating Layers	Coating Color*	Uncoated
CBN	IB05H		A high speed grade for continuous machining. The binding force between the particles is now improved by use of coarse PCBN grains which provide excellent wear resistance results.			
		H05-H10		Base		
	IB05S		A high speed grade for continuous machining. The binding force between the particles is now improved by use of coarse PCBN grains which provide excellent wear resistance results.			
		S05		Base		
	IB10H		Extra fine PCBN grain size. Suitable for high speed machining of hardened steels (45-65 HRC) under stable conditions.			
		H10		Base		
	IB10S		Very hard PCBN grade with fine grain size. Suitable for machining auto engine valve seats, sintered metals and Titanium alloys.			
		S10		Base		
	IB10HC		Extra fine PCBN grain size with PVD coating. Suitable for high speed machining of hardened steels (45-65 HRC) under stable conditions.			
		H10		TiN Base		
IB20H		A combination of coarse and fine PCBN grain. Suitable for general and interrupted cutting of hardened steels.				
	H20		Base			
IB20HC		Coated PCBN grade for hardened steel turning. High chipping resistance & extremely tough substrate for all-round use.				
	H15-H25		TiN Base			
IB25HA		A tough PCBN grade with PVD coating suitable for general cutting of hardened steels.				
	H25		TiN Base			
IB25HC		Medium PCBN grain size with PVD coating suitable for light and medium interrupted cutting of hardened steels.				
	H25		TiN Base			






* For coated grades

Advanced Cutting Materials

	Grade	ISO	Grade Description	Coating Layers	Coating Color*	Uncoated
CBN	IB50	K01-K10	A PCBN grade, suitable for finish turning and grooving operations on hardened steels 45-65 HRC and nodular cast iron in continuous cutting.	Base		
		H01-H10				
	IB55	K05-K15	A PCBN grade, suitable for finishing operations on hardened steels 45-65 HRC and nodular cast iron under continuous conditions and light interrupted cuts.	Base		
		H10-H25				
	IB85	K01-K15	A PCBN grade, suitable for high speed machining of cast iron, cemented tungsten carbide, heavy alloys and sintered metals. Excellent for interrupted cutting of hardened steels.	Base		
		S05-S10				
		H05-H10				
	IB90	K05-K15	A PCBN grade, suitable for high speed machining of cast iron, cemented tungsten carbide, heavy alloys and sintered metals. Excellent for interrupted cutting of hardened steels.	Base		
		S01-S10				
		H05-H10				
PCD	ID5	N01-N10	A PCD brazed tip, suitable for machining aluminum alloys (Si < 12%) and other non-ferrous materials. Features very high wear resistance with high toughness. Suitable for finishing operations and can be used for semi roughing operations and interrupted cut.	Base		
CERAMICS	IN22	K05-K10	Black ceramic (Al ₂ O ₃ + TiCN), suitable for semi-roughing and finishing operations at relatively high cutting speeds of hardened steels and chilled cast iron.	Base		
		H05-H25				
	IN23	K05-K15	Black ceramic (Al ₂ O ₃ + TiCN), suitable for moderate machining conditions and finishing operations of nodular and gray cast iron.	Base		
		H10-H30				
	IN110	K01-K10	White ceramic. Features high toughness and wear resistance. Used for high speed turning of cast iron.	Base		
		S01-S10				
	IN420	K05-K10	Black ceramic (Al ₂ O ₃ + TiCN) with PVD coating suitable for semi-roughing and finishing operations at relatively high cutting speeds of hardened steels and chilled cast iron.	TiN		
				Base		
		H05-H25		Base		

* For coated grades

Advanced Cutting Materials

	Grade	ISO	Grade Description	Coating Layers	Coating Color*	Uncoated
CERAMICS	IS6	K01-K10	SiAlON based ceramic grade for high speed machining of cast iron. Used for roughing and finishing under both wet and dry conditions of automotive parts like brake drum, brake discs and more. Provides high productivity also in rough turning of mill rolls made of high-chromium steel and HSS.	Base		
	IS25	S10-S20	Reinforced SiAlON composite grade, features high hardness, suitable for machining high temperature alloys such as Inconel, Waspaloy and Rene under continuous conditions.	Base		
	IS35	S15-S25	Reinforced SiAlON composite grade, features high hardness with excellent toughness. Suitable for machining high temperature alloys such as Inconel, Waspaloy and Rene under continuous and light interrupted cutting conditions.	Base		
IS80	K01-K20	A silicon nitride (Si ₃ N ₄) ceramic grade, with CVD coating suitable for turning of grey and nodular cast iron at high cutting speeds in roughing and finishing operations. Features high wear resistance and good toughness.	TiN			
			Base			
IW7	S20-S30	Whisker reinforced ceramic grade for roughing and semi finishing operations of high temperature alloys such as Inconel and Waspaloy on high cutting speeds under stable conditions. Can be used also for hardened steels machining.	Base			
	H05-H25					

* For coated grades

Key Points for Turning with CBN

Benefits of using CBN inserts

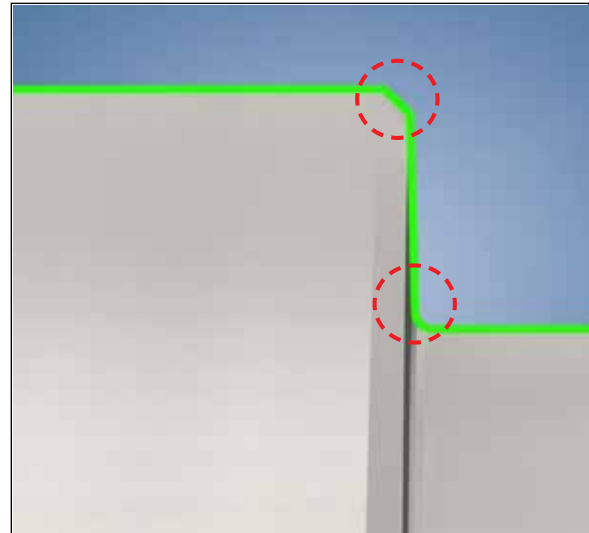
- 1 Can replace grinding operations, which reduces machining costs.
- 2 Dimensional stability, which is especially important in mass production. Minimizes the amount of scrapped parts.
- 3 "Green" approach, due to minimized usage of coolant. There are a few guidelines to follow to achieve the best results and high productivity when machining hard materials:

- CBN is characterized by hardness of 4500 HV. The high hardness of CBN enables it to machine hard materials at high speeds and feeds.
- Successful HPT (Hard Part Turning) demands not only suitable cutting tools, but also the right conditions, preparation and environment.
- HPT begins with a correct "soft" state machining design that will create the best possible conditions for HPT.

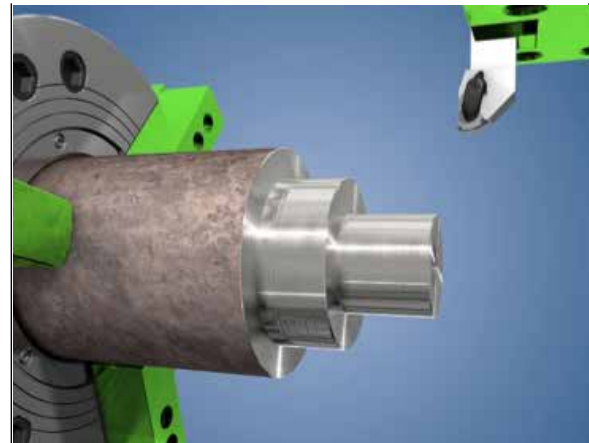
The "soft" state (around 20-40 HRC) is the state in which the workpiece material is yet to be hardened to its final hardness.

Important points when planning the "soft" machining process:

- Avoid burrs
- Keep close dimensional tolerances
- Do not enter or exit a cut suddenly
- Enter and exit by planning radius movements
- Use wiper inserts to achieve superior surface finish
- Do not leave sharp corners (round or chamfer)
- Machine stability, rigidity and thermal stability are vital conditions for producing a high quality finished part. The better the stability of the overall machine concept, the closer the tolerances will be achieved.
- Clamping the workpiece with sufficient force will prevent its movement and improve surface finish. Make sure that you employ wide clamping jaws which offer better grip on the workpiece, compared to ordinary three point jaws.
- Using tailstock in long parts will add even more stability and rigidity to the machining process.
- Large cross section tools further add to system rigidity.
- Coolant-Generally, do not use coolant when machining hard materials. CBN inserts tolerate high cutting temperatures, and therefore have no need for coolant. Avoiding coolant is more economical, environmentally friendly and better because as the material heats up during the turning process, it becomes slightly softer and easier to machine. However, there may be some applications that require using coolant: in cases of continuous turning when high surface finish is required.



Rounding and chamfering at the "soft" state



Rigid clamping of the workpiece and toolholder



Use tailstock in long parts