

SWISS BLUE
TECHNOLOGIES



The Company

SWISS PRODUCER

All our products are designed and developed in Switzerland... more than 75% of our line, is produced in Switzerland.

FULL RANGE

We make a full range of cutting tools, made of sub micron and over micron grades, combined with the latest CVD coatings (all with Alpha-Alumina) and patented PVD coatings.

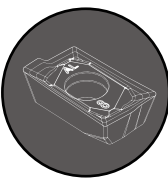
25 YEARS EXPERIENCE

Our team of cutting tools experts have been developing grades and products all over the world. We have been developing tools for divers needs and geographic regions

HIGHEST QUALITY

We keep the highest quality standards, as you might expect from a Swiss producer... and yet, our prices are uniquely affordable.

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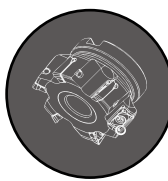


MILLING INSERTS

- TECHNICAL INFORMATION
- INSERTS - DATA PAGES

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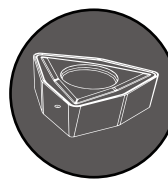
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MILLING CUTTERS

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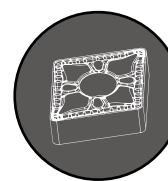


DRILLING INSERTS

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TURNING INSERTS

- TECHNICAL INFORMATION
- INSERTS - DATA PAGES

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TECHNICAL TABLES

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- INDEX

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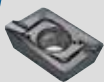
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Product Range

MILLING INSERTS

APGT



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APKT



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APMT



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RDMT/W



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RPMT/W



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SDMT



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SEGT



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SEKN



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SNMX



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SPKN/R



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TPKN/R



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MILLING CUTTERS

APKT



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RDMT



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SDMT



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SEKT



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SNMX



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DRILLING INSERTS

SPMG



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WCMX



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Product Range

TURNING INSERTS

CCMT



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CNGG



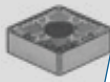
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CNMA



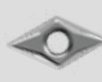
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CNMG



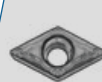
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DCGT



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DCMT



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DNMG



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TCMT



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TNGG



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TNMA



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TNMG



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TNXX



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VBMT



Page 143

VCGT



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VCMT



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VNMG



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WNGG



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WNMA



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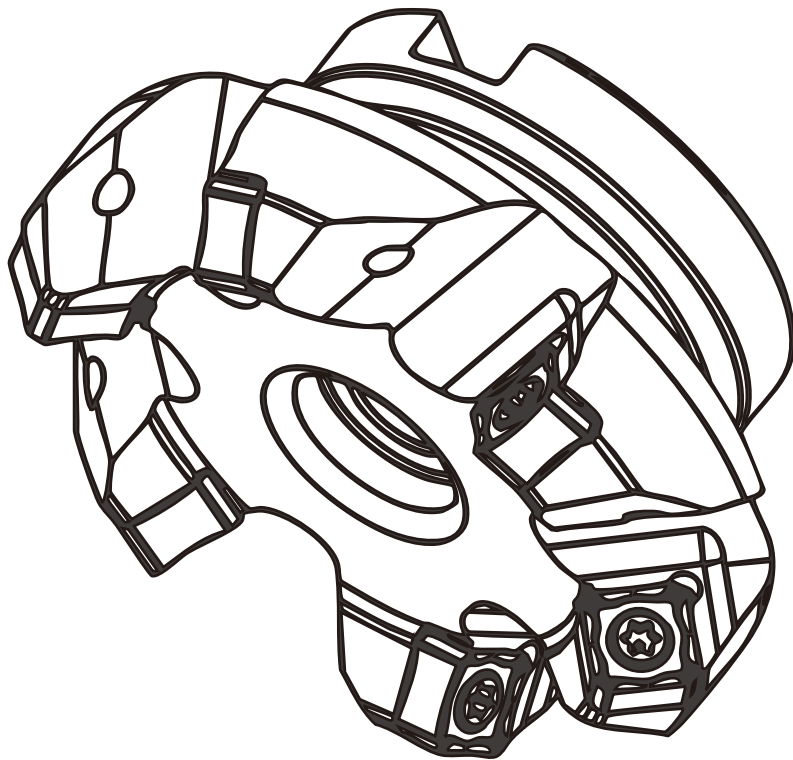
WNMG



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MILLING



Family Index

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RPMT/RPMW

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SDMT

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SEGT

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SEKN/SEKR

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SEKT

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SNMX

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SPKN/SPKR

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TPKN/TPKR

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Grades & Chip-Breakers

Grades

UN330

- First choice for general milling
- Sub-micron grade with PVD coating



UN830

- Grade for aluminum machining
- Sub-micron grade with patented PVD coating



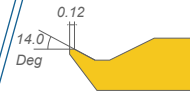
Over the last 10 years Swiss.Blue has developed **Unique and Patented** group of PVD- coatings.

Based on extremely **dense Plasma** in combination with **Hyper-Pulsed** Deposition, Swiss.Blue offers the most advanced and high efficiency coatings for milling - on the market.

Chip breakers

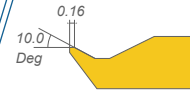
PF / UF

- Sharp chip breaker
- **For finishing Operations**
- Also adopted for sticky material and Stainless steel



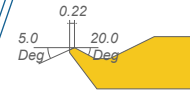
PM

- **Semi Finishing chip breaker for general machining**
- First choice for stable machining and light-to Mid, cutting conditions
- Smooth cutting due to positive chip breaker angles



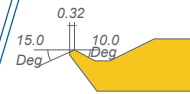
PT (STD)

- **Mid. Cutting conditions- chip breaker for General machining**
- First choice for unstable machining
- Smooth cutting due to positive chip breaker angles



PR

- **Roughing chip breaker, mostly used in high-feed machining**
- First choice for unstable machining or for thick casting "skins"
- Tough and reinforced cutting edge



ALU

- **Very sharp and positive chip breaker**
- For milling Aluminum and other sticky materials
- Can be used for Aluminum with very low silicon



"First Choice" Cutting Parameters

Fz

- **PF:** Bigger than 0.11
- **PM:** Bigger than 0.18
- **PT:** Bigger than 0.25
- **PR:** Bigger than 0.35

Grade

- **UN 330:** PVD general Purpose

Vc

- **Vc: 150:** Always below 180

Ap

- **Depth of Cut:** Any Depth

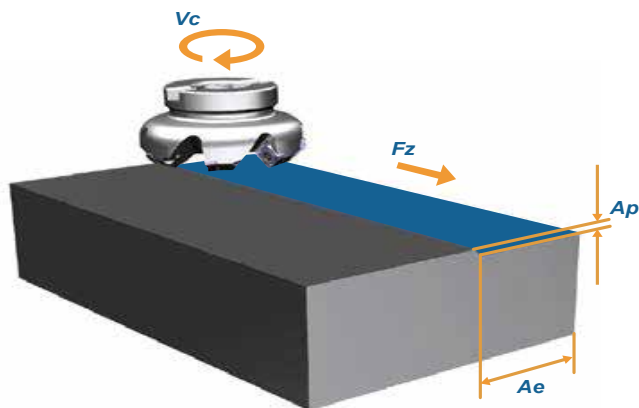
Coolant

- **Always -OFF:** Except Hard to Machine Materials like Titanium

Ae

- **Width of Cut:** 2/3 of the Cutter's Diameter

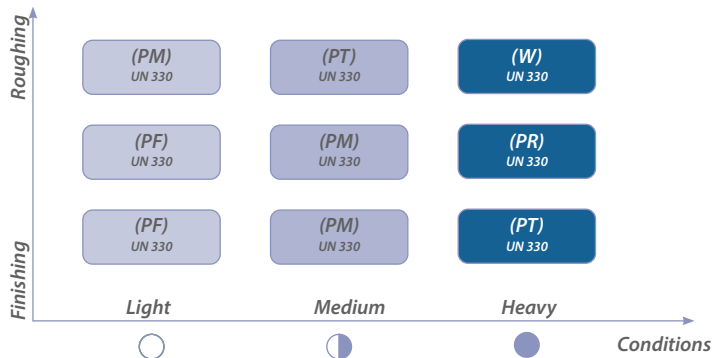
Cutting Directions



Grades and Chip Breakers Selection

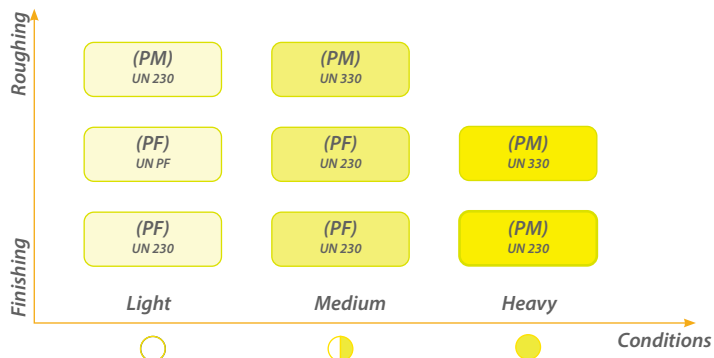
ISO(P)-Steel

Machining



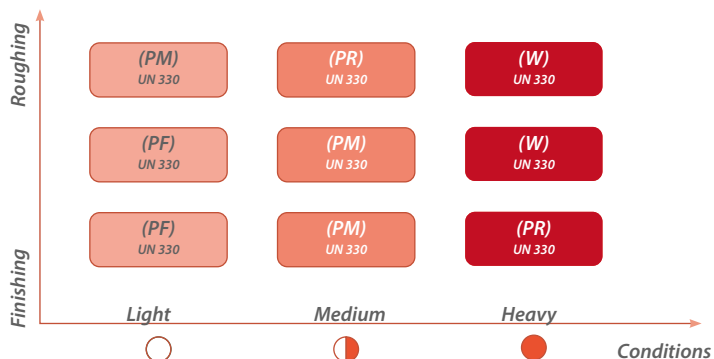
ISO(M)-Stainless steel

Machining

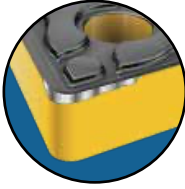


ISO(K)-Cast iron

Machining



Types of Tool-Wear



Flank Wear

- Normal wear on the flank face of the insert.
- This wear is caused by the work-piece material rubbing against the side face



Crater Wear

- Normal wear on the top face of the insert.
- This wear is caused by the work piece material eroding the top of the insert



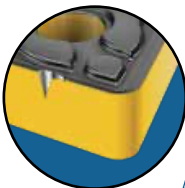
Edge Chipping

- This is a failure of the insert when its cutting edge is broken
- This failure is undesirable in machining as it could lead to tool and work-piece damage



Built-Up-Edge (BUE)

- Built-Up-Edge is an Accumulation of the work piece material on the cutting edge of the insert.
- This type of wear is very common when machining soft materials which can have low melting point and are highly ductile in nature



Notch Wear

- This wear occurs on the cutting edge at the depth of cut, where the cutting edge meets the work piece material- causing a notch to form on the insert's flank.
- This wear is very common in machining "Work hardened" materials like Stainless Steel or materials that have an outer skin with varying hardness

Flank Wear

- Reduce cutting Speed
- Use wear resistant grade and Increase Feed
- Use coolant (only in case of Supper-Alloys)

Crater Wear

- Reduce cutting Speed/Feed
- Use sharper Geometry
- Use wear resistant grade

Edge Chipping

- Use tougher grade
- Eliminate vibration / reduce shock loads
- Use reinforced cutting edge/ tougher chip breaker

Built-up Edge (BUE)

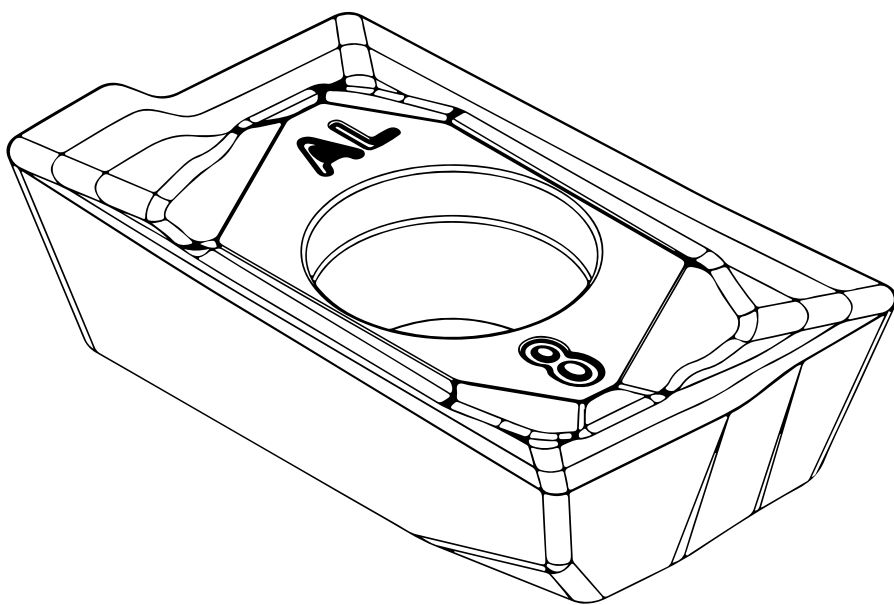
- Increase cutting speed / feed
- Use a sharper chip breaker - Like MF or MM

Notch Wear

- Change to wear resistant grade
- Reduce Cutting speed / feed
- Use Sharper geometry
- Change Depth-of-cut between passes - if possible

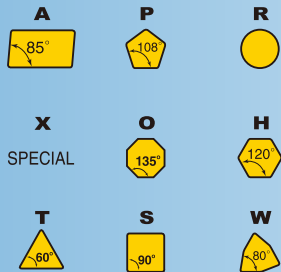


MILLING INSERTS

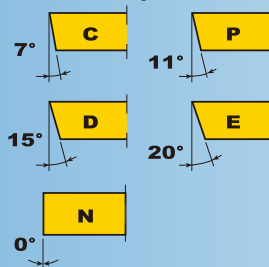


Naming Standards

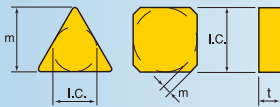
1. Shape



2. Clearance Angle



3. Tolerance



Class	Tolerance (mm)		
	m	t	I.C.
A	±0.005	±0.025	±0.025
E	±0.025	±0.025	±0.025
F	±0.005	±0.025	±0.013
G	±0.025	±0.130	±0.025
H	±0.013	±0.025	±0.013
K	±0.013	±0.025	±0.05
			±0.08
			±0.10
			±0.13
M	±0.08	±0.130	±0.05
			±0.08
			±0.10
			±0.13

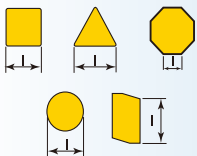
4. Type



A P K T 1 6 0 4 □ □ P D □ R P M

1 2 3 4 5 6 7 8 9 10 11

5. Cutting Edge Length



7. Corner Radius

Symbol	Radius(mm)
04	0.4
05	0.5
08	0.8
16	1.6
24	2.4
32	3.2
48	4.8
64	6.35



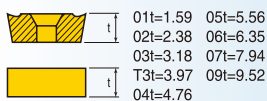
9. Edge Condition



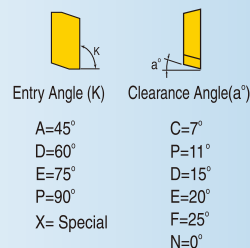
11. Chipbreaker

- PF
- PM
- PT
- PR

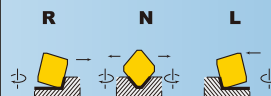
6. Thickness



8. Parallel Land



10. Hand of Insert

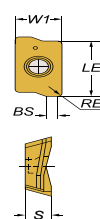


APGT

85° Rectangular insert - with 11° Positive Angle - Used for Shoulder Milling,
- for Low Si Aluminum and other Non Ferrous Materials - use Swiss.Blue Cutters

INSERTS

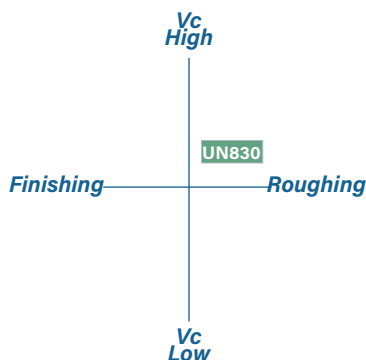
CAT. NUM	DESCRIPTION	W1	LE	RE	S	BS
2100000250	APGT 100305 PDTR ALU UN830	6.70	10.95	0.50	3.50	0.90
2100000252	APGT 100308 PDTR ALU UN830	6.72	11.05	0.80	3.52	1.00
2100000254	APGT 1604 PDTR ALU UN830	9.40	16.00	0.80	4.76	1.80



OVER-VIEW



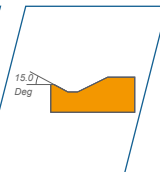
GRADES



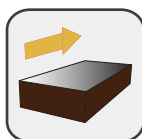
CHIP-BREAKERS

ALU

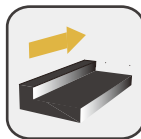
- Sharp and positive Chip breaker
- For milling aluminum and other sticky materials
- Can be used also for Aluminum with low silicon content



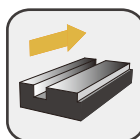
APPLICATIONS ICONS



SURFACING



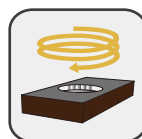
SHOULDERING



SLOTING



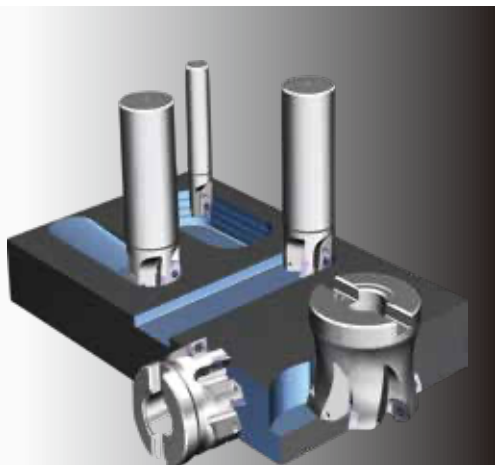
POCKETING



INTERPOLATING

HIGHLIGHTS

- Inserts and milling cutters are designed for milling Aluminum alloys
- Recommended for die & mold Applications
- Surface milling , grooves and pocket milling are recommended
- APTG inserts with Swiss.Blue cutters produce a 90 degrees on the machined wall



CUTTERS

APTG
1003

END-MILLS

16	AP1003-EM-16-Z2-85
20	AP1003-EM-20-Z3-85
25	AP1003-EM-25-Z4-95
32	AP1003-EM-32-Z5-95

FACE-MILLS

40	AP1003-FM-40-Z6-22
50	AP1003-FM-50-Z7-22
63	
80	

* Long End-Mills (150mm / 200mm) are available

APTG
1604

END-MILLS

16	
20	
25	AP1604-EM-25-Z2-95
32	AP1604-EM-32-Z3-95

FACE-MILLS

40	
50	AP1604-FM-50-Z5-22
63	AP1604-FM-63-Z6-22
80	AP1604-FM-80-Z7-27

* Long End-Mills (150mm / 200mm) are available

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

For more information on cutters see page 059-060

ACCESSORIES



MOLICOT
TUBE



TORX
SCREW-DRIVER



TORX
SCREWS



APGT100305 PDTR ALU UN830

	Fz	Vc
N Aluminum - Non-ferrous alloys	0.08 - 0.25	200 - 700
Depth-of-cut	0.5 - 9.0	

APGT 100308 PDTR ALU UN830

	Fz	Vc
N Aluminum - Non-ferrous alloys	0.1 - 0.25	200 - 700
Depth-of-cut	0.8 - 9.0	

APGT 1604 PDTR ALU UN830

	Fz	Vc
N Aluminum - Non-ferrous alloys	0.1 - 0.25	200 - 700
Depth-of-cut	0.8 - 15.7	

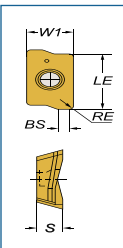


APKT

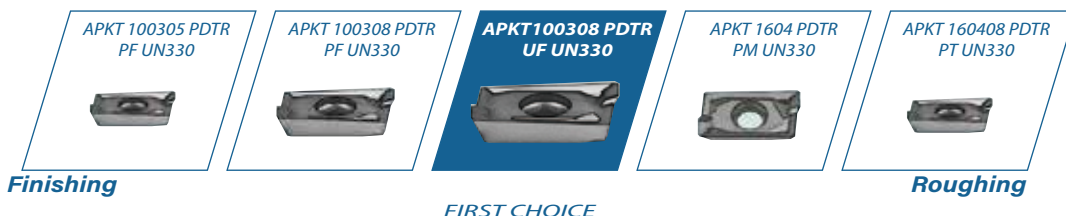
85° Rectangular insert - with 11° Positive Angle - Used for Shoulder Milling, Surface Cleaning and Slotting Applications - use Swiss.Blue Cutters

INSERTS

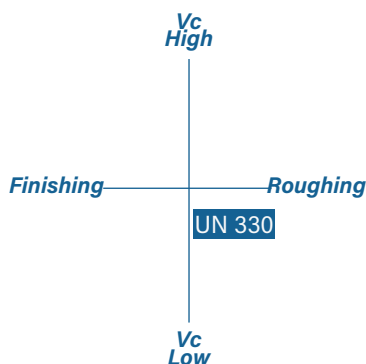
CAT. NUM	DESCRIPTION	W1	LE	RE	S	BS
2100000200	APKT 100305 PDTR PF UN330	6.70	10.95	0.5	3.50	0.90
2100000140	APKT 100308 PDTR PF UN330	6.72	11.05	0.8	3.52	1.00
2100000100	APKT 100308 PDTR UF UN330	6.72	11.05	0.8	3.52	1.00
2100000182	APKT 1604 PDTR PM UN330	9.40	16.00	0.80	4.76	1.80
2100000298	APKT 1604 PDTR PT UN330	9.40	16.00	0.80	4.76	1.80
2100000102	APKT 160408 PDTR PT UN330	9.52	16.00	0.80	5.30	1.20



OVER-VIEW



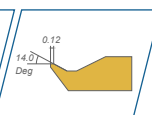
GRADES



CHIP-BREAKERS

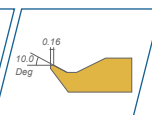
PF / UF

- Sharp chip breaker
- For finishing operations



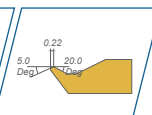
PM

- Semi Finishing chip breaker for general machining
- First choice std. conditions

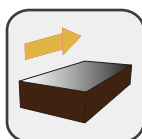


PT

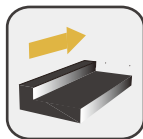
- Mid. conditions - chip breaker for general machining
- for unstable machining



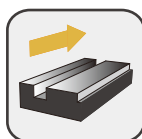
APPLICATIONS ICONS



SURFACING



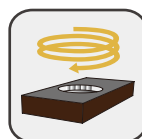
SHOULDERING



SLOTTING



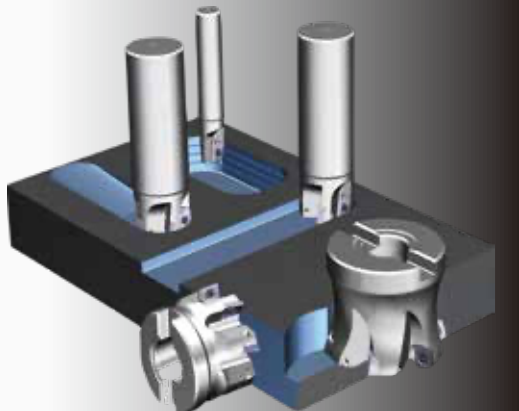
POCKETING



INTERPOLATING

HIGHLIGHTS

- Family of cutters & Inserts - Mostly used for shoulder milling
- Can be used for surface and slotting applications as well
- APKT 10 has mostly end-mills
- APKT 16 has mostly face-mills
- APKT inserts in combination with our cutters –will give “true 90° wall in the material machined



CUTTERS

APKT 1003

END-MILLS

16	AP1003-EM-16-Z2-85
20	AP1003-EM-20-Z3-85
25	AP1003-EM-25-Z4-95
32	AP1003-EM-32-Z5-95

FACE-MILLS

40	AP1003-FM-40-Z6-22
50	AP1003-FM-50-Z7-22
63	
80	

* Long End-Mills (150mm / 200mm) are available

APKT 1604

END-MILLS

16	
20	
25	AP1604-EM-25-Z2-95
32	AP1604-EM-32-Z3-95

FACE-MILLS

40	
50	AP1604-FM-50-Z5-22
63	AP1604-FM-63-Z6-22
80	AP1604-FM-80-Z7-27

* Long End-Mills (150mm / 200mm) are available

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

For more information on cutters see page 059-060

ACCESSORIES



MOLICOT
TUBE



TORX
SCREW-DRIVER



TORX
SCREWS



APKT 100305 PDTR PF UN330

		Fz	Vc
P	Steel - low carbon	0.13 - 0.26	110 - 190
	Steel - alloyed steel	0.10 - 0.22	110 - 190
	Steel - highly alloyed	0.07 - 0.19	90 - 170

M	Stainless steel - austenitic	0.12 - 0.18	110 - 175
	Stainless steel - duplex	0.09 - 0.13	80 - 145

K	Gray cast iron	0.10 - 0.25	110 - 190
	High-strength cast iron with globular graphite	0.10 - 0.21	110 - 170

S	Hard-to-process materials - nickel alloys	0.07 - 0.15	25 - 45
	Hard-to-process materials - titanium alloys	0.07 - 0.15	30 - 55

DEPTH OF CUT 0.5 - 9.0

APKT 100308 PDTR UF UN330

		Fz	Vc
P	Steel - low carbon	0.13 - 0.26	110 - 190
	Steel - alloyed steel	0.10 - 0.22	110 - 190
	Steel - highly alloyed	0.07 - 0.19	90 - 170

M	Stainless steel - austenitic	0.12 - 0.18	110 - 175
	Stainless steel - duplex	0.09 - 0.13	80 - 145

K	Gray cast iron	0.10 - 0.25	110 - 190
	High-strength cast iron with globular graphite	0.10 - 0.21	110 - 170

S	Hard-to-process materials - nickel alloys	0.07 - 0.15	25 - 45
	Hard-to-process materials - titanium alloys	0.07 - 0.15	30 - 55

DEPTH OF CUT 0.5 - 9.0

APKT 100308 PDTR PF UN330

		Fz	Vc
P	Steel - low carbon	0.13 - 0.26	110 - 190
	Steel - alloyed steel	0.10 - 0.22	110 - 190
	Steel - highly alloyed	0.07 - 0.19	90 - 170

M	Stainless steel - austenitic	0.12 - 0.18	110 - 175
	Stainless steel - duplex	0.09 - 0.13	80 - 145

K	Gray cast iron	0.10 - 0.25	110 - 190
	High-strength cast iron with globular graphite	0.10 - 0.21	110 - 170

S	Hard-to-process materials - nickel alloys	0.07 - 0.15	25 - 45
	Hard-to-process materials - titanium alloys	0.07 - 0.15	30 - 55

DEPTH OF CUT 0.5 - 9.0

APKT 1604 PDTR PM UN330

		Fz	Vc
P	Steel - low carbon	0.20 - 0.39	110 - 190
	Steel - alloyed steel	0.17 - 0.35	110 - 190
	Steel - highly alloyed	0.14 - 0.32	90 - 170

M	Stainless steel - austenitic	0.19 - 0.28	110 - 175
	Stainless steel - duplex	0.16 - 0.23	80 - 145

K	Gray cast iron	0.17 - 0.38	110 - 190
	High-strength cast iron with globular graphite	0.17 - 0.34	110 - 170

S	Hard-to-process materials - nickel alloys	0.10 - 0.25	25 - 45
	Hard-to-process materials - titanium alloys	0.10 - 0.25	30 - 55

DEPTH OF CUT 0.5 - 15.0

APKT 1604 PDTR PT UN330

		Fz	Vc
P	Steel - low carbon	0.20 - 0.39	110 - 190
	Steel - alloyed steel	0.17 - 0.35	110 - 190
	Steel - highly alloyed	0.14 - 0.32	90 - 170

M	Stainless steel - austenitic	0.19 - 0.30	110 - 175
	Stainless steel - duplex	0.16 - 0.25	80 - 145

K	Gray cast iron	0.17 - 0.38	110 - 190
	High-strength cast iron with globular graphite	0.17 - 0.34	110 - 170

S	Hard-to-process materials - nickel alloys	0.12 - 0.20	25 - 45
	Hard-to-process materials - titanium alloys	0.12 - 0.20	30 - 55

DEPTH OF CUT 0.5 - 15.0

APKT 160408 PT UN330

		Fz	Vc
P	Steel - low carbon	0.20 - 0.39	110 - 190
	Steel - alloyed steel	0.17 - 0.35	110 - 190
	Steel - highly alloyed	0.14 - 0.32	90 - 170

M	Stainless steel - austenitic	0.19 - 0.30	110 - 175
	Stainless steel - duplex	0.16 - 0.25	80 - 145

K	Gray cast iron	0.17 - 0.38	110 - 190
	High-strength cast iron with globular graphite	0.17 - 0.34	110 - 170

S	Hard-to-process materials - nickel alloys	0.12 - 0.20	25 - 45
	Hard-to-process materials - titanium alloys	0.12 - 0.20	30 - 55

DEPTH OF CUT 0.5 - 15.0

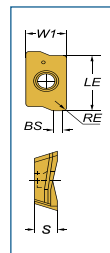


APMT

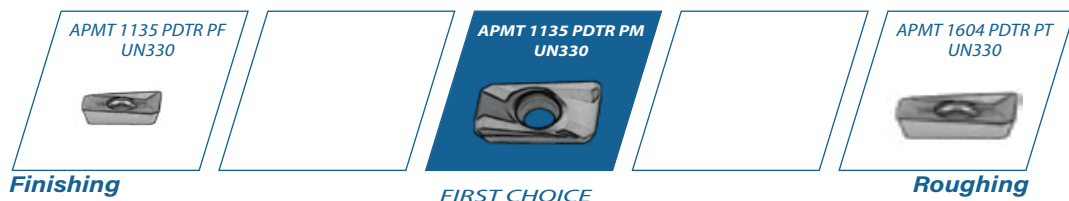
85° Rectangular insert - with 11° Positive Angle - Used for Shoulder Milling and Surface Cleaning - use With Standard Cutters

INSERTS

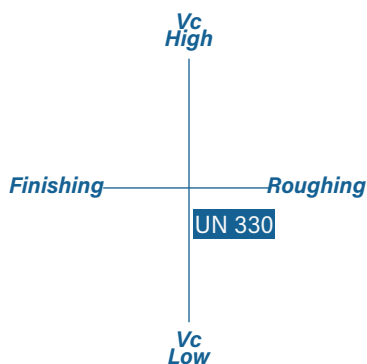
CAT. NUM	DESCRIPTION	W1	LE	RE	S	BS
2100000104	APMT 1135 PDTR PF UN330	6.21	11.27	0.8	3.52	1.00
2100000160	APMT 1135 PDTR PM UN330	6.15	11.29	0.8	3.52	1.00
2100000106	APMT 1604 PDTR PT UN330	9.33	17.25	0.8	4.76	1.60



OVER-VIEW



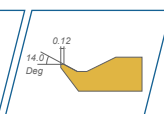
GRADES



CHIP-BREAKERS

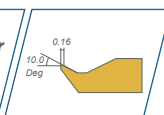
PF / UF

- Sharp chip breaker
- For finishing operations



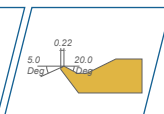
PM

- Semi Finishing chip breaker for general machining
- First choice std. conditions

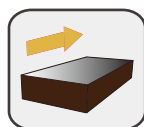


PT

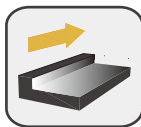
- Mid. conditions - chip breaker for general machining in unstable conditions



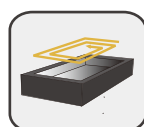
APPLICATIONS ICONS



SURFACING



SHOULDERING



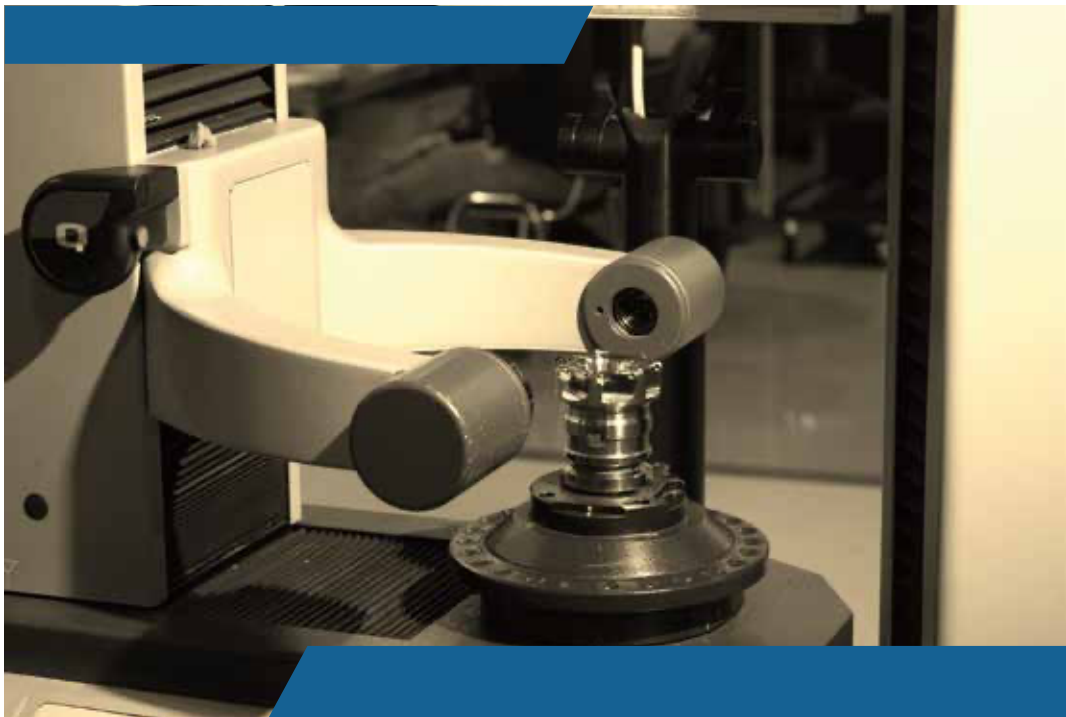
POCKETING

HIGHLIGHTS

- *Utility inserts, aggressively priced*
- *ISO style inserts for shoulder milling and surface cleaning*
- *Will fit standard milling cutters*
- *APMT inserts do not provide a "true" 90° wall in the material machined*

CUTTERS

- *Our APMT inserts will fit ISO style cutter*
- *Please ensure good sitting of the inserts in the pocket*
- *For strong screw clamping - ensure between 90° to 270° arc - after first resistance - when closing the screw*



APMT 1135 PDTR PF UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.16 - 0.27	110 - 190
	Steel - alloyed steel	0.16 - 0.24	110 - 190
	Steel - highly alloyed	0.13 - 0.21	90 - 170

M	Stainless steel - austenitic	0.16 - 0.24	110 - 175
	Stainless steel - duplex	0.11 - 0.15	80 - 145

K	Gray cast iron	0.16 - 0.24	110 - 190
	High-strength cast iron with globular graphite	0.16 - 0.20	110 - 170

DEPTH OF CUT *0.5 - 10.0*

APMT 1135 PDTR PM UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.22 - 0.31	110 - 190
	Steel - alloyed steel	0.22 - 0.28	110 - 190
	Steel - highly alloyed	0.19 - 0.25	90 - 170

M	Stainless steel - austenitic	0.24 - 0.30	110 - 175
	Stainless steel - duplex	0.21 - 0.25	80 - 145

K	Gray cast iron	0.20 - 0.28	110 - 190
	High-strength cast iron with globular graphite	0.20 - 0.24	110 - 170

DEPTH OF CUT *0.5 - 10.0*

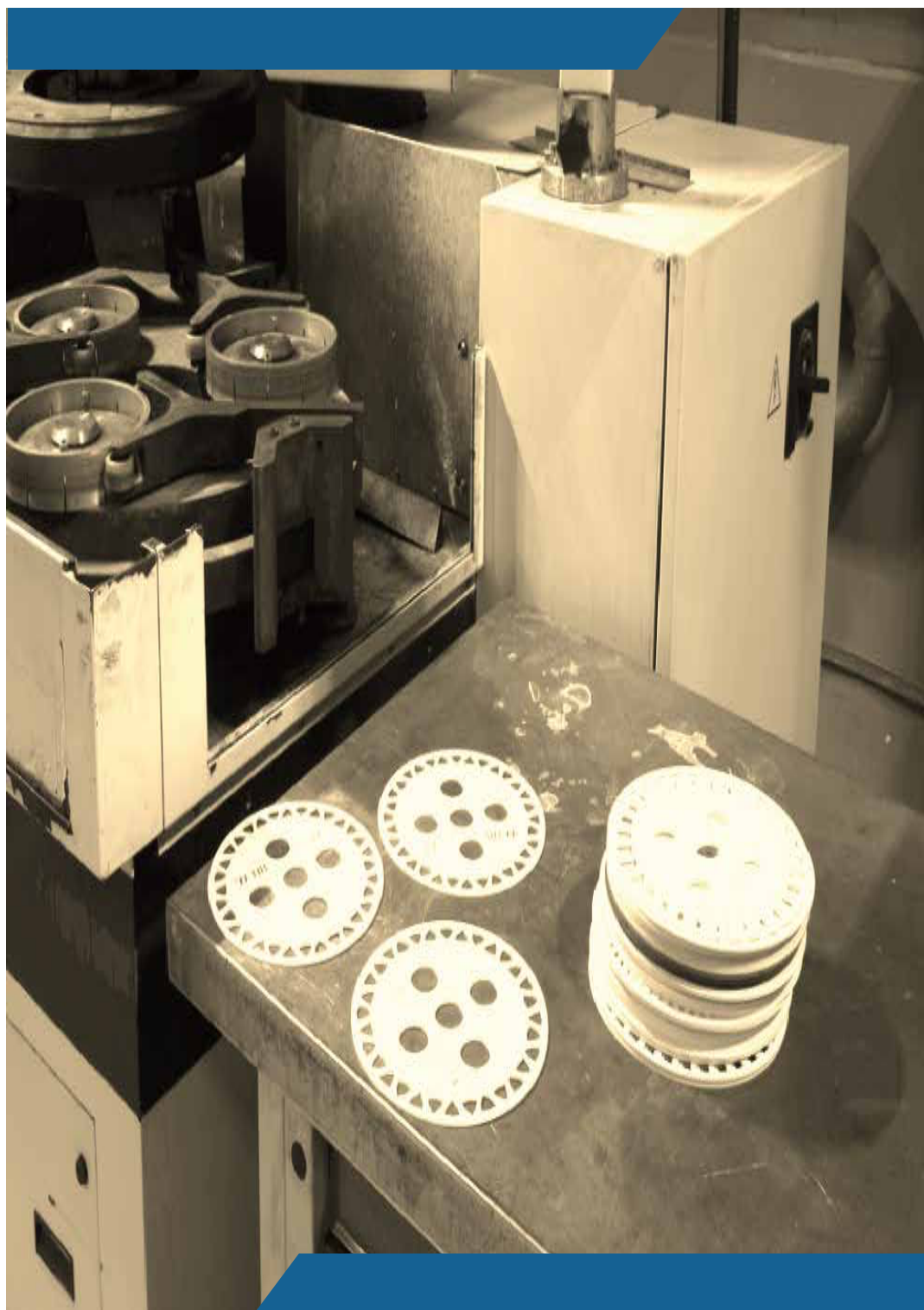
APMT 1604 PDTR PT UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.25 - 0.44	110 - 190
	Steel - alloyed steel	0.22 - 0.40	110 - 190
	Steel - highly alloyed	0.19 - 0.37	110 - 190

M	Stainless steel - austenitic	0.24 - 0.32	110 - 175
	Stainless steel - duplex	0.21 - 0.27	80 - 145

K	Gray cast iron	0.22 - 0.43	110 - 190
	High-strength cast iron with globular graphite	0.22 - 0.39	110 - 170

DEPTH OF CUT *0.5 - 15.0*

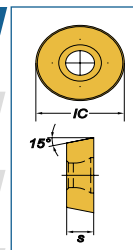


RDMT / RDMW

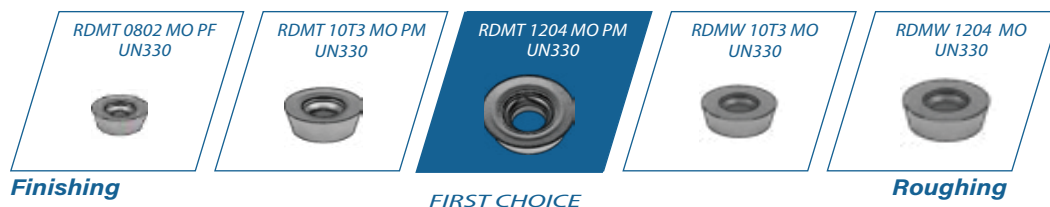
Round Inserts - with 15 ° Positive Angle - Used for Copy Milling
and Die and Mold applications - use with Swiss.Blue Cutters

INSERTS

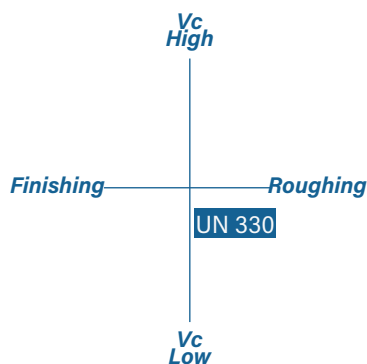
CAT. NUM	DESCRIPTION	IC	S
2100000210	RDMT 0802 MO PF UN330	8.00	2.38
2100000114	RDMT 10T3 MO PM UN330	10.00	3.97
2100000116	RDMT 1204 MO PM UN330	12.00	4.76
2100000212	RDMW 0802 MO UN330	8.00	2.38
2100000176	RDMW 10T3 MO UN330	10.00	3.97
2100000170	RDMW 1204 MO UN330	12.00	4.76



OVER-VIEW



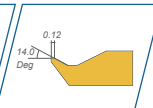
GRADES



CHIP-BREAKERS

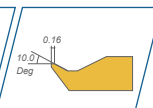
PF

- Sharp chip breaker
- For finishing operations



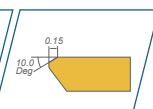
PM

- Semi Finishing chip breaker for general machining
- First choice std. conditions

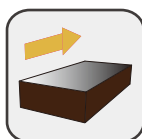


W

- Flat top Chip Breaker design
- Used for high hardness materials and Die& Mold



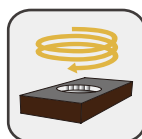
APPLICATIONS ICONS



SURFACING



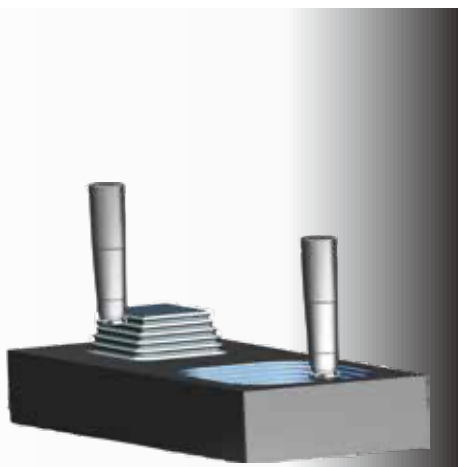
POCKETING



INTERPOLATING

HIGHLIGHTS

- Family of cutters and inserts typically used for copy milling, surface cleaning and pocketing
- Should be used with small depth-of-cut
- Can be used with elevated feeds
- Inserts Should be used with our dedicated cutters- for best performance



CUTTERS

RDMT
10T3

END-MILLS

16	
20	RD10T3-EM-20-Z1-95
25	RD10T3-EM-25-Z2-95
32	RD10T3-EM-32-Z3-95

FACE-MILLS

40	RD10T3-FM-40-Z3-16
50	RD10T3-FM-50-Z4-22
63	RD10T3-FM-63-Z5-22
80	RD10T3-FM-80-Z7-27

* Long End-Mills (150mm / 200mm) are available

RDMT
1204

END-MILLS

16	
20	
25	
32	RD1204-EM-32-Z3-95

FACE-MILLS

40	RD1204-FM-40-Z3-16
50	RD1204-FM-50-Z4-22
63	RD1204-FM-63-Z5-22
80	RD1204-FM-80-Z6-27

* Long End-Mills (150mm / 200mm) are available

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

For more information on cutters see page 059-060

ACCESSORIES



MOLICOT
TUBE



TORX
SCREW-DRIVER



TORX
SCREWS



RDMT 0802 MO PF UN330

		Fz	Vc
P	Steel - low carbon	0.18 - 0.48	110 - 190
	Steel - alloyed steel	0.15 - 0.44	110 - 190
	Steel - highly alloyed	0.12 - 0.41	90 - 170
M	Stainless steel - austenitic	0.17 - 0.38	110 - 175
	Stainless steel - duplex	0.14 - 0.33	80 - 145
K	Gray cast iron	0.15 - 0.47	110 - 180
	High-strength cast iron with globular graphite	0.15 - 0.43	110 - 160
DEPTH OF CUT		0.5 - 1.0	

RDMW 0802 MO UN330

		Fz	Vc
P	Steel - low carbon	0.18 - 0.48	110 - 190
	Steel - alloyed steel	0.15 - 0.44	110 - 190
	Steel - highly alloyed	0.12 - 0.41	90 - 170
K	Gray cast iron	0.15 - 0.47	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.43	110 - 170
H	Hard materials	0.10 - 0.35	30 - 80
DEPTH OF CUT		0.5 - 1.0	

RDMT 10T3 MO PM UN330

		Fz	Vc
P	Steel - low carbon	0.18 - 0.48	110 - 190
	Steel - alloyed steel	0.15 - 0.44	110 - 190
	Steel - highly alloyed	0.12 - 0.41	90 - 170
M	Stainless steel - austenitic	0.17 - 0.38	110 - 175
	Stainless steel - duplex	0.14 - 0.33	80 - 145
K	Gray cast iron	0.15 - 0.47	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.43	110 - 170
DEPTH OF CUT		0.5 - 1.5	

RDMW 10T3 MO UN330

		Fz	Vc
P	Steel - low carbon	0.21 - 0.68	110 - 190
	Steel - alloyed steel	0.18 - 0.64	110 - 190
	Steel - highly alloyed	0.15 - 0.61	90 - 170
K	Gray cast iron	0.18 - 0.67	110 - 190
	High-strength cast iron with globular graphite	0.18 - 0.63	110 - 170
H	Hard materials	0.10 - 0.35	30 - 80
DEPTH OF CUT		0.5 - 1.5	

RDMT 1204 MO PM UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.24 - 0.55	110 - 190
	Steel - alloyed steel	0.21 - 0.51	110 - 190
	Steel - highly alloyed	0.18 - 0.48	90 - 170
M	Stainless steel - austenitic	0.23 - 0.45	110 - 175
	Stainless steel - duplex	0.20 - 0.40	80 - 145
K	Gray cast iron	0.21 - 0.54	110 - 190
	High-strength cast iron with globular graphite	0.21 - 0.50	110 - 170
S	Hard-to-process materials - nickel alloys	0.12 - 0.30	25 - 45
	Hard-to-process materials - titanium alloys	0.12 - 0.30	30 - 55
<i>DEPTH OF CUT</i>		0.5 - 2.0	

RDMW 1204 MO UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.28 - 0.78	110 - 190
	Steel - alloyed steel	0.25 - 0.74	110 - 190
	Steel - highly alloyed	0.22 - 0.71	90 - 170
K	Gray cast iron	0.25 - 0.77	110 - 190
	High-strength cast iron with globular graphite	0.25 - 0.73	110 - 170
H	Hard materials	0.10 - 0.35	30 - 80
<i>DEPTH OF CUT</i>		0.5 - 2.0	

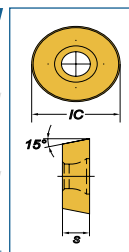


RPMT / RPMW

Round Inserts - with 11 ° Positive Angle - Used for Copy Milling
and Die and Mold applications - use with Standard Cutters

INSERTS

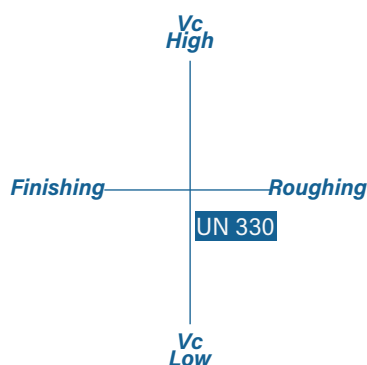
CAT. NUM	DESCRIPTION	IC	S
2100000142	RPMT 08T2 MO PF UN330	8.00	2.76
2100000118	RPMT 10T3 MO PM UN330	10.00	3.97
2100000120	RPMT 1204 MO PM UN330	12.00	4.76
2100000172	RPMW 10T3 MO UN330	10.00	3.97
2100000144	RPMW 1204 MO UN330	12.04	4.76



OVER-VIEW



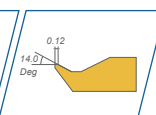
GRADES



CHIP-BREAKERS

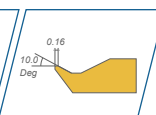
PF

- Sharp chip breaker
- For finishing operations



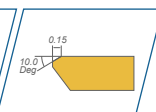
PM

- Semi Finishing chip breaker for general machining
- First choice std. conditions

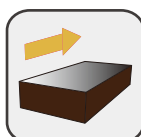


W

- Flat top Chip Breaker design
- Used for high hardness and Die& Mold applications



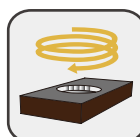
APPLICATIONS ICONS



SURFACING



POCKETING



INTERPOLATING

HIGHLIGHTS

- *Utility inserts, aggressively priced, typically used for copy milling and surface cleaning*
- *Should be used in small depth-of-cuts*
- *Can be used with elevated feeds*
- *Inserts will fit most standard cutters*

CUTTERS

- *Our RPMT / RPMW inserts will fit most ISO style cutters*
- *Ensure good sitting of the inserts in the pocket*
- *For strong screw clamping - ensure between 90° to 270° arc - after first resistance to closing of the screw*



RPMT 08T2 MO PF UN330

		Fz	Vc
P	Steel - low carbon	0.15 - 0.42	110 - 190
	Steel - alloyed steel	0.12 - 0.38	110 - 190
	Steel - highly alloyed	0.09 - 0.35	90 - 170

M	Stainless steel - austenitic	0.14 - 0.34	110 - 175
	Stainless steel - duplex	0.11 - 0.29	80 - 145

K	Gray cast iron	0.12 - 0.41	110 - 190
	High-strength cast iron with globular graphite	0.12 - 0.37	110 - 170

DEPTH OF CUT 0.5 - 1.0

RPMT 10T3 MO PM UN330

		Fz	Vc
P	Steel - low carbon	0.18 - 0.48	110 - 190
	Steel - alloyed steel	0.15 - 0.44	110 - 190
	Steel - highly alloyed	0.12 - 0.41	90 - 170

M	Stainless steel - austenitic	0.17 - 0.40	110 - 175
	Stainless steel - duplex	0.14 - 0.35	80 - 145

K	Gray cast iron	0.15 - 0.47	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.43	110 - 170

DEPTH OF CUT 0.5 - 2.0

RPMW 10T3 MO UN330

		Fz	Vc
P	Steel - low carbon	0.21 - 0.76	110 - 190
	Steel - alloyed steel	0.18 - 0.72	110 - 190
	Steel - highly alloyed	0.15 - 0.69	90 - 170

K	Gray cast iron	0.18 - 0.75	110 - 190
	High-strength cast iron with globular graphite	0.18 - 0.71	110 - 170

DEPTH OF CUT 0.5 - 2.0

RPMT 1204 MO PM UN330

		Fz	Vc
P	Steel - low carbon	0.24 - 0.55	110 - 190
	Steel - alloyed steel	0.21 - 0.51	110 - 190
	Steel - highly alloyed	0.18 - 0.48	90 - 170

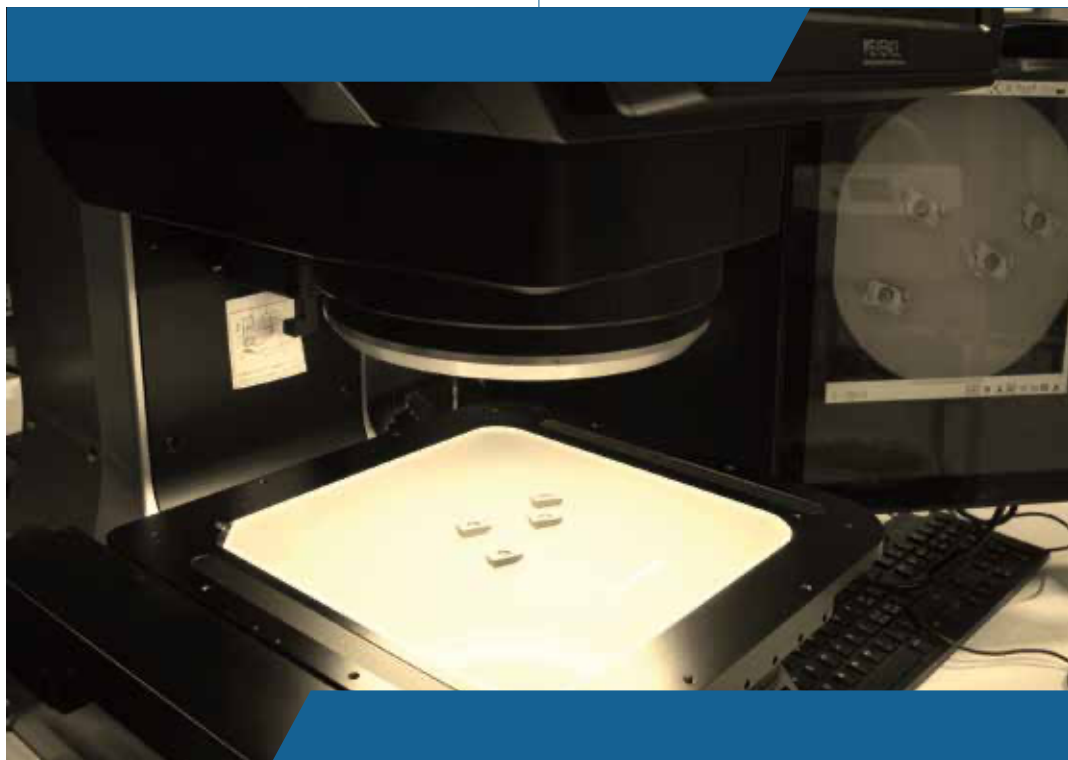
M	Stainless steel - austenitic	0.23 - 0.45	110 - 175
	Stainless steel - duplex	0.20 - 0.40	80 - 145

K	Gray cast iron	0.21 - 0.54	110 - 190
	High-strength cast iron with globular graphite	0.21 - 0.50	110 - 170

DEPTH OF CUT 0.5 - 3.0

RPMW 1204 MO UN 330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.28 - 0.86	110 - 190
	Steel - alloyed steel	0.25 - 0.82	110 - 190
	Steel - highly alloyed	0.22 - 0.79	90 - 170
K	Gray cast iron	0.25 - 0.85	110 - 190
	High-strength cast iron with globular graphite	0.25 - 0.81	110 - 170
DEPTH OF CUT		0.5 - 3.0	

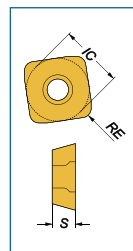


SDMT

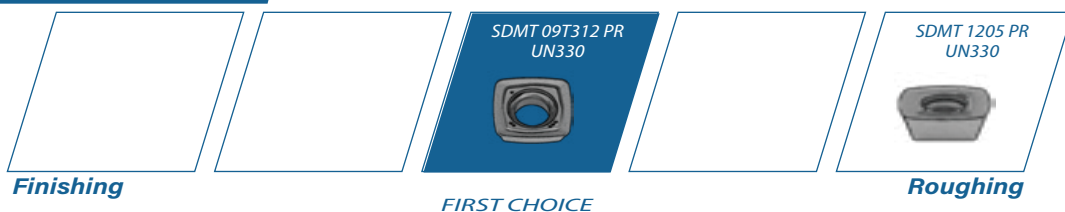
Square Inserts - with 15 ° Positive Angle - Used for High-Feed Applications of Surface Cleaning and Die&Mold Applications - use with Swiss.Blue Cutters

INSERTS

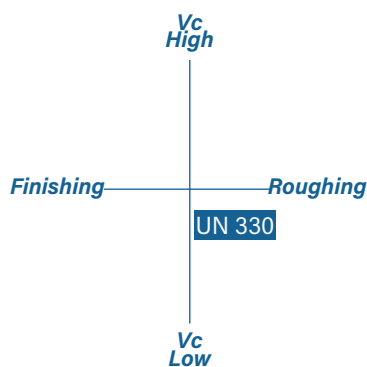
CAT. NUM	DESCRIPTION	IC	RE	S
2100000132	SDMT 09T312 PR UN330	9.53	1.20	3.97
2100000134	SDMT 1205 PR UN330	12.70	1.20	5.56



OVER-VIEW



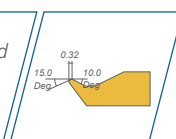
GRADES



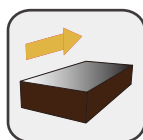
CHIP-BREAKERS

PR

- **Roughing chip breaker** used in high-feed machining
- First choice for unstable machining or for thick casting



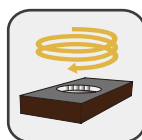
APPLICATIONS ICONS



SURFACING



POCKETING



INTERPOLATING

HIGHLIGHTS

- Family of inserts and cutters used in "high feed" cutting conditions
- Mostly used for cleaning large surfaces or roughing applications
- Depth-of-Cut is typically low
- Inserts should be used only with our dedicated cutters



CUTTERS

SDMT
09T3

END-MILLS

16
20
25
32

FACE-MILLS

40
50 **SD09T3-FM-50-Z5-22**
63 **SD09T3-FM-63-Z5-22**
80 **SD09T3-FM-80-Z7-27**

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

SDMT
1205

END-MILLS

16
20
25
32

FACE-MILLS

40
50 **SD1205-FM-50-Z4-22**
63 **SD1205-FM-63-Z5-22**
80 **SD1205-FM-80-Z6-27**

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

For more information on cutters see page 063-064

ACCESSORIES



MOLICOT
TUBE



TORX
SCREW-DRIVER



TORX
SCREWS

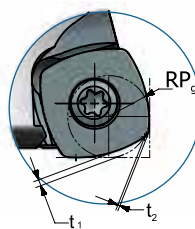
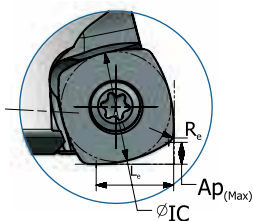


SDMT 09T312 PR UN330

		Fz	Vc
P	Steel - low carbon	0.53 - 1.24	110 - 190
	Steel - alloyed steel	0.05 - 1.20	110 - 190
	Steel - highly alloyed	0.47 - 1.17	90 - 170
M	Stainless steel - austenitic	0.52 - 1.00	110 - 175
	Stainless steel - duplex	0.49 - 0.95	80 - 145
K	Gray cast iron	0.50 - 1.23	110 - 190
	High-strength cast iron with globular graphite	0.50 - 1.19	110 - 170
H	Hard materials	0.30 - 0.80	40 - 70
DEPTH OF CUT		0.5 - 1.8	

SDMT 1205 PR UN330

		Fz	Vc
P	Steel - low carbon	0.73 - 1.54	110 - 190
	Steel - alloyed steel	0.70 - 1.50	110 - 190
	Steel - highly alloyed	0.67 - 1.47	90 - 170
M	Stainless steel - austenitic	0.72 - 1.20	110 - 175
	Stainless steel - duplex	0.69 - 1.15	80 - 145
K	Gray cast iron	0.70 - 1.53	110 - 190
	High-strength cast iron with globular graphite	0.70 - 1.49	110 - 170
H	Hard materials	0.50 - 1.20	40 - 70
DEPTH OF CUT		0.5 - 2.5	



Geometric parameters for programming

Model	IC (mm)	Maximum cutting depth APMX (mm)	Corner radius RE (mm)	LE (mm)	Programmed R angle RPG	Allowance for programmed radius T1 (mm) T2 (mm)	
SDMT 1205	12.7	2.5	1.2	9	2	1.7	-
SDMT 1205	12.7	2.5	1.2	9	3	1.4	-
SDMT 1205	12.7	2.5	1.2	9	4	1	-
SDMT 1205	12.7	2.5	1.2	9	5	0.7	0.3
SDMT 09T3	9.525	1.8	1.2	7.6	2	1.3	-
SDMT 09T3	9.525	1.8	1.2	7.6	3	1.1	-
SDMT 09T3	9.525	1.8	1.2	7.6	4	0.8	-

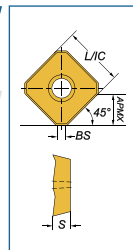


SEGT

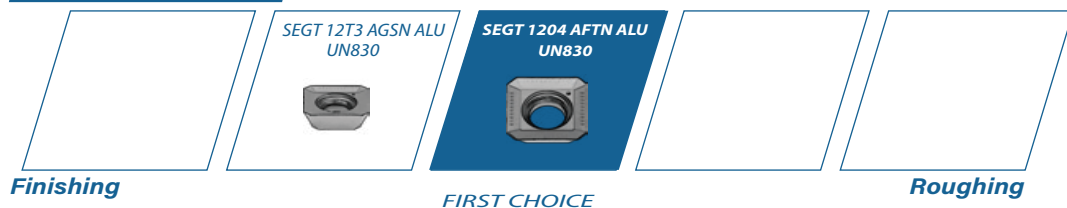
Square Inserts - with 20° Positive Angle - Used for Surface Cleaning
-for Low Si Aluminum and other Non Ferrous Materials- use with Swiss.Blue Cutters

INSERTS

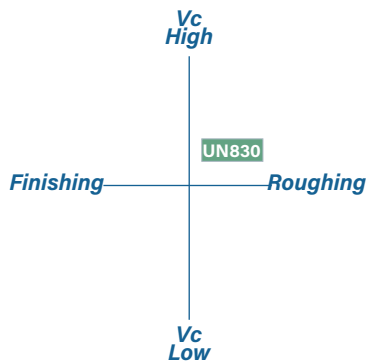
CAT. NUM	DESCRIPTION	IC	RE	S	BS
2100000260	SEGT 1204 AFTN ALU UN830	12.70	1.00	4.85	1.2
2100000262	SEGT 12T3 AGSN ALU UN830	13.40	0.90	3.97	1.0



OVER-VIEW



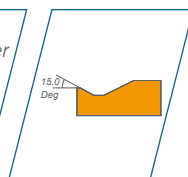
GRADES



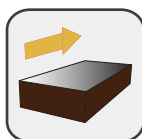
CHIP-BREAKERS

ALU

- Sharp and positive Chip breaker
- For milling aluminum and other sticky materials
- Can be used also for Aluminum with low silicon content



APPLICATIONS ICONS



SURFACING

HIGHLIGHTS

- A family of inserts and cutters designed for milling aluminum alloys
- Mostly used for surface cleaning applications
- SEGT inserts used in combination with our cutters – will give optimal Aluminum machining performance



CUTTERS

SEGT
1204

END-MILLS

16
20
25
32

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

FACE-MILLS

40 SE1204-FM-40-Z3-22
50 SE1204-FM-50-Z4-22
63 SE1204-FM-63-Z5-22
80 SE1204-FM-80-Z6-27

SEGT
12T3

END-MILLS

16
20
25
32

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

FACE-MILLS

40 SE12T3-FM-40-Z3-22
50 SE12T3-FM-50-Z4-22
63 SE12T3-FM-63-Z5-22
80 SE12T3-FM-80-Z6-27

For more information on cutters see page 065-066

SEGT 12T3 AGSN ALU UN830

		Fz	Vc
N	Aluminum - Non-ferrous alloy	0.08 - 0.20	200 - 1000
DEPTH OF CUT		0.5 - 7.0	

SEGT 1204 AFTN ALU UN830

N	Aluminum - Non-ferrous alloy	Fz	Vc
		0.08 - 0.20	200 - 1000
DEPTH OF CUT		0.5 - 7.0	

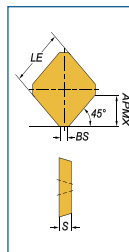


SEKN / SEKR

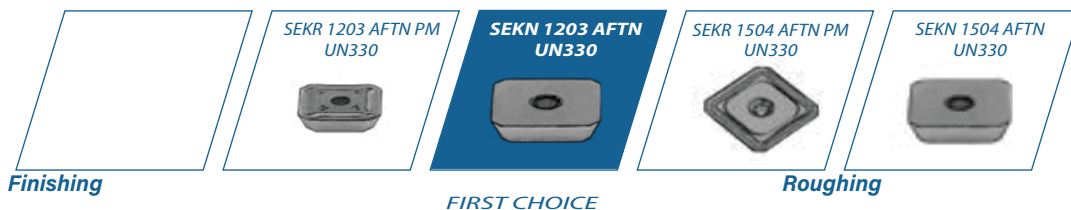
Square Inserts - with 20° Positive Angle - for Surface Cleaning Applications
- use with Standard Cutters

INSERTS

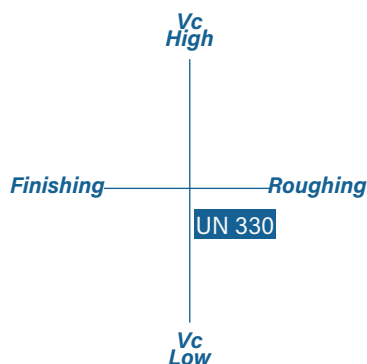
CAT. NUM	DESCRIPTION	LE	RE	S	BS
2100000150	SEKN 1203 AFTN UN330	12.70	1.00	3.18	1.10
2100000270	SEKN 1504 AFTN UN330	15.88	1.60	4.76	1.80
2100000154	SEKR 1203 AFTN PM UN330	12.70	1.00	3.18	1.10
2100000272	SEKR 1504 AFTN PM UN330	15.88	1.60	4.76	1.80



OVER-VIEW



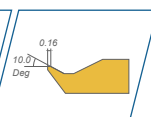
GRADES



CHIP-BREAKERS

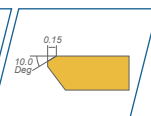
PM

- **Semi Finishing chip breaker** for general machining
- First choice std. conditions

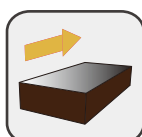


N

- **Flat top chip breaker design**
- Used mostly for high hardness materials & surface cleaning



APPLICATIONS ICONS



SURFACING

SEKR 1203 AFTN PM UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.36	110 - 190
	Steel - alloyed steel	0.15 - 0.32	110 - 190
	Steel - highly alloyed	0.12 - 0.29	90 - 170

M	Stainless steel - austenitic	0.17 - 0.28	110 - 175
	Stainless steel - duplex	0.14 - 0.23	80 - 145

K	Gray cast iron	0.15 - 0.35	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.31	110 - 170

DEPTH OF CUT 0.5 - 7.0

SEKN 1203 AFTN UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.36	110 - 190
	Steel - alloyed steel	0.15 - 0.32	110 - 190
	Steel - highly alloyed	0.12 - 0.29	90 - 170

K	Gray cast iron	0.15 - 0.35	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.31	110 - 170

DEPTH OF CUT 0.5 - 7.0

SEKR 1504 AFTN PM UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.36	110 - 190
	Steel - alloyed steel	0.15 - 0.32	110 - 190
	Steel - highly alloyed	0.12 - 0.29	90 - 170

M	Stainless steel - austenitic	0.17 - 0.28	110 - 175
	Stainless steel - duplex	0.14 - 0.23	80 - 145

K	Gray cast iron	0.15 - 0.35	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.31	110 - 170

DEPTH OF CUT 0.5 - 7.0

SEKN 1504 AFTN UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.36	110 - 190
	Steel - alloyed steel	0.15 - 0.32	110 - 190
	Steel - highly alloyed	0.12 - 0.29	90 - 170

K	Gray cast iron	0.15 - 0.35	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.31	110 - 170

DEPTH OF CUT 0.5 - 7.0

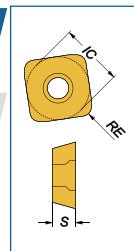


SEKT

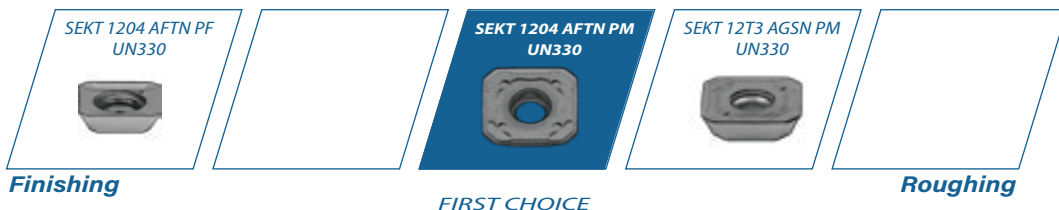
Square Inserts - with 20° Positive Angle - Used for Surface Cleaning
- use with Swiss.Blue Cutters

INSERTS

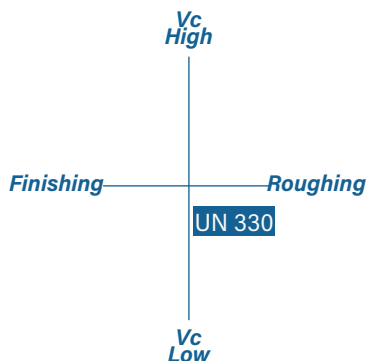
CAT. NUM	DESCRIPTION	IC	RE	S	BS
2100000126	SEKT 1204 AFTN PF UN330	12.70	1.00	4.85	1.00
2100000162	SEKT 1204 AFTN PM UN330	12.70	1.00	3.97	1.00
2100000128	SEKT 12T3 AGSN PM UN330	13.40	0.90	3.97	1.20



OVER-VIEW



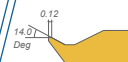
GRADES



CHIP-BREAKERS

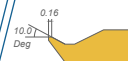
PF

- Sharp chip breaker
- For finishing operations

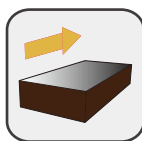


PM

- Semi Finishing chip breaker for general machining
- First choice std. conditions



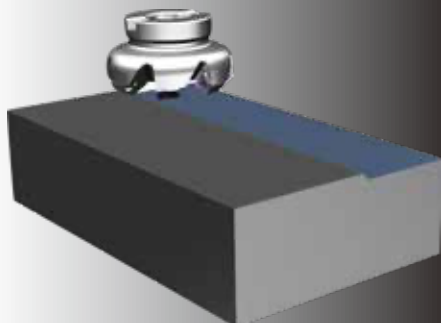
APPLICATIONS ICONS



SURFACING

HIGHLIGHTS

- Family of inserts and cutters used for surface cleaning
- Finishing and Semi-Finishing cutting conditions
- Not recommended for rough conditions
- Should be used with Swiss.Blue cutters – to achieve optimal performance.



CUTTERS

SEKT
1204

END-MILLS

16
20
25
32

FACE-MILLS

40 SE1204-FM-40-Z3-22
50 SE1204-FM-50-Z4-22
63 SE1204-FM-63-Z5-22
80 SE1204-FM-80-Z6-27

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

SEKT
12T3

END-MILLS

16
20
25
32

FACE-MILLS

40 SE12T3-FM-40-Z3-22
50 SE12T3-FM-50-Z4-22
63 SE12T3-FM-63-Z5-22
80 SE12T3-FM-80-Z6-27

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

For more information on cutters see page 065-066

ACCESSORIES



MOLICOT
TUBE



TORX
SCREW-DRIVER



TORX
SCREWS



SEKT 1204 AFTN PF UN330

		Fz	Vc
P	Steel - low carbon	0.17 - 0.32	110 - 190
	Steel - alloyed steel	0.14 - 0.28	110 - 190
	Steel - highly alloyed	0.11 - 0.25	90 - 170

M	Stainless steel - austenitic	0.16 - 0.24	110 - 175
	Stainless steel - duplex	0.13 - 0.19	80 - 145

K	Gray cast iron	0.14 - 0.31	110 - 190
	High-strength cast iron with globular graphite	0.14 - 0.27	110 - 170

DEPTH OF CUT 0.5 - 6.0

SEKT 1204 AFTN PM UN330

		Fz	Vc
P	Steel - low carbon	0.21 - 0.42	110 - 190
	Steel - alloyed steel	0.18 - 0.38	110 - 190
	Steel - highly alloyed	0.15 - 0.35	90 - 170

M	Stainless steel - austenitic	0.20 - 0.34	110 - 175
	Stainless steel - duplex	0.17 - 0.29	80 - 145

K	Gray cast iron	0.18 - 0.41	110 - 190
	High-strength cast iron with globular graphite	0.18 - 0.37	110 - 170

DEPTH OF CUT 0.5 - 6.0

SEKT 12T3 AGSN PM UN330

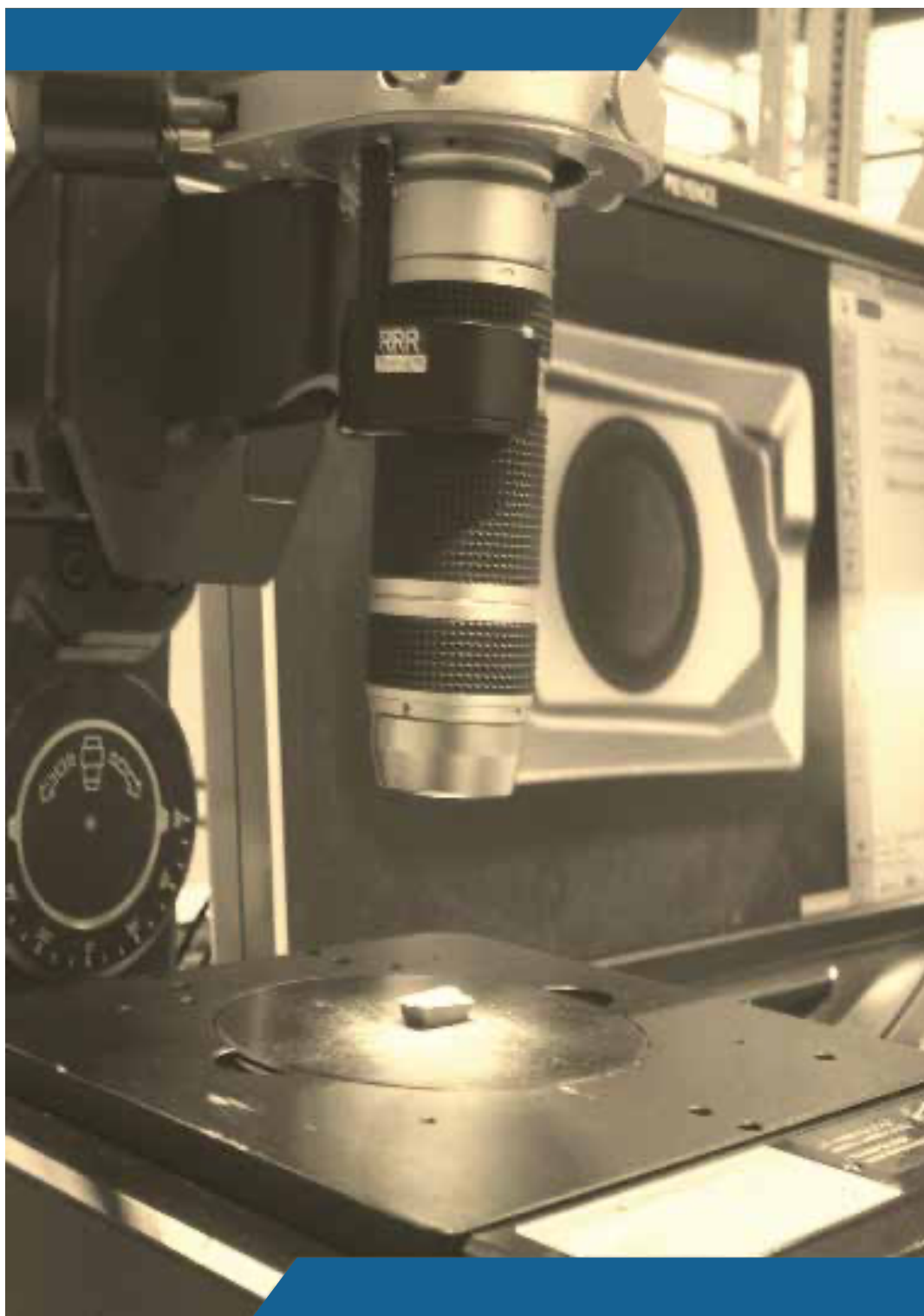
		Fz	Vc
P	Steel - low carbon	0.18 - 0.36	110 - 190
	Steel - alloyed steel	0.15 - 0.32	110 - 190
	Steel - highly alloyed	0.12 - 0.29	90 - 170

M	Stainless steel - austenitic	0.17 - 0.28	110 - 175
	Stainless steel - duplex	0.14 - 0.23	80 - 145

K	Gray cast iron	0.15 - 0.35	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.31	110 - 170

S	Hard-to-process materials - nickel alloys	0.15 - 0.32	25 - 45
	Hard-to-process materials - titanium alloys	0.15 - 0.32	30 - 55

DEPTH OF CUT 0.5 - 6.0

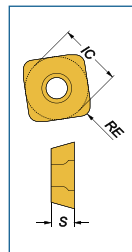


SNMX

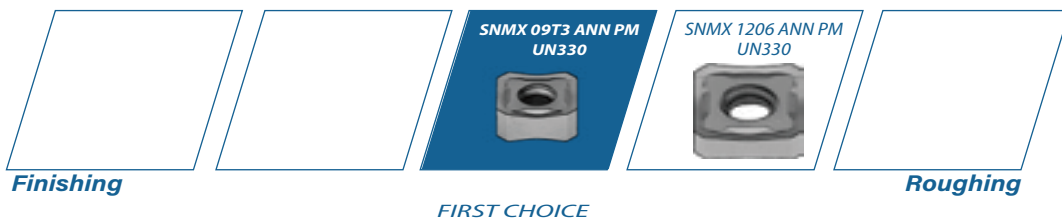
Square Inserts - With Negative Clearance Angle - Used for Surface Cleaning
- use with Swiss.Blue Cutters

INSERTS

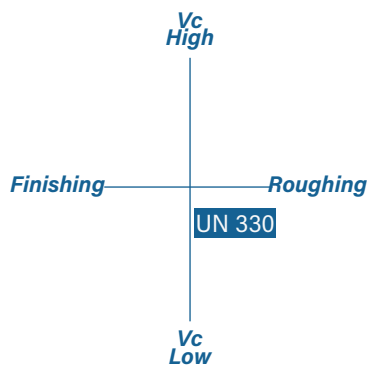
CAT. NUM	DESCRIPTION	IC	RE	S	BS
2100000280	SNMX 0904 ANN PM UN330	9.52	0.8	4.87	1.40
2100000158	SNMX 1206 ANN PM UN330	12.70	1.0	6.26	2.40



OVER-VIEW



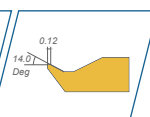
GRADES



CHIP-BREAKERS

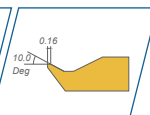
PF

- Sharp chip breaker
- For finishing operations

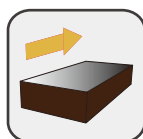


PM

- Semi Finishing chip breaker for general machining
- First choice std. conditions



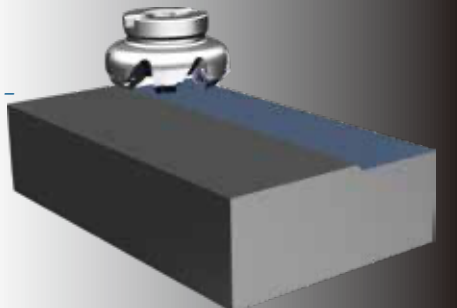
APPLICATIONS ICONS



SURFACING

HIGHLIGHTS

- Family of inserts and cutters, mostly used for surface cleaning
- Use with Finishing and Semi-Finishing cutting conditions
- Not recommended for roughing conditions
- Inserts should be used with our specially designed cutters – to achieve optimal performance.



CUTTERS

SNMX
0904

END-MILLS

16
20
25
32

FACE-MILLS

40
50 **SN0904-FM-50-Z5-22**
63 **SN0904-FM-63-Z6-22**
80 **SN0904-FM-80-Z7-27**

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

SNMX
1206

END-MILLS

16
20
25
32

FACE-MILLS

40
50 **SN1206-FM-50-Z4-22**
63 **SN1206-FM-63-Z6-22**
80 **SN1206-FM-80-Z7-27**

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available

For more information on cutters see page 067-068

ACCESSORIES



MOLICOT
TUBE



TORX
SCREW-DRIVER



TORX
SCREWS

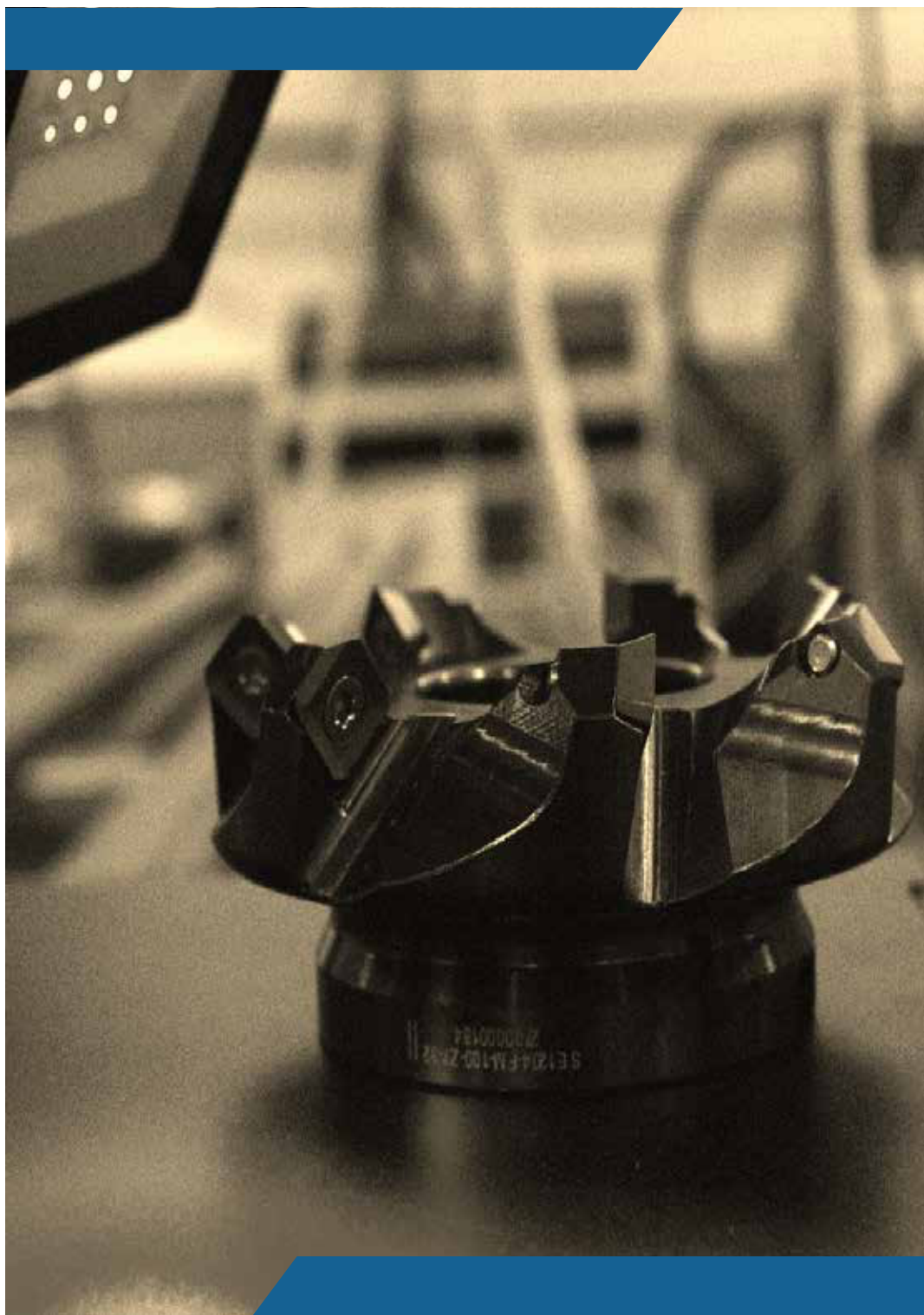


SNMX 0904 ANN PM UN330

		Fz	Vc
P	Steel - low carbon	0.14 - 0.36	110 - 190
	Steel - alloyed steel	0.11 - 0.32	110 - 190
	Steel - highly alloyed	0.08 - 0.29	90 - 170
K	Gray cast iron	0.11 - 0.35	110 - 190
	High-strength cast iron with globular graphite	0.11 - 0.31	110 - 170
DEPTH OF CUT		0.5 - 4.0	

SNMX 1206 ANN PM UN330

		Fz	Vc
P	Steel - low carbon	0.14 - 0.36	110 - 190
	Steel - alloyed steel	0.11 - 0.32	110 - 190
	Steel - highly alloyed	0.08 - 0.29	90 - 170
K	Gray cast iron	0.11 - 0.35	110 - 190
	High-strength cast iron with globular graphite	0.11 - 0.31	110 - 170
DEPTH OF CUT		0.5 - 6.0	

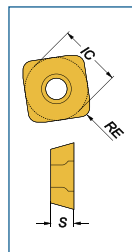


SPKN / SPKR

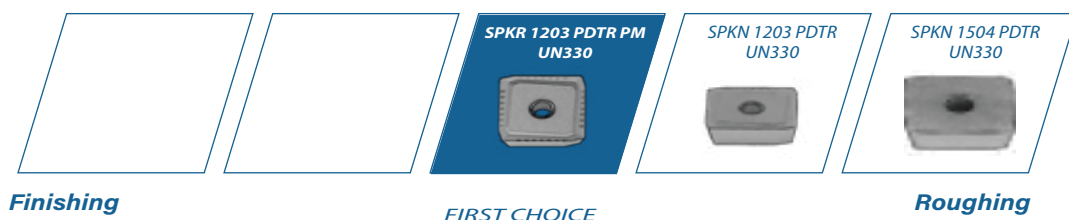
Square Inserts - With 11° Positive Angle - Used for Shoulder Milling, and Surface Cleaning - use with Standard Cutters

INSERTS

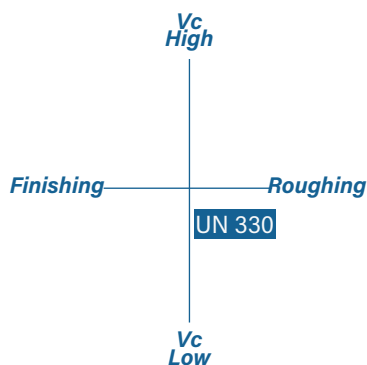
CAT. NUM	DESCRIPTION	L	RE	S	BS
2100000122	SPKN 1203 PDTR UN330	12.70	0.8	3.18	1.10
2100000216	SPKN 1504 PDTR UN330	15.88	1.0	4.76	1.40
2100000124	SPKR 1203 PDTR PM UN330	12.70	0.8	3.18	1.10



OVER-VIEW



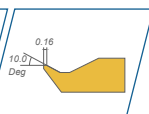
GRADES



CHIP-BREAKERS

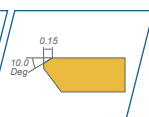
PM

- **Semi Finishing chip breaker** for general machining
- First choice std. conditions

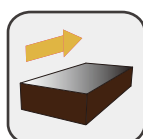


N

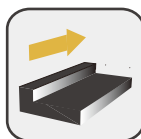
- **Flat top chip breaker design**
- Used mostly for high hardness materials & surface cleaning



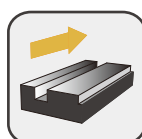
APPLICATIONS ICONS



SURFACING



SHOULDERING



SLOTTING

SPKR 1203 PDTR PM UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.34	110 - 190
	Steel - alloyed steel	0.15 - 0.30	110 - 190
	Steel - highly alloyed	0.12 - 0.27	90 - 170

M	Stainless steel - austenitic	0.17 - 0.26	110 - 175
	Stainless steel - duplex	0.14 - 0.21	110 - 145

K	Gray cast iron	0.15 - 0.33	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.29	110 - 170

DEPTH OF CUT 0.5 - 5.0

SPKN 1203 PDTR UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.34	110 - 190
	Steel - alloyed steel	0.15 - 0.30	110 - 190
	Steel - highly alloyed	0.12 - 0.27	90 - 170

K	Gray cast iron	0.15 - 0.33	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.29	110 - 170

DEPTH OF CUT 0.5 - 5.0

SPKN 1504 PDTR UN330

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.34	110 - 190
	Steel - alloyed steel	0.15 - 0.30	110 - 190
	Steel - highly alloyed	0.12 - 0.27	90 - 170

K	Gray cast iron	0.15 - 0.33	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.29	110 - 170

DEPTH OF CUT 0.5 - 5.0

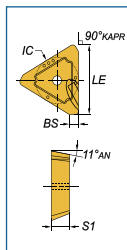


TPKN / TPKR

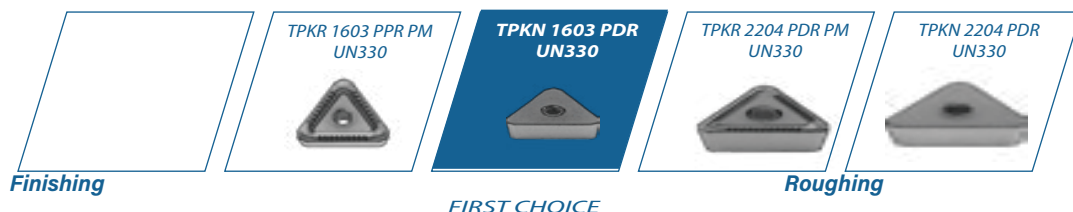
Triangular Inserts - With 11° Positive Angle - Used for Shoulder Milling, and Surface Cleaning - use with Standard Cutters

INSERTS

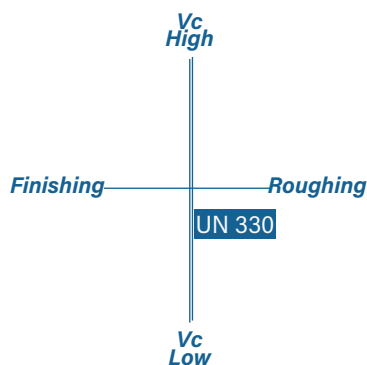
CAT. NUM	DESCRIPTION	IC	LE	RE	S	BS
2100000110	TPKN 1603 PDR UN330	9.525	13.9	0.5	3.18	0.90
2100000146	TPKN 2204 PDR UN330	12.70	19.2	0.8	4.76	1.20
2100000112	TPKR 1603 PPR PM UN330	9.525	13.9	0.5	3.18	0.90
2100000148	TPKR 2204 PDR PM UN330	12.70	19.2	0.8	4.76	1.20



OVER-VIEW



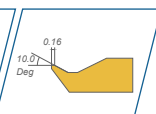
GRADES



CHIP-BREAKERS

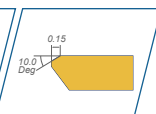
PM

- **Semi Finishing chip breaker** for general machining
- First choice std. conditions

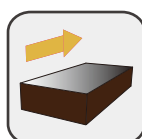


N

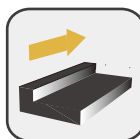
- **Flat top chip breaker design**
- Used mostly for high hardness materials & surface cleaning



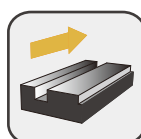
APPLICATIONS ICONS



SURFACING



SHOULDERING



SLOTTING

TPKR 1603 PPR PM UN330

		Fz	Vc
P	Steel - low carbon	0.18 - 0.34	110 - 190
	Steel - alloyed steel	0.15 - 0.30	110 - 190
	Steel - highly alloyed	0.12 - 0.27	90 - 170

M	Stainless steel - austenitic	0.17 - 0.24	110 - 175
	Stainless steel - duplex	0.14 - 0.19	110 - 145

K	Gray cast iron	0.15 - 0.33	110 - 190
	High-strength cast iron with globular graphite	0.15 - 0.29	110 - 170

DEPTH OF CUT 0.5 - 12.0

TPKN 1603 PPR PM UN330

		Fz	Vc
P	Steel - low carbon	0.19 - 0.29	110 - 190
	Steel - alloyed steel	0.16 - 0.25	110 - 190
	Steel - highly alloyed	0.13 - 0.22	90 - 170

K	Gray cast iron	0.16 - 0.28	110 - 190
	High-strength cast iron with globular graphite	0.16 - 0.24	110 - 170

DEPTH OF CUT 0.5 - 12.0

TPKN 2204 PDR UN330

		Fz	Vc
P	Steel - low carbon	0.21 - 0.34	110 - 190
	Steel - alloyed steel	0.18 - 0.30	110 - 190
	Steel - highly alloyed	0.15 - 0.27	90 - 170

K	Gray cast iron	0.18 - 0.33	110 - 190
	High-strength cast iron with globular graphite	0.18 - 0.29	110 - 170

DEPTH OF CUT 0.5 - 18.0

TPKR 2204 PDR PM UN330

		Fz	Vc
P	Steel - low carbon	0.21 - 0.39	110 - 190
	Steel - alloyed steel	0.18 - 0.35	110 - 190
	Steel - highly alloyed	0.15 - 0.32	90 - 170

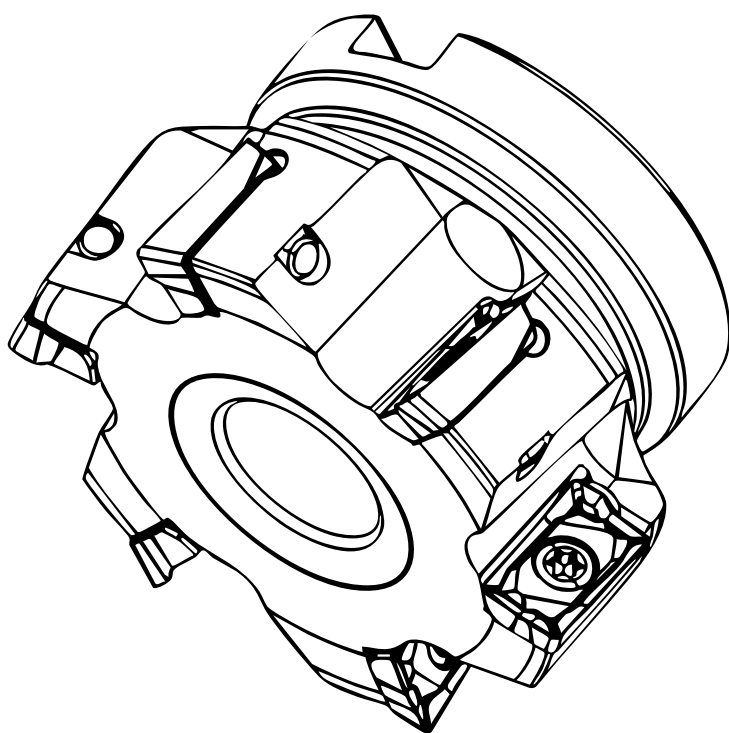
M	Stainless steel - austenitic	0.20 - 0.30	110 - 175
	Stainless steel - duplex	0.17 - 0.25	110 - 145

K	Gray cast iron	0.18 - 0.38	110 - 190
	High-strength cast iron with globular graphite	0.18 - 0.34	110 - 170

DEPTH OF CUT 0.5 - 18.0



MILLING CUTTERS



Family Index

APKT _____ Pg 059

RDMT _____ Pg 061

SDMT _____ Pg 063

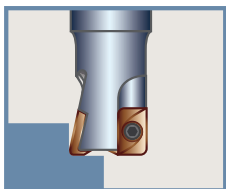
SEKT _____ Pg 065

SNMX _____ Pg 067



APPLICATIONS

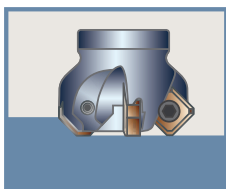
SHOULDER MILLING



Inserts and milling cutters for shoulder milling. Lead angle 90°.

APKT 10, APKT 16

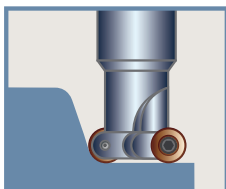
FACE MILLING



Inserts and milling cutters for face milling. Lead angle 45°.

**SEKT 12T3, SEKT 1204,
SNMX 0904, SNMX 1206**

COPY MILLING



Round inserts and milling cutters for copy Milling.

RDMT 08, RDMT 10T3, RDMT 1204

HIGH-FEED MILLING



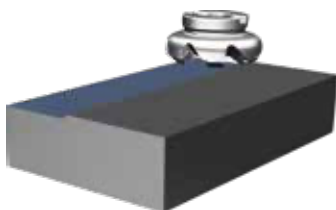
Inserts and cutters for High-Feed milling.

SDMT 09, SDMT 12

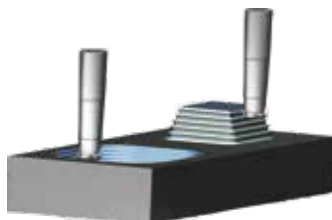
APPLICATIONS



SHOULDER MILLING

APKT 1003, APKT 1604

FACE MILLING

*SEKT 12T3, SEKT 1204,
SNMX 0904, SNMX 1206*

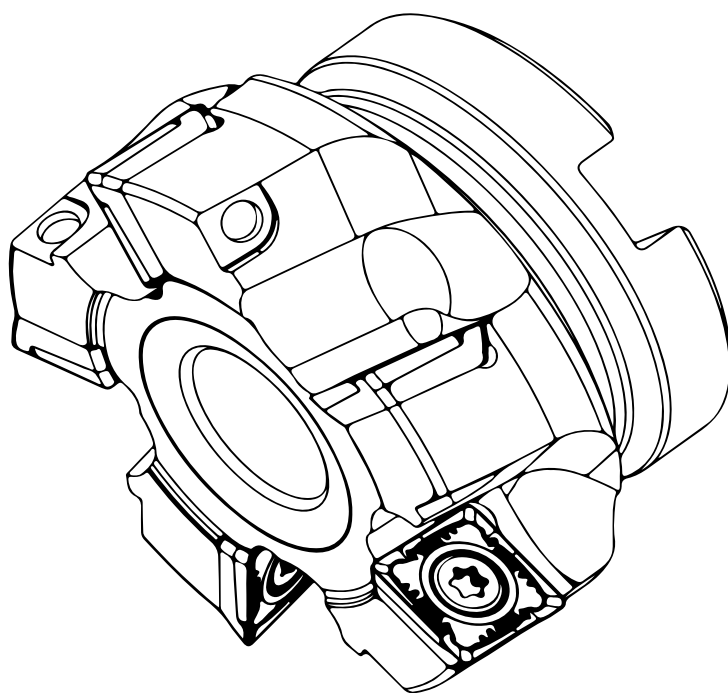
COPY MILLING

RDMT 08, RDMT 10T3, RDMT 1204

HIGH-FEED MILLING

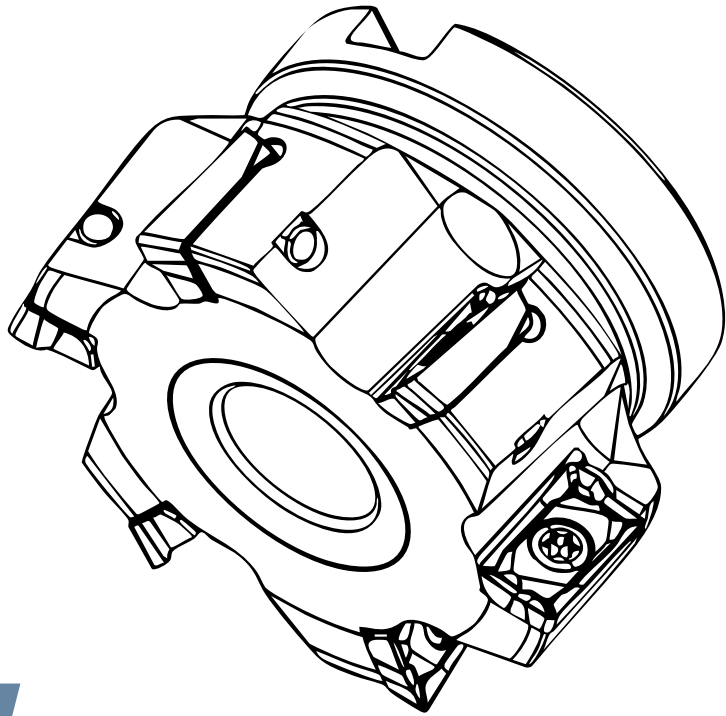
SDMT 09, SDMT 12

MILLING CUTTERS





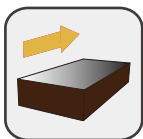
APKT- Milling Cutters



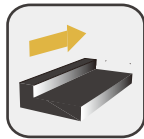
Family High-lights

- Family of cutters - mostly used for shoulder milling
- Can be used for surface and slotting applications as well
- Our End-mills used in combination with SWISS.BLUE - APKT inserts
-will give a "true 90° wall in the material machined"

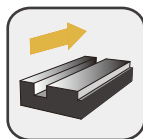
APPLICATIONS ICONS



SURFACING



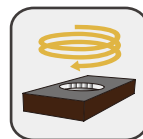
SHOULDERING



SLOTING



POCKETING

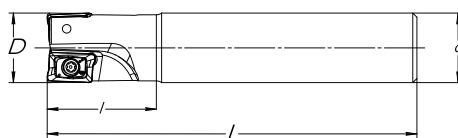


INTERPOLATING

End Mills

CAT. NUM	ITEM. NUM	D	d	Z	L	l	a	b	SKU	PART.NUM
2700000100	AP1003-EM-16-Z2-85	16	16	2	85	25			TORX-M2.5-LS	TP8
2700000104	AP1003-EM-20-Z3-85	20	20	3	85	25			TORX-M2.5-LS	TP8
2700000106	AP1003-EM-25-Z4-95	25	25	4	95	25			TORX-M2.5-LS	TP8
2700000102	AP1003-EM-32-Z5-95	32	32	5	95	25			TORX-M4.0-LS	TP8
2700000142	AP1604-EM-25-Z2-95	25	25	2	95	25			TORX-M4.0-LS	T15
2700000144	AP1604-EM-32-Z3-95	32	32	3	95	25			TORX-M2.5-LS	TP8

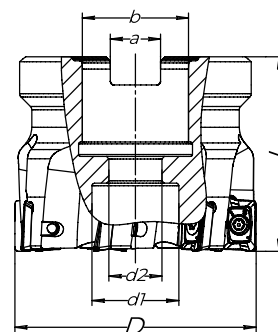
* Long End-Mills (150mm / 200mm) are available



Face Mills

CAT. NUM	ITEM. NUM	D	d1	d2	Z	L	a	b	SKU	PART.NUM
2700000108	AP1003-FM-40-Z6-22	40	18	11	6	40	10.4	22	TORX-M2.5-LS	TP8
2700000110	AP1003-FM-50-Z7-22	50	18	11	7	40	10.4	22	TORX-M2.5-LS	TP8
2700000146	AP1604-FM-50-Z5-22	50	18	11	5	40	10.4	22	TORX-M4.0-LS	T15
2700000148	AP1604-FM-63-Z6-22	63	18	11	6	40	10.4	22	TORX-M4.0-LS	T15
2700000150	AP1604-FM-80-Z7-27	80	38.2		7	50	12.4	27	TORX-M4.0-LS	T15

* Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available



ACCESSORIES



MOLICOT
TUBE



TORX
SCREW-DRIVER



TORX
SCREWS



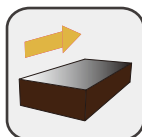
RDMT- Milling Cutters



Family High-lights

- Cutters for round inserts
- Typically used for copy milling, surface cleaning and pocketing
- Should be used with small depth-of-cut
- Can be used with elevated feeds
- In some case, especially deep pockets, high flow coolant is recommended to evacuate the chips
- Should be used with Swiss.Blue RDMT inserts for best performance

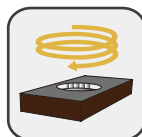
APPLICATIONS ICONS



SURFACING



POCKETING

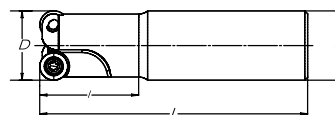


INTERPOLATING

End Mills

CAT. NUM	ITEM. NUM	D	d	Z	L	l	a	b	SKU	PART.NUM
2700000180	RD10T3-EM-25-Z2-95	25	25	2	95	35			TORX-M4.0-LS	T15
2700000182	RD10T3-EM-32-Z3-95	32	32	3	95	35			TORX-M4.0-LS	T15
2700000220	RD1204-EM-32-Z3-95	32	32	3	95	35			TORX-M4.0-LS	T15

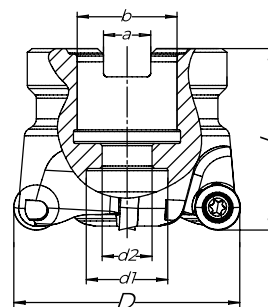
* **Long End-Mills (150mm / 200mm) are available**



Face Mills

CAT. NUM	ITEM. NUM	D	d1	d2	Z	L	a	b	SKU	PART.NUM
2700000184	RD10T3-FM-40-Z3-16	40	13.8	8.2	3	40	8.4	16	TORX-M4.0-LS	T15
2700000186	RD10T3-FM-50-Z4-22	50	18	11	4	40	10.4	22	TORX-M4.0-LS	T15
2700000188	RD10T3-FM-63-Z5-22	63	18	2	5	40	10.4	22	TORX-M4.0-LS	T15
2700000190	RD10T3-FM-80-Z7-27	80	38.2		7	50	12.4	27	TORX-M4.0-LS	T15
2700000222	RD1204-FM-40-Z3-16	40	13.8	8.2	3	40	8.4	16	TORX-M4.0-LS	T15
2700000224	RD1204-FM-50-Z4-22	50	18	11	4	40	10.4	22	TORX-M4.0-LS	T15
2700000226	RD1204-FM-63-Z5-22	63	18	11	5	40	10.4	22	TORX-M4.0-LS	T15
2700000228	RD1204-FM-80-Z6-27	80	38.2		6	50	12.4	27	TORX-M4.0-LS	T15

* **Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available**



ACCESSORIES



MOLICOT
TUBE



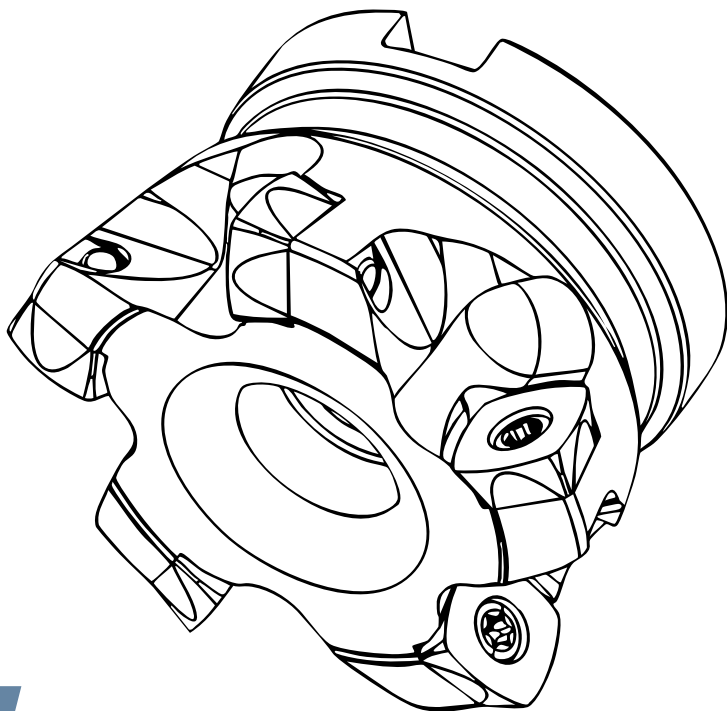
TORX
SCREW-DRIVER



TORX
SCREWS



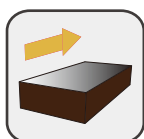
SDMT- Milling Cutters



Family High-lights

- Family of Inserts and cutters Used with high feed cutting conditions
- Mostly used for cleaning large surfaces or roughing applications
- Depth-of-Cut is typically low
- Cutters Should be used only with Swiss.Blue SDMT 09 or SDMT 12 inserts

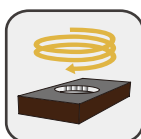
APPLICATIONS ICONS



SURFACING



POCKETING

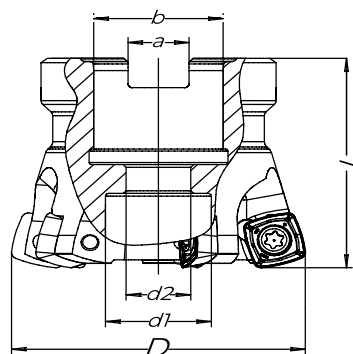


INTERPOLATING

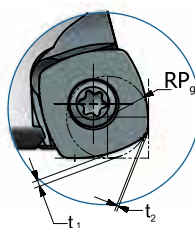
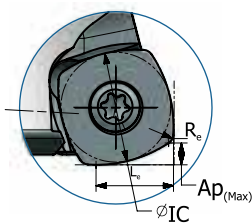
Face Mills

CAT. NUM	ITEM. NUM	D	d1	d2	Z	L	a	b	SKU	PART. NUM
2700000258	SD09T3-FM-50-Z5-22	50	18	11	5	40	10.4	22	TORX-M4.0-LS	T15
2700000260	SD09T3-FM-63-Z5-22	63	18	11	5	40	10.4	22	TORX-M4.0-LS	T15
2700000262	SD09T3-FM-80-Z7-27	80	38.2		7	50	12.4	27	TORX-M4.0-LS	T15
2700000290	SD1205-FM-50-Z4-22	50	18	11	5	40	10.4	22	TORX-M4.0-LS	T15
2700000292	SD1205-FM-63-Z5-22	63	18	11	5	40	10.4	22	TORX-M4.0-LS	T15
2700000294	SD1205-FM-80-Z6-27	80	38.2		6	50	12.4	27	TORX-M4.0-LS	T15

* **Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available**



Programming

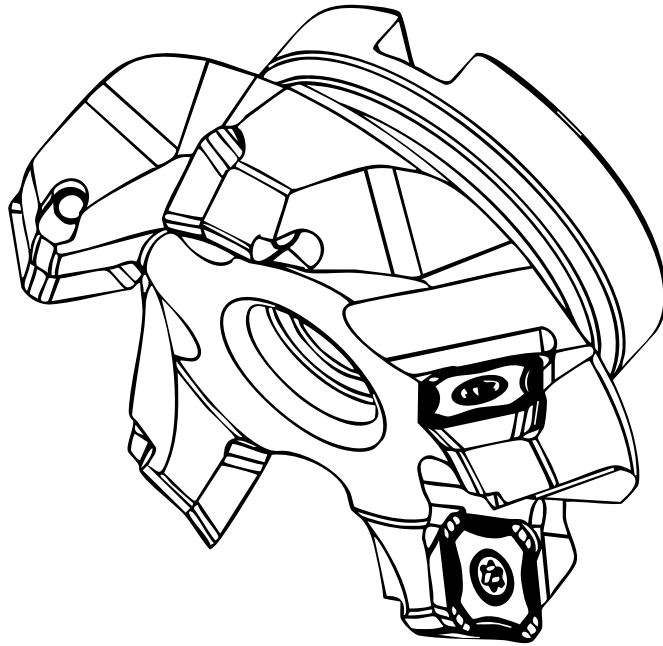


Geometric parameters for programming

Model	IC (mm)	Maximum cutting depth APMX (mm)	Corner radius RE (mm)	LE (mm)	Programmed R angle RPG	Allowance for programmed radius T1 (mm)	T2 (mm)
SDMT 1205	12.7	2.5	1.2	9	2	1.7	-
SDMT 1205	12.7	2.5	1.2	9	3	1.4	-
SDMT 1205	12.7	2.5	1.2	9	4	1	-
SDMT 1205	12.7	2.5	1.2	9	5	0.7	0.3
SDMT 09T3	9.525	1.8	1.2	7.6	2	1.3	-
SDMT 09T3	9.525	1.8	1.2	7.6	3	1.1	-
SDMT 09T3	9.525	1.8	1.2	7.6	4	0.8	-



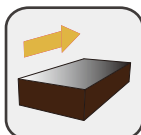
SEKT- Milling Cutters



Family High-lights

- Family of cutters, mostly used for surface cleaning
- Use with Finishing and Semi-Finishing cutting conditions
- Not recommended for rough cutting
- Cutters should be used with Swiss.Blue SEKT 12 inserts
 - to achieve optimal performance.

APPLICATIONS ICONS

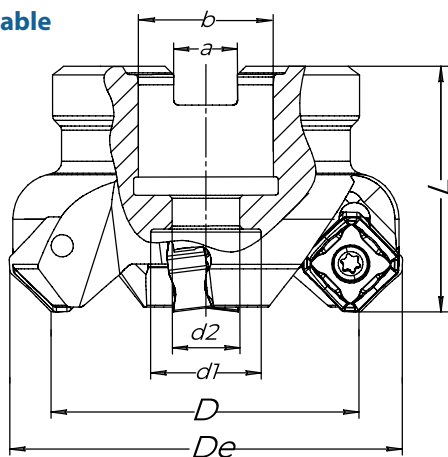


SURFACING

Face Mills

CAT. NUM	ITEM. NUM	D	d1	d2	Z	L	a	b	De	SKU	PART.NUM
2700000304	SE1204-FM-40-Z3-22	40	18	11	3	40	10.4	22	53	TORX-M5.0-LS	T20
2700000306	SE1204-FM-50-Z4-22	50	18	11	4	40	10.4	22	63	TORX-M5.0-LS	T20
2700000308	SE1204-FM-63-Z5-22	63	18	11	5	40	10.4	22	76	TORX-M5.0-LS	T20
2700000310	SE1204-FM-80-Z6-27	80	38.2		6	50	12.4	27	93	TORX-M5.0-LS	T20
2700000320	SE12T3-FM-40-Z3-22	40	18	11	3	40	10.4	22	53	TORX-M3.5-LS	T15
2700000322	SE12T3-FM-50-Z4-22	50	18	11	4	40	10.4	22	63	TORX-M3.5-LS	T15
2700000324	SE12T3-FM-63-Z5-22	63	18	11	5	40	10.4	22	76	TORX-M3.5-LS	T15
2700000326	SE12T3-FM-80-Z6-27	80	38.2		6	50	12.4	27	93	TORX-M3.5-LS	T15

* **Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available**



ACCESSORIES



MOLICOT
TUBE



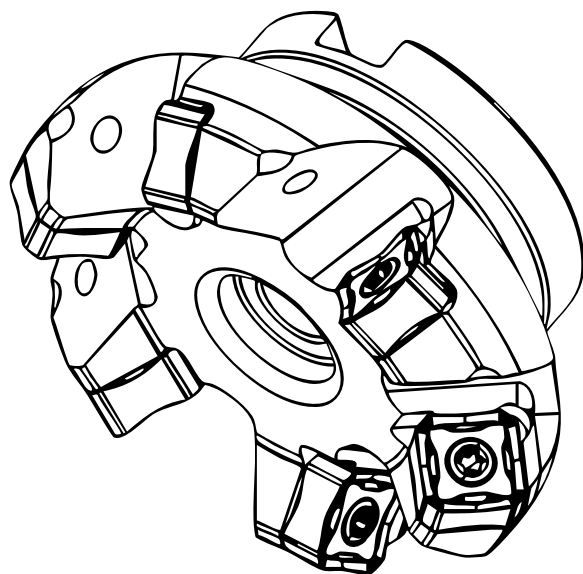
TORX
SCREW-DRIVER



TORX
SCREWS



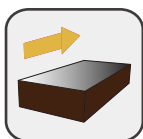
SNMX- Milling Cutters



Family High-lights

- Family of cutters, mostly used for surface cleaning
- Use with Finishing and Semi-Finishing cutting conditions
- Not recommended for rough cutting conditions
- Cutters should be used with Swiss.Blue - SNMX 0904 and SNMX 1206 inserts – to achieve optimal performance.

APPLICATIONS ICONS

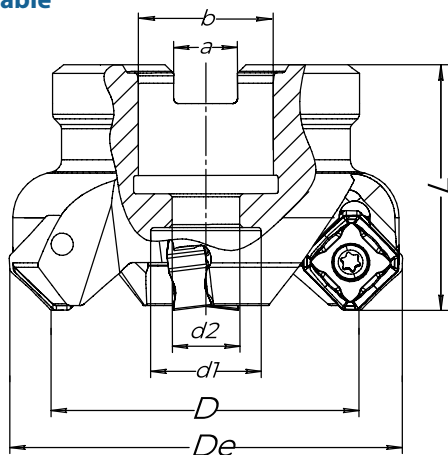


SURFACING

Face Mills

CAT. NUM	ITEM. NUM	D	d1	d2	Z	L	a	b	De	SKU	PART.NUM
2700000350	SN0904-FM-50-Z5-22	50	18	11	4	40	10.4	22	63	TORX-M4.0-LS	T15
2700000352	SN0904-FM-63-Z6-22	63	18	11	6	40	10.4	22	76	TORX-M4.0-LS	T15
2700000354	SN0904-FM-80-Z7-27	80	38.2		7	50	12.4	27	93	TORX-M4.0-LS	T15
2700000356	SN1206-FM-50-Z4-22	50	18	11	4	40	10.4	22	63	TORX-M4.0-LS	T15
2700000358	SN1206-FM-63-Z6-22	63	18	11	6	40	10.4	22	76	TORX-M4.0-LS	T15
2700000360	SN1206-FM-80-Z7-27	80	38.2		7	50	12.4	27	93	TORX-M4.0-LS	T15

* **Big Dia. Face-Mills (100Ø, 125Ø, 160Ø) are available**



ACCESSORIES



MOLICOT
TUBE



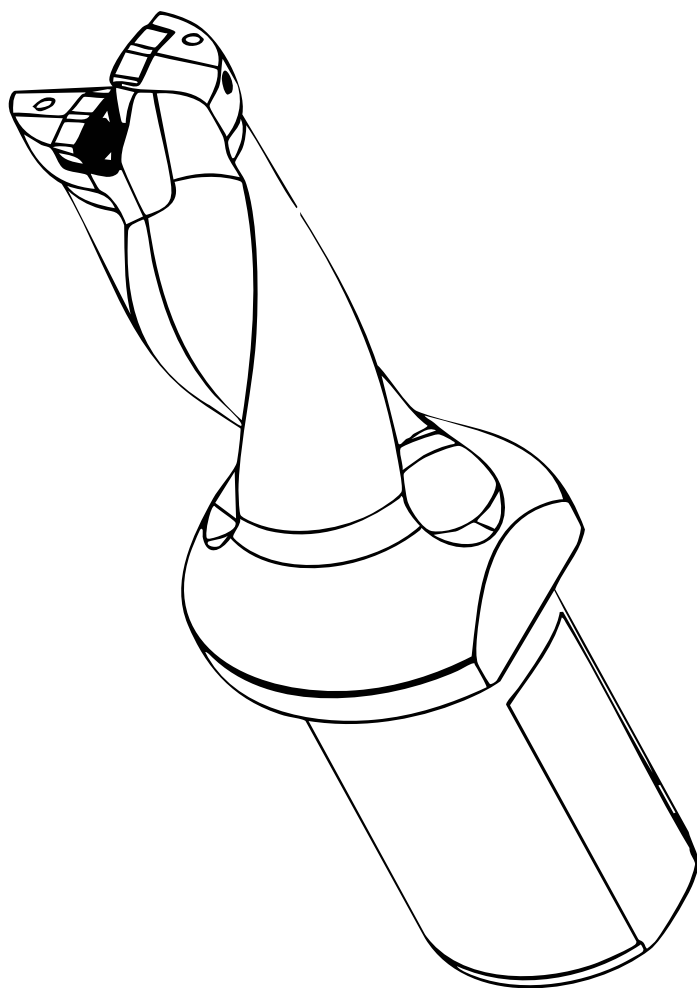
TORX
SCREW-DRIVER



TORX
SCREWS



DRILLING



Family Index

SPMG

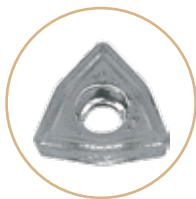
Pg 073

WCMX

Pg 077



Selection Guide

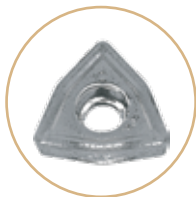


Alloy Steel

WCMX — FIRST CHOICE

- For steel machining
- SPMG can be used - if cost is the main consideration

P



Stainless Steel

WCMX — FIRST CHOICE

- For stainless steel machining
- SPMG PM can be used - if cost is the consideration

M



Cast Iron

SPMG PR — FIRST CHOICE

- For cast iron machining
- WCMX can be used as well

K



Aerospace

WCMX — FIRST CHOICE

- For difficult-to-machine materials
- SPMG is not recommended

S



High Hardness

SPMG PR — FIRST CHOICE

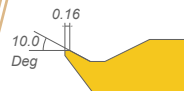
- For high hardness materials
- WCMX can be used as well

H

Chip Breakers

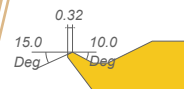
PM

- Sharp chip breaker, ensures "soft" drilling



PR

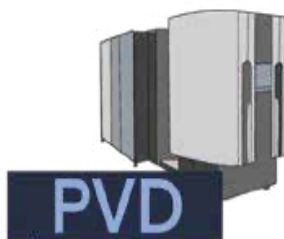
- Robust chip breaker for rough machining or unstable drilling conditions



Grade

UN 330

- FIRST CHOICE, general-purpose grade
- Sub-micron grade with PVD coating



Over the past 10 years, specialists at Swiss.Blue have developed a unique and patented PVD coating for drilling

Based on extreme plasma density combined with hyper-pulsed deposition technology, Swiss.Blue offers the most advanced and high-performance drilling coatings in the market.

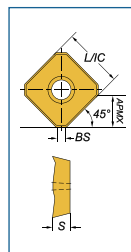


SPMG

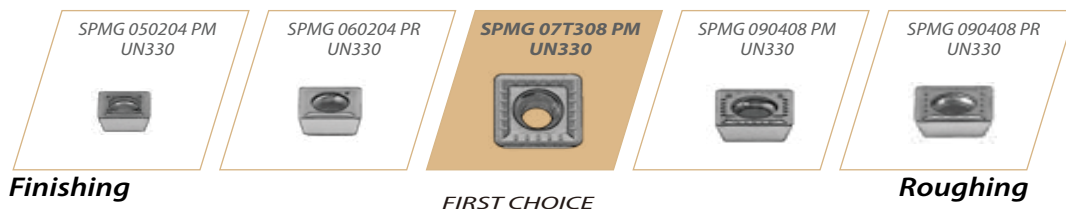
Square Inserts - with 11° Positive Angle - Used for all drilling applications
The right choice for cost effective general drilling

INSERTS

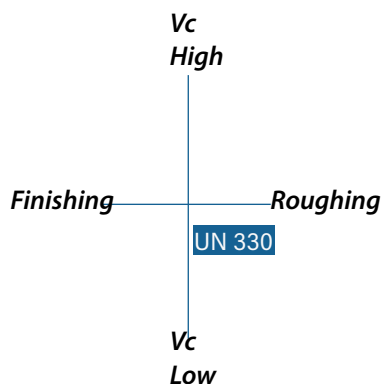
CAT. NUM	DESCRIPTION	IC	RE	S
3100000024	SPMG 050204 PM UN330	5.0	0.40	2.37
3100000012	SPMG 050204 PR UN330	5.0	0.40	2.37
3100000026	SPMG 060204 PM UN330	6.0	0.40	2.38
3100000014	SPMG 060204 PR UN330	6.0	0.40	2.38
3100000028	SPMG 07T308 PM UN330	7.94	0.80	3.97
3100000016	SPMG 07T308 PR UN330	7.94	0.80	3.97
3100000030	SPMG 090408 PM UN330	9.78	0.80	4.30
3100000018	SPMG 090408 PR UN330	9.78	0.80	4.30
3100000032	SPMG 110408 PM UN330	11.50	0.80	4.76
3100000020	SPMG 110408 PR UN330	11.50	0.80	4.76
3100000022	SPMG 140512 PM UN330	14.30	1.20	5.20



OVER-VIEW



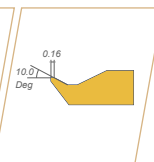
GRADES



CHIP-BREAKERS

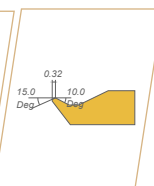
PM

- Semi Finishing chip breaker for general Drilling
- First choice for all conditions
- Recommended Feeds (Fz) are : **0.05 - 0.13 (mm/tooth)**



PR

- Mid. to Roughing chip Breaker
- First choice for aggressive and unstable Drilling conditions
- Recommended Feeds (Fz) are : **0.09 - 0.18 (mm/tooth)**



SPMG 050204 PM UN330

		Fz	Vc
P	Steel - low carbon	0.04 - 0.11	80 - 190
	Steel - alloyed steel	0.04 - 0.09	80 - 190
	Steel - highly alloyed	0.04 - 0.07	80 - 150
M	Stainless steel - austenitic	0.06 - 0.09	80 - 170
	Stainless steel - duplex	0.06 - 0.07	80 - 140
K	Gray cast iron	0.04 - 0.11	80 - 170
	High-strength cast iron with globular graphite	0.04 - 0.11	80 - 150

SPMG 050204 PR UN330

		Fz	Vc
P	Steel - low carbon	0.08 - 0.14	80 - 190
	Steel - alloyed steel	0.08 - 0.12	80 - 170
	Steel - highly alloyed	0.08 - 0.10	80 - 150
M	Stainless steel - austenitic	0.10 - 0.12	80 - 170
	Stainless steel - duplex	0.08 - 0.10	80 - 140
K	Gray cast iron	0.08 - 0.14	80 - 170
	High-strength cast iron with globular graphite	0.08 - 0.14	80 - 150

SPMG 060204 PM UN330

		Fz	Vc
P	Steel - low carbon	0.04 - 0.11	80 - 190
	Steel - alloyed steel	0.04 - 0.09	80 - 170
	Steel - highly alloyed	0.04 - 0.07	80 - 150
M	Stainless steel - austenitic	0.06 - 0.09	80 - 170
	Stainless steel - duplex	0.06 - 0.07	80 - 140
K	Gray cast iron	0.04 - 0.11	80 - 170
	High-strength cast iron with globular graphite	0.04 - 0.11	80 - 150

SPMG 060204 PR UN330

		Fz	Vc
P	Steel - low carbon	0.10 - 0.18	80 - 190
	Steel - alloyed steel	0.10 - 0.16	80 - 170
	Steel - highly alloyed	0.10 - 0.14	80 - 150
M	Stainless steel - austenitic	0.12 - 0.16	80 - 170
	Stainless steel - duplex	0.12 - 0.14	80 - 140
K	Gray cast iron	0.10 - 0.18	80 - 170
	High-strength cast iron with globular graphite	0.10 - 0.18	80 - 150



SPMG 07T308 PM UN330

		Fz	Vc
P	Steel - low carbon	0.05 - 0.12	110 - 190
	Steel - alloyed steel	0.05 - 0.10	110 - 190
	Steel - highly alloyed	0.05 - 0.08	90 - 170
M	Stainless steel - austenitic	0.07 - 0.10	110 - 175
	Stainless steel - duplex	0.07 - 0.08	80 - 145
K	Gray cast iron	0.05 - 0.12	110 - 190
	High-strength cast iron with globular graphite	0.05 - 0.12	110 - 170

SPMG 07T308 PR UN330

		Fz	Vc
P	Steel - low carbon	0.12 - 0.24	110 - 190
	Steel - alloyed steel	0.14 - 0.22	110 - 175
	Steel - highly alloyed	0.14 - 0.20	80 - 145
M	Stainless steel - austenitic	0.14 - 0.22	110 - 175
	Stainless steel - duplex	0.14 - 0.20	80 - 145
K	Gray cast iron	0.12 - 0.24	110 - 190
	High-strength cast iron with globular graphite	0.12 - 0.24	110 - 170

SPMG 090408 PM UN330

		Fz	Vc
P	Steel - low carbon	0.06 - 0.13	80 - 190
	Steel - alloyed steel	0.08 - 0.11	80 - 170
	Steel - highly alloyed	0.08 - 0.09	80 - 140
M	Stainless steel - austenitic	0.08 - 0.11	80 - 170
	Stainless steel - duplex	0.08 - 0.09	80 - 140
K	Gray cast iron	0.06 - 0.13	80 - 170
	High-strength cast iron with globular graphite	0.06 - 0.13	80 - 150

SPMG 090408 PR UN330

		Fz	Vc
P	Steel - low carbon	0.14 - 0.24	80 - 190
	Steel - alloyed steel	0.16 - 0.22	80 - 170
	Steel - highly alloyed	0.16 - 0.20	80 - 140
M	Stainless steel - austenitic	0.16 - 0.22	80 - 170
	Stainless steel - duplex	0.16 - 0.20	80 - 140
K	Gray cast iron	0.14 - 0.24	80 - 170
	High-strength cast iron with globular graphite	0.14 - 0.24	80 - 150

SPMG 110408 PM UN330

		Fz	Vc
P	Steel - low carbon	0.07 - 0.16	80 - 190
	Steel - alloyed steel	0.09 - 0.14	80 - 170
	Steel - highly alloyed	0.09 - 0.12	80 - 140
M	Stainless steel - austenitic	0.09 - 0.14	80 - 170
	Stainless steel - duplex	0.09 - 0.12	80 - 140
K	Gray cast iron	0.07 - 0.16	80 - 170
	High-strength cast iron with globular graphite	0.07 - 0.16	80 - 150

SPMG 110408 PR UN330

		Fz	Vc
P	Steel - low carbon	0.20 - 0.28	80 - 190
	Steel - alloyed steel	0.22 - 0.26	80 - 170
	Steel - highly alloyed	0.22 - 0.24	80 - 140
M	Stainless steel - austenitic	0.22 - 0.26	80 - 170
	Stainless steel - duplex	0.22 - 0.24	80 - 140
K	Gray cast iron	0.2 - 0.28	80 - 170
	High-strength cast iron with globular graphite	0.2 - 0.28	80 - 150

SPMG 140512 PM UN330

		Fz	Vc
P	Steel - low carbon	0.12 - 0.20	80 - 190
	Steel - alloyed steel	0.14 - 0.18	80 - 170
	Steel - highly alloyed	0.14 - 0.16	80 - 140
M	Stainless steel - austenitic	0.14 - 0.18	80 - 170
	Stainless steel - duplex	0.14 - 0.16	80 - 140
K	Gray cast iron	0.12 - 0.20	80 - 170
	High-strength cast iron with globular graphite	0.12 - 0.20	80 - 150

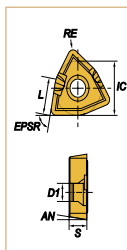


WCMX

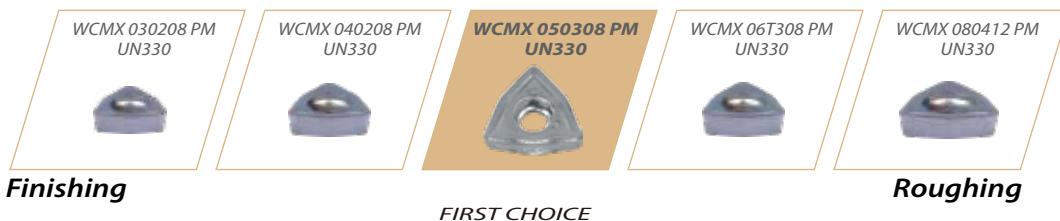
Trigon Inserts with 80° working corners - 7° Positive Angle - Used for all high-end drilling applications - The first choice for all drilling challenges.

INSERTS

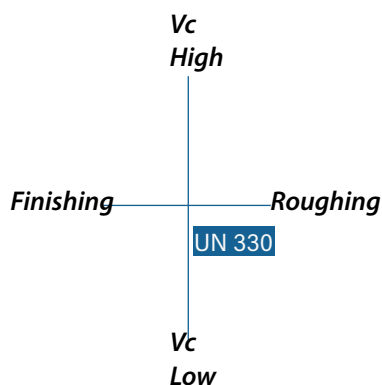
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3100000004	WCMX 040208 PM UN330	6.35	4.30	0.80	2.38
3100000006	WCMX 050308 PM UN330	7.94	5.40	0.80	3.52
3100000008	WCMX 06T308 PM UN330	9.52	6.50	0.80	3.97
3100000010	WCMX 080412 PM UN330	12.70	8.70	1.20	4.76



OVER-VIEW



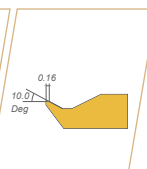
GRADES



CHIP-BREAKERS

PM

- Semi Finishing chip breaker for general Drilling
- First choice for all conditions
- Recommended Feeds (Fz) are: **0.05 - 0.13 (mm/tooth)**



WCMX 030208 PM UN330

		Fz	Vc
P	Steel - low carbon	0.04 - 0.11	110 - 190
	Steel - alloyed steel	0.04 - 0.90	110 - 190
	Steel - highly alloyed	0.04 - 0.70	90 - 170

M	Stainless steel - austenitic	0.06 - 0.09	110 - 175
	Stainless steel - duplex	0.06 - 0.07	80 - 145

K	Gray cast iron	0.04 - 0.11	110 - 190
	High-strength cast iron with globular graphite	0.04 - 0.11	110 - 170

WCMX 040208 PM UN330

		Fz	Vc
P	Steel - low carbon	0.04 - 0.11	110 - 190
	Steel - alloyed steel	0.04 - 0.90	110 - 190
	Steel - highly alloyed	0.04 - 0.70	90 - 170

M	Stainless steel - austenitic	0.06 - 0.09	110 - 175
	Stainless steel - duplex	0.06 - 0.07	80 - 145

K	Gray cast iron	0.04 - 0.11	110 - 190
	High-strength cast iron with globular graphite	0.04 - 0.11	110 - 170

WCMX 050308 PM UN330

		Fz	Vc
P	Steel - low carbon	0.05 - 0.12	80 - 190
	Steel - alloyed steel	0.05 - 0.10	80 - 170
	Steel - highly alloyed	0.05 - 0.08	80 - 150

M	Stainless steel - austenitic	0.07 - 0.10	80 - 170
	Stainless steel - duplex	0.07 - 0.08	80 - 140

K	Gray cast iron	0.05 - 0.12	80 - 170
	High-strength cast iron with globular graphite	0.05 - 0.12	80 - 150

WCMX 06T308 PM UN330

		Fz	Vc
P	Steel - low carbon	0.06 - 0.13	80 - 190
	Steel - alloyed steel	0.06 - 0.11	80 - 170
	Steel - highly alloyed	0.06 - 0.09	80 - 150

M	Stainless steel - austenitic	0.08 - 0.11	80 - 170
	Stainless steel - duplex	0.08 - 0.09	80 - 140

K	Gray cast iron	0.06 - 0.13	80 - 170
	High-strength cast iron with globular graphite	0.06 - 0.13	80 - 150

WCMX 080412 PM UN330

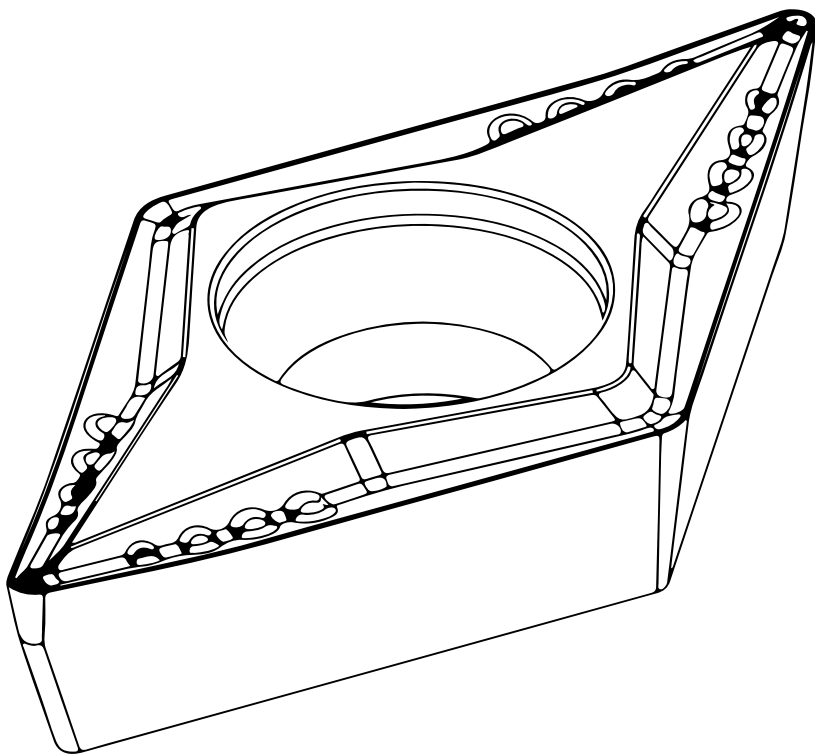
		Fz	Vc
P	Steel - low carbon	0.07 - 0.16	80 - 190
	Steel - alloyed steel	0.07 - 0.14	80 - 170
	Steel - highly alloyed	0.07 - 0.12	80 - 150

M	Stainless steel - austenitic	0.09 - 0.14	80 - 170
	Stainless steel - duplex	0.09 - 0.12	80 - 140

K	Gray cast iron	0.07 - 0.16	80 - 170
	High-strength cast iron with globular graphite	0.07 - 0.16	80 - 150



TURNING



Family Index

CCMT	Pg 091
CNGG	Pg 097
CNMA	Pg 099
CNMG	Pg 101
DCGT	Pg 111
DCMT	Pg 113
DNMG	Pg 117
TCMT	Pg 123
TNGG	Pg 127
TNMA	Pg 129
TNMG	Pg 131
TNUX	Pg 141
VBMT	Pg 143
VCGT	Pg 147
VCMT	Pg 149
VNMG	Pg 151
WNGG	Pg 155
WNMA	Pg 157
WNMG	Pg 159

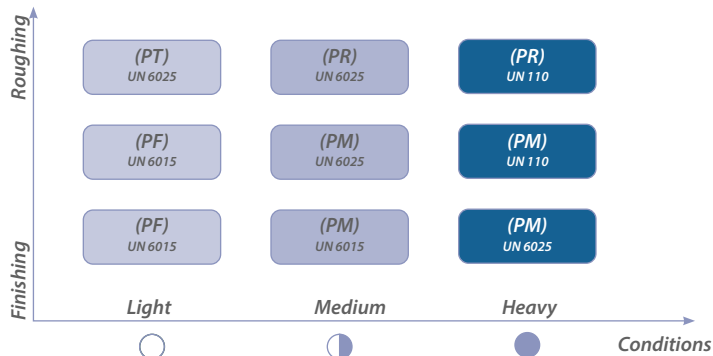


TURNING

Grades and Chip Breakers Selection

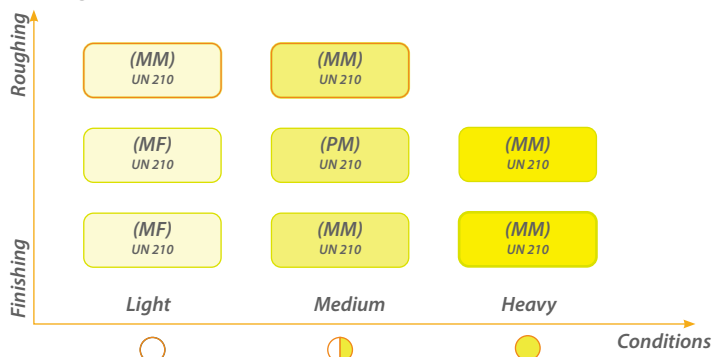
ISO(P)-Steel

Machining



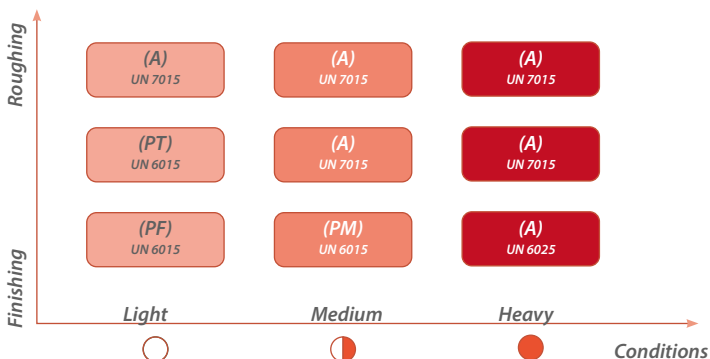
ISO(M)-Stainless steel

Machining



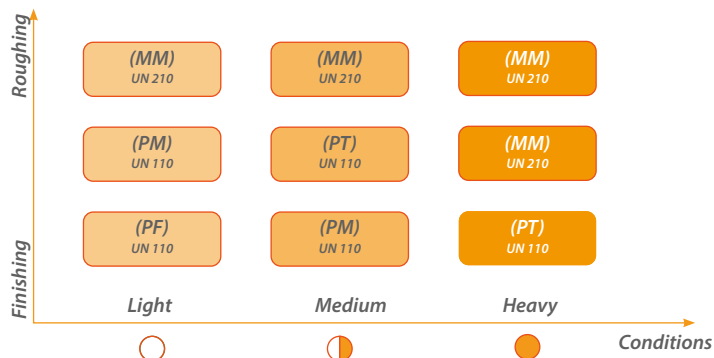
ISO(K)-Cast iron

Machining



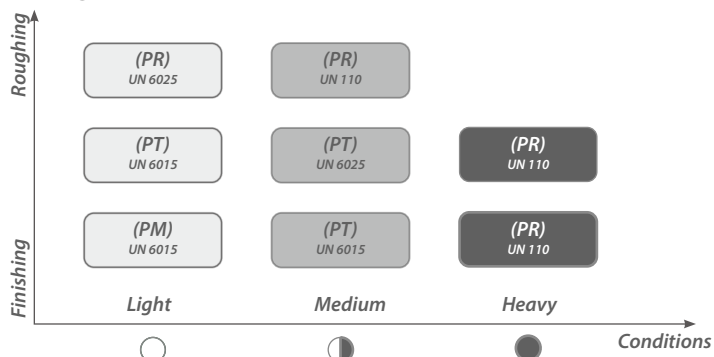
ISO(S)-Aerospace materials

Machining



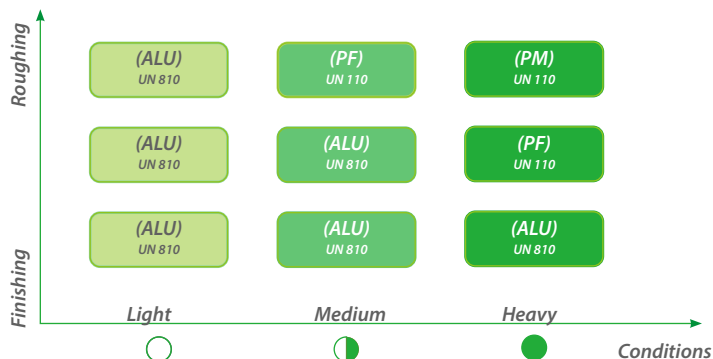
ISO(H)-Hard Material

Machining



ISO(N)-ALUMINIUM

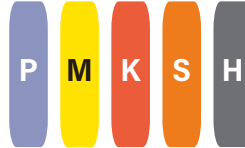
Machining



PVD Grades

UN 110

- General-purpose grade, the first recommendation at low to mid speeds
- Sub-micron Grade with PVD coating



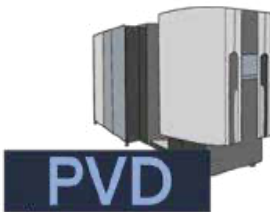
UN 210

- Grade for machining Stainless Steel
- Sub-micron grade with PVD coating



UN 810

- Grade for machining Aluminum
- Sub-micron grade with PVD coating



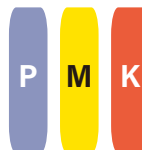
Over the past 10 years, specialists at Swiss.Blue developed a unique and patented group of PVD coatings for TURNING OPERATIONS

Based on extreme plasma density combined with Hyper-pulse deposition technology, Swiss.Blue offers the most advanced and highly efficient turning coatings on the market

CVD Grades

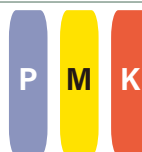
UN 6015

- First choice for general-purpose turning applications
- Over-micron carbide grade with alpha-alumina CVD coating



UN 6025

- Tough, general-purpose grade for turning
- "Cobalt-enriched" substrate with alpha-alumina CVD coating



UN 7015

- High-performance turning grade for cast iron machining
- Over-micron carbide with thick alpha-alumina CVD coating



Swiss.Blue developed a family of "best-in-class" CVD coatings

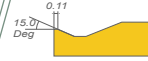
All coatings feature an alpha-alumina layer combined with additional TiCN (MT) and TiN layers, delivering the highest performance available in the market



Chip Breakers

PF / PP

- Sharp chip breaker
- For finishing operations
- **Chip Control starts at Fz: 0.12**



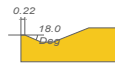
PM

- Semi Finishing chip breaker for general machining
- First choice for stable machining and light-Mid. cutting conditions
- **Chip Control starts at Fz: 0.18**



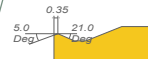
PT

- Mid. Cutting conditions - chip breaker for general machining
- First choice for unstable machining
- Re-enforced chipbreaker allows for high shocks resistance
- **Chip Control starts at Fz: 0.25**



PR

- Roughing chip breaker mostly used in tough machining applications
- First choice for very unstable machining or thick casting "skin"
- **Chip Control starts at Fz: 0.35**



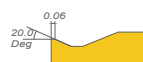
MF

- Sharp chip breaker - especially developed for Stainless Steel applications
- For finishing operations
- **Chip Control starts at Fz: 0.10**



MM

- Semi-Finishing chip breaker - especially developed for Stainless Steel machining applications
- First choice for all Stainless Steel applications
- Can be used for very soft or sticky material
- **Chip Control starts at Fz: 0.14**



Chip Breakers

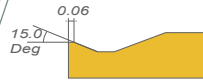
ALU

- Sharp, positive chip breaker
- For turning Aluminum and other Sticky materials
- **Chip Control starts at Fz: 0.10**



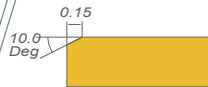
PP

- **For super finishing operations**
- Very sharp chip breaker
- **Chip Control starts at Fz: 0.07**



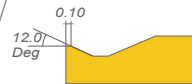
(A)

- Flat top insert design
- Used mostly for Cast-Iron applications
- **Chip Control starts at Fz: 0.15**

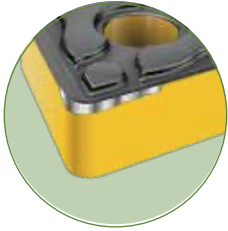


(X)

- **For finishing operations** with performance similar to KNUX
- Sharp chip breaker
- **Chip Control starts at Fz: 0.10**

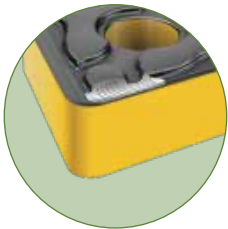


Types of Tool Wear



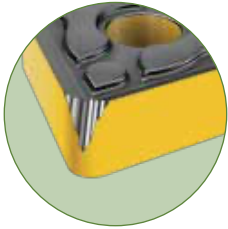
Flank Wear

- Cutting edge wears out
- The insert wears uniformly along the cutting edge



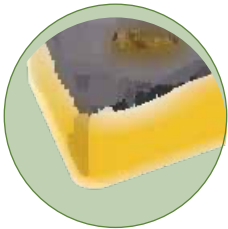
Crater Wear

- Pitting or cratering on the top (rake) face
- Shows where the rake face has the most contact with the chips



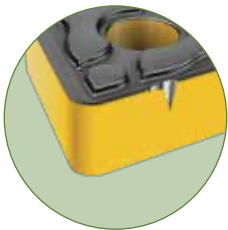
Edge Chipping

- Distinct chipping of the cutting edge, typically occurring on the tool's radius or on the chipbreaker surface



Plastic deformation

- Significant deformation in the nose radius area
- Can occur only with UN 6025 (cobalt-enriched grade)



Notch wear

- Sharp side crack, typically at the depth-of-Cut.

Flank Wear

- This is a desirable type of wear
- Replace the grade with UN 6015 for extended tool-life

Crater Wear

- Replace the currently used grade with a hard CVD grade like UN 6015

Edge Chipping

- First, reduce the feed (f_n)
- Replace the current grade with PVD-coated grade like UN 110

Plastic deformation

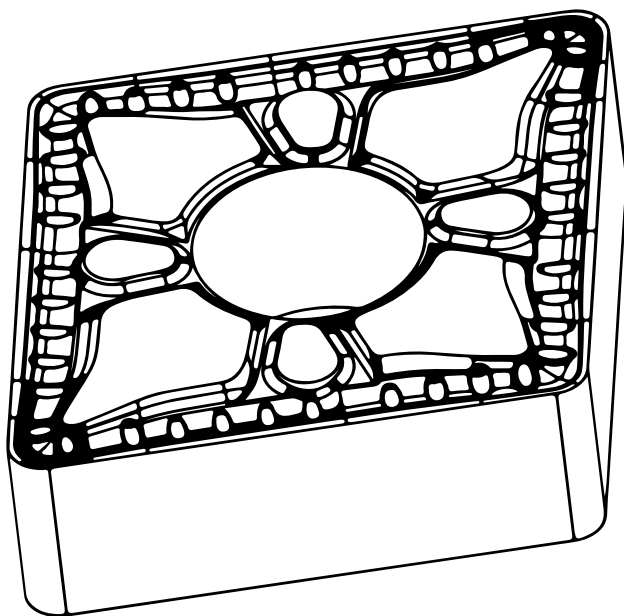
- Stable machining conditions → Switch to UN 6015 grade
- Tough machining conditions → Switch to UN 110 grade

Notch wear

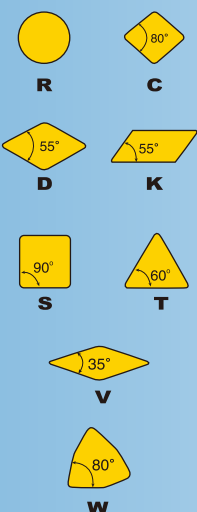
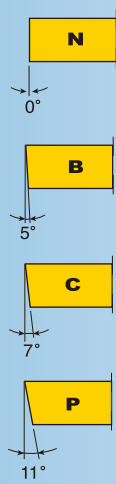
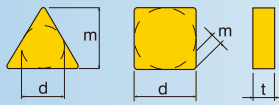
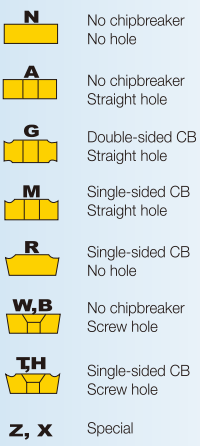
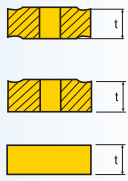
- Replace chip breaker with MM, MF when machining Stainless Steel materials
- If machining conditions are tough, Switch to UN 210 grade
- Use variable Depth-of-Cut. to delay notch wear development



| TURNING INSERTS



NAMING STANDARDS

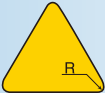
1. Shape 	2. Clearance Angle 	3. Tolerance  M class <table><tr><th colspan="5">Tolerance mm</th></tr><tr><th>IC</th><th>m</th><th>d</th><th>t</th><th></th></tr><tr><td>6.35</td><td>±0.08</td><td>±0.05</td><td></td><td rowspan="3">±0.13</td></tr><tr><td>9.52</td><td>±0.08</td><td>±0.05</td><td></td></tr><tr><td>12.70</td><td>±0.13</td><td>±0.08</td><td></td></tr></table> U class <table><tr><th colspan="5">Tolerance mm</th></tr><tr><th>IC</th><th>m</th><th>d</th><th>t</th><th></th></tr><tr><td>9.52</td><td>±0.13</td><td>±0.08</td><td>±0.13</td><td></td></tr></table> G class <table><tr><th colspan="3">Tolerance mm</th></tr><tr><th>m</th><th>d</th><th>t</th></tr><tr><td>±0.025</td><td>±0.025</td><td>±0.13</td></tr></table>	Tolerance mm					IC	m	d	t		6.35	±0.08	±0.05		±0.13	9.52	±0.08	±0.05		12.70	±0.13	±0.08		Tolerance mm					IC	m	d	t		9.52	±0.13	±0.08	±0.13		Tolerance mm			m	d	t	±0.025	±0.025	±0.13	4. Type 	6. Thickness  02 = 2.38mm 03 = 3.18mm T3 = 3.97mm 04 = 4.76mm 06 = 6.35mm 07 = 7.94mm 09 = 9.52mm
Tolerance mm																																																			
IC	m	d	t																																																
6.35	±0.08	±0.05		±0.13																																															
9.52	±0.08	±0.05																																																	
12.70	±0.13	±0.08																																																	
Tolerance mm																																																			
IC	m	d	t																																																
9.52	±0.13	±0.08	±0.13																																																
Tolerance mm																																																			
m	d	t																																																	
±0.025	±0.025	±0.13																																																	

C N M G 12 04 08 (R) PM
1 2 3 4 5 6 7 8 9

5. Cutting Edge Length

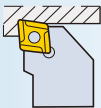
I.C(mm)	C	D	R	S	T	V	W	K
								
3.97	03	04		03	06		02	
4.76	04	05		04	08	08		
5.56	05	06		05	09	09	03	
6.35	06	07		06	11	11	04	
7.94	08	09		07	13	13	05	
8.0			08					
9.52	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15		12	22	22	08	
15.88	16	19	15	15	27	27	10	
16.0			16					
19.05	19	23	19	19	33	33	13	
20.0			20					
25.0			25					
25.4	25	31	25	25	44			
32.0			32					

7. Corner R

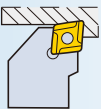


ex) 0.8mm=08

8. Hand of Insert



R Right



L Left

9. Chipbreaker

- PF
- PM
- PT
- PR

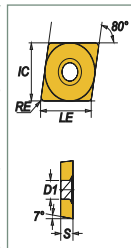


CCMT

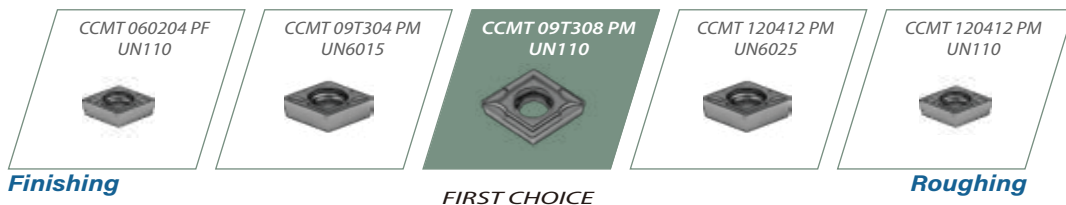
80° Rhombic insert - with 7° Positive Angle - Used Mostly for Internal Turning
External Machining and Facing are also possible using the right cutting conditions

INSERTS

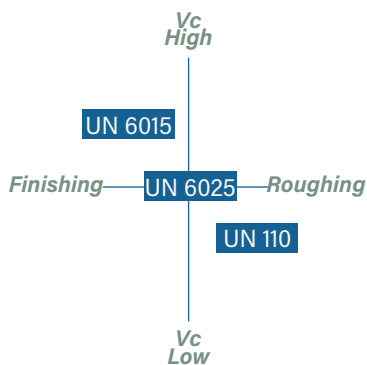
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000106	CCMT 060204 PF UN110	6.35	6.35	0.40	2.38
5100000110	CCMT 09T304 PM UN110	9.53	9.53	0.40	3.97
5100000298	CCMT 09T304 PM UN6015	9.53	9.53	0.40	3.97
5100000112	CCMT 09T304 PM UN6025	9.53	9.53	0.40	3.97
5100000114	CCMT 09T308 PM UN110	9.53	9.53	0.80	3.97
5100000300	CCMT 09T308 PM UN6015	9.53	9.53	0.80	3.97
5100000116	CCMT 09T308 PM UN6025	9.53	9.53	0.80	3.97
5100000358	CCMT 120404 PM UN110	12.70	12.70	0.80	4.76
5100000360	CCMT 120404 PM UN6025	12.70	12.70	0.80	4.76
5100000118	CCMT 120408 PM UN110	12.70	12.70	0.80	4.76
5100000362	CCMT 120408 PM UN6015	12.70	12.70	0.80	4.76
5100000120	CCMT 120408 PM UN6025	12.70	12.70	0.80	4.76
5100000424	CCMT 120412 PM UN110	12.70	12.70	1.20	4.76
5100000426	CCMT 120412 PM UN6025	12.70	12.70	1.20	4.76



OVER-VIEW



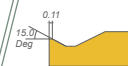
GRADES



CHIP-BREAKERS

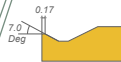
PF

- Sharp chip breaker
- For finishing operations
- **Chip Control starts at Fz: 0.12**



PM

- Semi Finishing chip breaker f
- First choice for stable machining and light-Mid. Cutting pressure
- **Chip Control starts at Fz: 0.18**



CCMT 060204 PF UN110

		Fz	Vc
P	Steel - low carbon	0.12 - 0.21	80 - 180
	Steel - alloyed steel	0.12 - 0.18	80 - 180
	Steel - highly alloyed	0.12 - 0.16	90 - 150
M	Stainless steel - austenitic	0.14 - 0.18	80 - 160
	Stainless steel - duplex	0.14 - 0.13	80 - 130
K	Gray cast iron	0.12 - 0.24	80 - 180
	High-strength cast iron with globular graphite	0.12 - 0.22	80 - 160
S	Hard-to-process materials - nickel alloys	0.12 - 0.18	25 - 45
	Hard-to-process materials - titanium alloys	0.12 - 0.18	35 - 55
DEPTH OF CUT		0.3 - 1.0	

CCMT 09T304 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	120 - 250
	Steel - alloyed steel	0.14 - 0.22	120 - 250
	Steel - highly alloyed	0.14 - 0.20	120 - 250
M	Stainless steel - austenitic	0.16 - 0.22	120 - 230
	Stainless steel - duplex	0.16 - 0.19	120 - 220
K	Gray cast iron	0.14 - 0.28	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.25	120 - 220
DEPTH OF CUT		0.3 - 2.0	

CCMT 09T304 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	120 - 250
	Steel - alloyed steel	0.14 - 0.22	120 - 250
	Steel - highly alloyed	0.14 - 0.20	120 - 250
M	Stainless steel - austenitic	0.16 - 0.20	120 - 230
	Stainless steel - duplex	0.16 - 0.17	120 - 210
K	Gray cast iron	0.14 - 0.28	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.25	120 - 220
H	Hard materials	0.10 - 0.18	40 - 90
DEPTH OF CUT		0.3 - 2.0	

CCMT 09T304 PM UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	80 - 180
	Steel - alloyed steel	0.14 - 0.22	80 - 180
	Steel - highly alloyed	0.14 - 0.20	80 - 180
M	Stainless steel - austenitic	0.16 - 0.22	80 - 160
	Stainless steel - duplex	0.16 - 0.20	80 - 130
K	Gray cast iron	0.14 - 0.28	80 - 180
	High-strength cast iron with globular graphite	0.14 - 0.26	80 - 160
H	Hard materials	0.10 - 0.18	40 - 90
DEPTH OF CUT		0.3 - 2.0	



CCMT 09T308 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	120 - 250
	Steel - alloyed steel	0.14 - 0.22	120 - 250
	Steel - highly alloyed	0.14 - 0.20	120 - 250
M	Stainless steel - austenitic	0.16 - 0.20	120 - 230
	Stainless steel - duplex	0.15 - 0.17	120 - 210
K	Gray cast iron	0.14 - 0.28	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.25	120 - 220
H	Hard materials	0.10 - 0.18	40 - 90
DEPTH OF CUT		0.5 - 3.0	

CCMT 09T308 PM UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	80 - 180
	Steel - alloyed steel	0.14 - 0.22	80 - 180
	Steel - highly alloyed	0.14 - 0.20	80 - 150
M	Stainless steel - austenitic	0.16 - 0.22	80 - 160
	Stainless steel - duplex	0.16 - 0.20	80 - 130
K	Gray cast iron	0.14 - 0.28	80 - 180
	High-strength cast iron with globular graphite	0.14 - 0.26	80 - 160
S	Hard-to-process materials - nickel alloys	0.14 - 0.22	25 - 45
	Hard-to-process materials - titanium alloys	0.14 - 0.22	35 - 55
H	Hard materials	0.10 - 0.18	40 - 90
DEPTH OF CUT		0.5 - 3.0	

CCMT 09T308 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	120 - 250
	Steel - alloyed steel	0.14 - 0.22	120 - 250
	Steel - highly alloyed	0.14 - 0.20	120 - 250
M	Stainless steel - austenitic	0.16 - 0.22	120 - 230
	Stainless steel - duplex	0.16 - 0.19	120 - 210
K	Gray cast iron	0.14 - 0.28	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.25	120 - 220
DEPTH OF CUT		0.5 - 3.0	

CCMT 120408 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.18 - 0.33	120 - 250
	Steel - alloyed steel	0.18 - 0.30	120 - 250
	Steel - highly alloyed	0.18 - 0.28	120 - 250
M	Stainless steel - austenitic	0.20 - 0.30	120 - 230
	Stainless steel - duplex	0.20 - 0.28	120 - 210
K	Gray cast iron	0.18 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.18 - 0.33	120 - 220
H	Hard materials	0.14 - 0.26	40 - 90
DEPTH OF CUT		0.5 - 4.0	

CCMT 120404 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	120 - 250
	Steel - alloyed steel	0.14 - 0.22	120 - 250
	Steel - highly alloyed	0.14 - 0.20	120 - 250
M	Stainless steel - austenitic	0.16 - 0.20	120 - 230
	Stainless steel - duplex	0.15 - 0.17	120 - 210
K	Gray cast iron	0.14 - 0.28	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.25	120 - 220
H	Hard materials	0.10 - 0.18	40 - 90
DEPTH OF CUT		0.3 - 2.0	

CCMT 120404 PM UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	80 - 180
	Steel - alloyed steel	0.14 - 0.22	80 - 180
	Steel - highly alloyed	0.14 - 0.20	80 - 180
M	Stainless steel - austenitic	0.16 - 0.22	80 - 160
	Stainless steel - duplex	0.16 - 0.20	80 - 130
K	Gray cast iron	0.14 - 0.28	80 - 180
	High-strength cast iron with globular graphite	0.14 - 0.26	80 - 160
H	Hard materials	0.10 - 0.18	40 - 90
DEPTH OF CUT		0.3 - 2.0	

CCMT 120408 PM UN110

		Fz	Vc
P	Steel - low carbon	0.18 - 0.33	80 - 180
	Steel - alloyed steel	0.18 - 0.30	80 - 180
	Steel - highly alloyed	0.18 - 0.28	80 - 150
M	Stainless steel - austenitic	0.20 - 0.30	80 - 160
	Stainless steel - duplex	0.20 - 0.28	80 - 130
K	Gray cast iron	0.18 - 0.36	80 - 180
	High-strength cast iron with globular graphite	0.18 - 0.34	80 - 160
H	Hard materials	0.10 - 0.18	40 - 90
DEPTH OF CUT		0.5 - 4.0	

CCMT 120408 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.25	120 - 250
	Steel - alloyed steel	0.14 - 0.22	120 - 250
	Steel - highly alloyed	0.14 - 0.20	120 - 250
M	Stainless steel - austenitic	0.16 - 0.22	120 - 230
	Stainless steel - duplex	0.16 - 0.19	120 - 210
K	Gray cast iron	0.14 - 0.28	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.25	120 - 220
DEPTH OF CUT		0.5 - 3.0	



CCMT 120412 PM UN6025

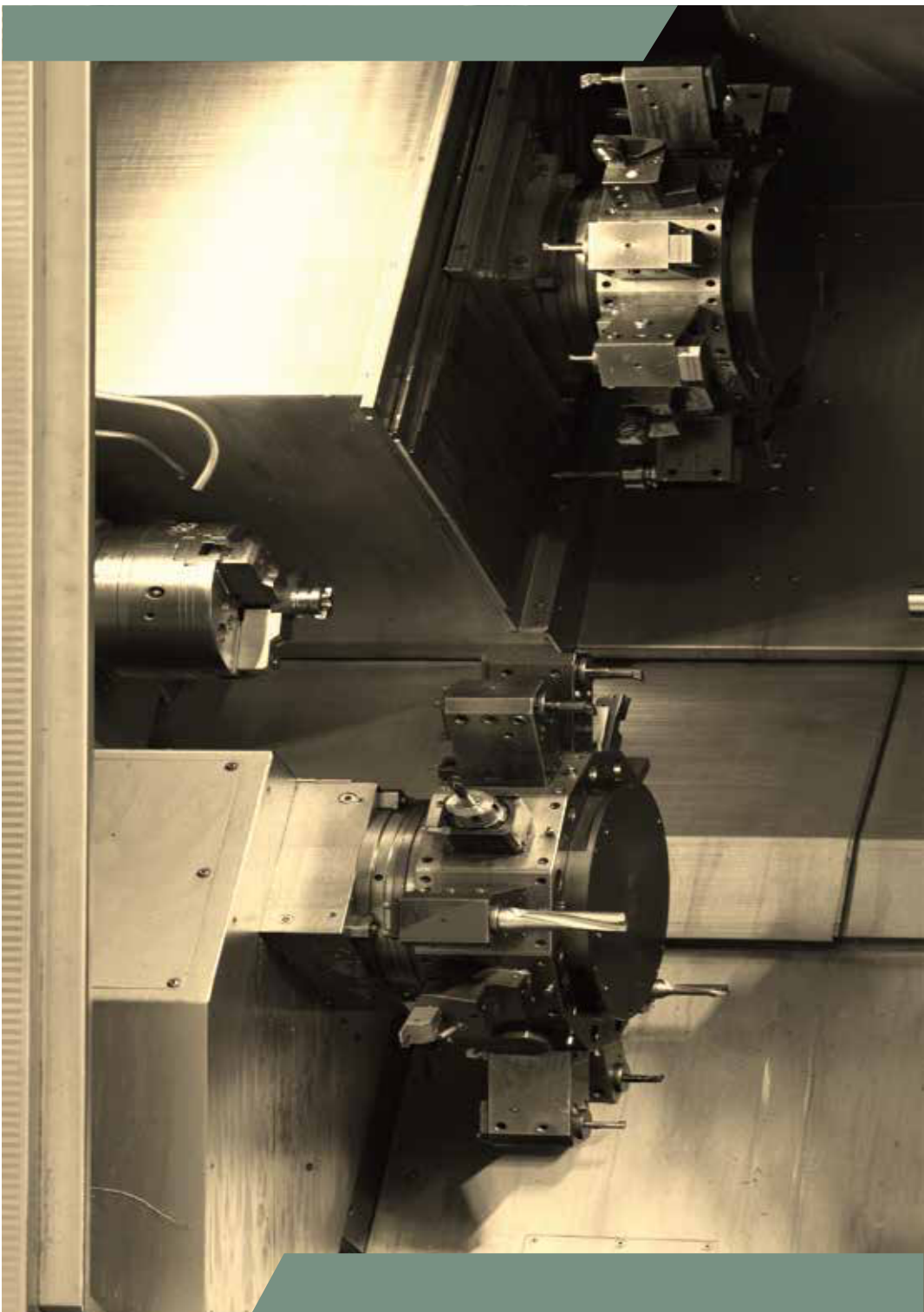
		Fz	Vc
P	Steel - low carbon	0.18 - 0.33	120 - 250
	Steel - alloyed steel	0.18 - 0.30	120 - 250
	Steel - highly alloyed	0.18 - 0.28	120 - 250
M	Stainless steel - austenitic	0.20 - 0.30	120 - 230
	Stainless steel - duplex	0.20 - 0.28	120 - 210
K	Gray cast iron	0.18 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.18 - 0.33	120 - 220
H	Hard materials	0.10 - 0.18	40 - 90

DEPTH OF CUT 0.8 - 4.0

CCMT 120412 PM UN110

		Fz	Vc
P	Steel - low carbon	0.18 - 0.33	80 - 180
	Steel - alloyed steel	0.18 - 0.30	80 - 180
	Steel - highly alloyed	0.18 - 0.28	80 - 150
M	Stainless steel - austenitic	0.20 - 0.30	80 - 160
	Stainless steel - duplex	0.20 - 0.28	80 - 130
K	Gray cast iron	0.18 - 0.36	80 - 180
	High-strength cast iron with globular graphite	0.18 - 0.34	80 - 160
H	Hard materials	0.14 - 0.26	40 - 90

DEPTH OF CUT 0.5 - 4.0

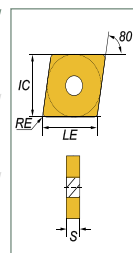


CNGG

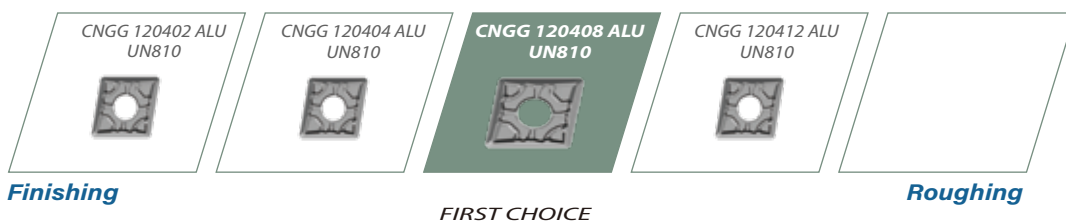
80° Rhombic insert - with Negative Side Angle - Used Mostly for External Machining and Facing Operations - Unique solution for Aluminum and other Non Ferrous Materials

INSERTS

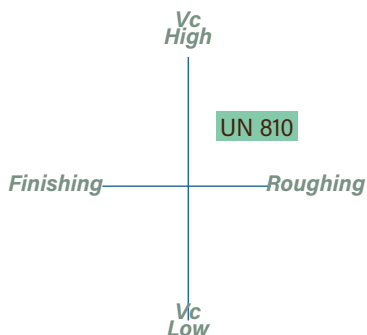
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000432	CNGG 120402 ALU UN810	12.70	12.70	0.20	4.76
5100000364	CNGG 120404 ALU UN810	12.70	12.70	0.40	4.76
5100000434	CNGG 120408 ALU UN810	12.70	12.70	0.80	4.76
5100000436	CNGG 120412 ALU UN810	12.70	12.70	1.20	4.76



OVER-VIEW



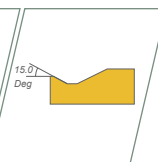
GRADES



CHIP-BREAKERS

ALU

- Sharp, positive chip breaker
- For turning Aluminum and other Sticky materials



CNGG 120402 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz		Vc	
		0.06 - 0.22		200 - 600	
DEPTH OF CUT		0.1 - 1.6			

CNGG 120404 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz		Vc	
		0.06 - 0.22		200 - 600	
DEPTH OF CUT		0.2 - 2.0			

CNGG 120408 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz		Vc	
		0.12 - 0.35		200 - 600	
DEPTH OF CUT		0.4 - 4.0			

CNGG 120412 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz	Vc
		014 - 0.42	200 - 600
DEPTH OF CUT		0.6 - 5.0	

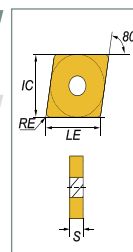


CNMA

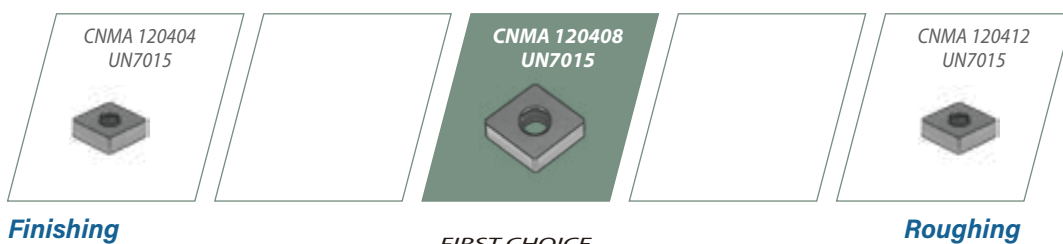
80° Rhombic insert - with Negative Side Angle - Used for External Machining and Facing Operations - for Machining Cast-Iron at Mid. to High Speeds

INSERTS

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000556	CNMA 120404 UN7015	12.70	12.70	0.40	4.76
5100000558	CNMA 120408 UN7015	12.70	12.70	0.80	4.76
5100000554	CNMA 120412 UN7015	12.70	12.70	1.20	4.76



OVER-VIEW

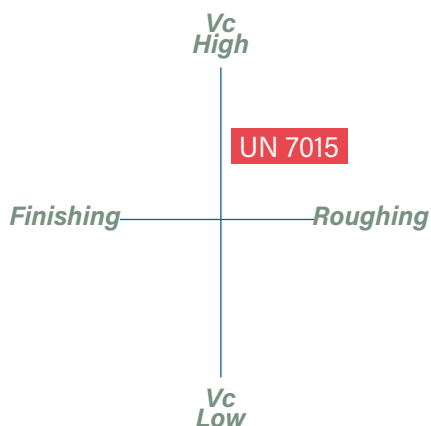


Finishing

FIRST CHOICE

Roughing

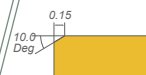
GRADES



CHIP-BREAKERS

(A)

- Flat top insert design
- Used mostly for Cast-Iron applications
- **Chip Control starts at Fz: 0.15**



CNMA 120404 UN7015

		Fz	Vc
K	Gray cast iron	0.10 - 0.30	200 - 350
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 320
DEPTH OF CUT		0.3 - 6.0	

CNMA 120408 UN7015

		<i>Fz</i>	<i>Vc</i>
K	Gray cast iron	<i>0.10 - 0.30</i>	<i>200 - 350</i>
	High-strength cast iron with globular graphite	<i>0.10 - 0.27</i>	<i>200 - 320</i>
<i>DEPTH OF CUT</i>		<i>0.5 - 6.0</i>	

CNMA 120412 UN7015

		Fz	Vc
K	Gray cast iron	0.10 - 0.30	200 - 350
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 320
DEPTH OF CUT		0.7 - 6.0	

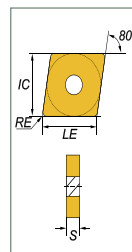


CNMG

80° Rhombic insert - with Negative Side Angle - Used for External Machining and Facing Operations - for All Purpose General Turning

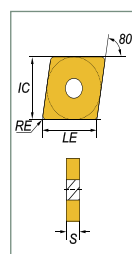
RADIUS 0.4

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000006	CNMG 120404 MF UN210	12.70	12.70	0.40	4.76
5100000234	CNMG 120404 PF UN110	12.70	12.70	0.40	4.76
5100000258	CNMG 120404 PF UN6015	12.70	12.70	0.40	4.76
5100000004	CNMG 120404 PF UN6025	12.70	12.70	0.40	4.76
5100000370	CNMG 120404 PM UN110	12.70	12.70	0.40	4.76
5100000260	CNMG 120404 PM UN6015	12.70	12.70	0.40	4.76
5100000162	CNMG 120404 PM UN6025	12.70	12.70	0.40	4.76



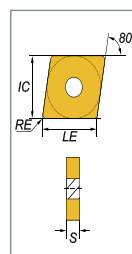
RADIUS 0.8

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000014	CNMG 120408 MF UN210	12.70	12.70	0.80	4.76
5100000020	CNMG 120408 MM UN210	12.70	12.70	0.80	4.76
5100000372	CNMG 120408 PF UN110	12.70	12.70	0.80	4.76
5100000262	CNMG 120408 PF UN6015	12.70	12.70	0.80	4.76
5100000008	CNMG 120408 PF UN6025	12.70	12.70	0.80	4.76
5100000236	CNMG 120408 PM UN110	12.70	12.70	0.80	4.76
5100000264	CNMG 120408 PM UN6015	12.70	12.70	0.80	4.76
5100000012	CNMG 120408 PM UN6025	12.70	12.70	0.80	4.76
5100000018	CNMG 120408 PR UN6025	12.70	12.70	0.80	4.76
5100000266	CNMG 120408 PT UN6015	12.70	12.70	0.80	4.76
5100000160	CNMG 120408 PT UN6025	12.70	12.70	0.80	4.76

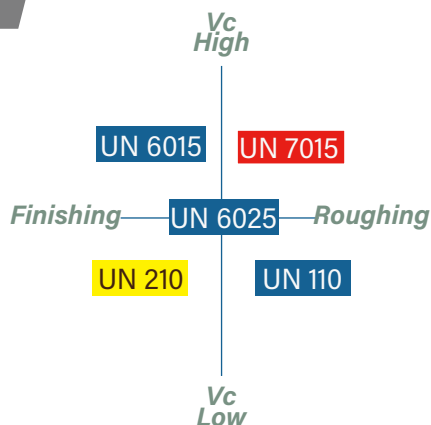


RADIUS 1.2

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000024	CNMG 120412 PM UN6025	12.70	12.70	1.20	4.76
5100000030	CNMG 120412 PR UN6025	12.70	12.70	1.20	4.76
5100000268	CNMG 120412 PT UN6015	12.70	12.70	1.20	4.76
5100000194	CNMG 120412 PT UN6025	12.70	12.70	1.20	4.76



GRADES



CHIP-BREAKERS

PF

- **For finishing operations**
- Sharp chip breaker
- **Chip Control starts at Fz: 0.12**



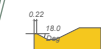
PM

- **Semi Finishing chip breaker** for general machining
- First choice for stable machining and Mid. Conditions cutting
- **Chip Control starts at Fz: 0.18**



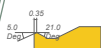
PT

- **Mid. Cutting conditions chip breaker** - for general machining
- First choice for Unstable machining conditions
- **Chip Control starts at Fz: 0.25**



PR

- **Roughing chip breaker** - used in tough machining applications
- First choice for very Unstable machining or for thick casting "skin"
- **Chip Control starts at Fz: 0.35**



MF

- **For finishing operations**
- Sharp chip breaker - especially developed for Stainless Applications
- **Chip Control starts at Fz: 0.10**

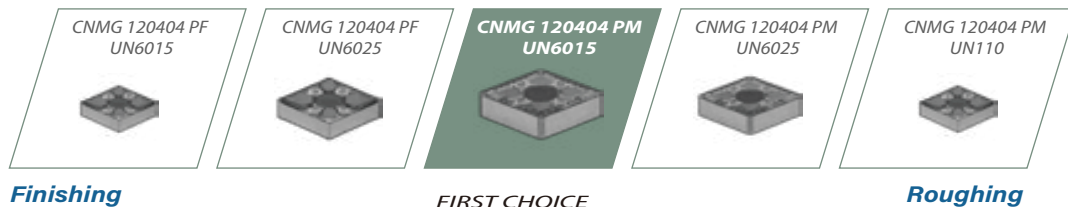


MM

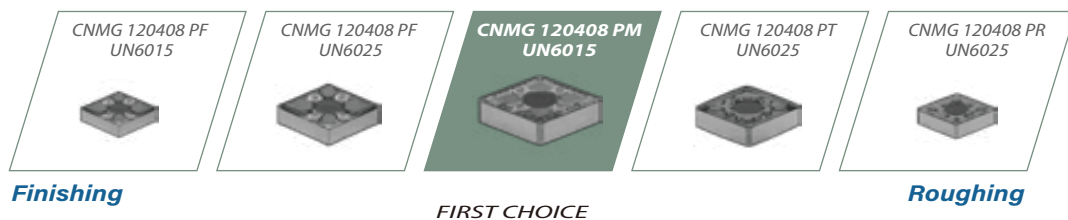
- **Semi Finishing chip breaker** - especially developed for stainless Applications
- **Chip Control starts at Fz: 0.14**



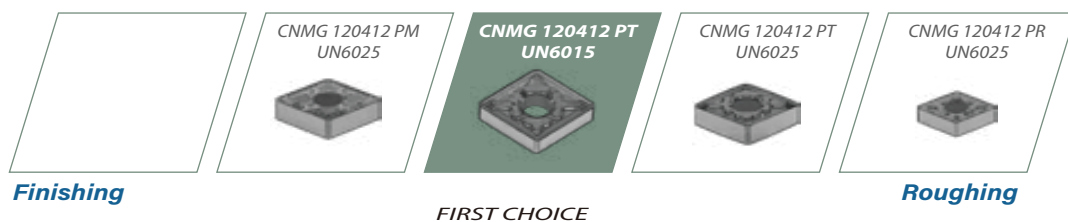
RADIUS 0.4



RADIUS 0.8



RADIUS 1.2



CNMG 120404 PF UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	200 - 300
	Steel - alloyed steel	0.10 - 0.25	200 - 300
	Steel - highly alloyed	0.10 - 0.23	200 - 300
M	Stainless steel - austenitic	0.12 - 0.25	200 - 280
	Stainless steel - duplex	0.12 - 0.22	200 - 260
K	Gray cast iron	0.10 - 0.31	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.28	200 - 270
DEPTH OF CUT		0.3 - 2.5	

CNMG 120404 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	120 - 250
	Steel - alloyed steel	0.10 - 0.25	120 - 250
	Steel - highly alloyed	0.10 - 0.23	120 - 250
M	Stainless steel - austenitic	0.12 - 0.21	120 - 230
	Stainless steel - duplex	0.12 - 0.18	120 - 210
K	Gray cast iron	0.10 - 0.31	120 - 250
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 220
DEPTH OF CUT		0.3 - 2.5	

CNMG 120404 MF UN210

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	100 - 180
	Steel - alloyed steel	0.10 - 0.25	100 - 180
	Steel - highly alloyed	0.10 - 0.23	100 - 150
M	Stainless steel - austenitic	0.12 - 0.25	100 - 160
	Stainless steel - duplex	0.12 - 0.23	100 - 130
S	Hard-to-process materials - nickel alloys	0.10 - 0.25	25 - 45
	Hard-to-process materials - titanium alloys	0.10 - 0.25	35 - 55
DEPTH OF CUT		0.3 - 2.5	

CNMG 120404 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.14 - 0.33	100 - 180
	Steel - alloyed steel	0.14 - 0.30	100 - 180
	Steel - highly alloyed	0.14 - 0.28	100 - 150
M	Stainless steel - austenitic	0.16 - 0.24	100 - 160
	Stainless steel - duplex	0.16 - 0.22	100 - 130
K	Gray cast iron	0.14 - 0.36	100 - 180
	High-strength cast iron with globular graphite	0.14 - 0.34	100 - 160
DEPTH OF CUT		0.3 - 2.5	



CNMG 120404 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	200 - 300
	Steel - alloyed steel	0.14 - 0.30	200 - 300
	Steel - highly alloyed	0.14 - 0.28	200 - 300
M	Stainless steel - austenitic	0.16 - 0.30	200 - 280
	Stainless steel - duplex	0.16 - 0.27	200 - 260
K	Gray cast iron	0.14 - 0.36	200 - 300
	High-strength cast iron with globular graphite	0.14 - 0.33	200 - 270
DEPTH OF CUT		0.2 - 2.5	

CNMG 120404 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	120 - 250
	Steel - alloyed steel	0.14 - 0.30	120 - 250
	Steel - highly alloyed	0.14 - 0.28	120 - 250
M	Stainless steel - austenitic	0.16 - 0.26	120 - 230
	Stainless steel - duplex	0.16 - 0.23	120 - 210
K	Gray cast iron	0.14 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.33	120 - 220
H	Hard materials	0.10 - 0.26	40 - 90
DEPTH OF CUT		0.2 - 2.5	

CNMG 120404 PM UN110

		Fz	Vc
P	Steel - low carbon	0.18 - 0.33	80 - 180
	Steel - alloyed steel	0.18 - 0.30	80 - 180
	Steel - highly alloyed	0.18 - 0.28	80 - 150
M	Stainless steel - austenitic	0.20 - 0.30	100 - 160
	Stainless steel - duplex	0.20 - 0.28	100 - 130
K	Gray cast iron	0.18 - 0.36	100 - 180
	High-strength cast iron with globular graphite	0.18 - 0.34	100 - 160
H	Hard materials	0.08 - 0.21	40 - 90
DEPTH OF CUT		0.3 - 2.5	

CNMG 120408 PF UN6015

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	200 - 300
	Steel - alloyed steel	0.10 - 0.25	200 - 300
	Steel - highly alloyed	0.10 - 0.23	200 - 300
M	Stainless steel - austenitic	0.12 - 0.25	200 - 280
	Stainless steel - duplex	0.12 - 0.22	200 - 260
K	Gray cast iron	0.10 - 0.31	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.28	200 - 270
DEPTH OF CUT		0.5 - 4.0	

CNMG 120408 PF UN6025

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	120 - 250
	Steel - alloyed steel	0.10 - 0.25	120 - 250
	Steel - highly alloyed	0.10 - 0.23	120 - 250
M	Stainless steel - austenitic	0.12 - 0.21	120 - 230
	Stainless steel - duplex	0.12 - 0.18	120 - 210
K	Gray cast iron	0.10 - 0.31	120 - 250
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 220
DEPTH OF CUT		0.5 - 4.0	

CNMG 120408 PF UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	100 - 180
	Steel - alloyed steel	0.14 - 0.30	100 - 180
	Steel - highly alloyed	0.14 - 0.28	100 - 150
M	Stainless steel - austenitic	0.16 - 0.24	100 - 160
	Stainless steel - duplex	0.16 - 0.22	100 - 130
K	Gray cast iron	0.14 - 0.36	100 - 180
	High-strength cast iron with globular graphite	0.14 - 0.34	100 - 160
DEPTH OF CUT		0.5 - 4.0	

CNMG 120408 MF UN210

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	100 - 180
	Steel - alloyed steel	0.10 - 0.25	100 - 180
	Steel - highly alloyed	0.10 - 0.23	100 - 150
M	Stainless steel - austenitic	0.12 - 0.25	100 - 160
	Stainless steel - duplex	0.12 - 0.23	100 - 130
S	Hard-to-process materials - nickel alloys	0.10 - 0.25	25 - 45
	Hard-to-process materials - titanium alloys	0.10 - 0.25	35 - 55
DEPTH OF CUT		0.5 - 4.0	

CNMG 120408 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	200 - 300
	Steel - alloyed steel	0.14 - 0.30	200 - 300
	Steel - highly alloyed	0.14 - 0.28	200 - 300
M	Stainless steel - austenitic	0.16 - 0.30	200 - 280
	Stainless steel - duplex	0.16 - 0.27	200 - 260
K	Gray cast iron	0.14 - 0.36	200 - 300
	High-strength cast iron with globular graphite	0.14 - 0.33	200 - 270
DEPTH OF CUT		0.5 - 4.0	



CNMG 120408 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.18 - 0.33	120 - 250
	Steel - alloyed steel	0.18 - 0.30	120 - 250
	Steel - highly alloyed	0.18 - 0.28	120 - 250
M	Stainless steel - austenitic	0.20 - 0.26	120 - 230
	Stainless steel - duplex	0.20 - 0.23	120 - 210
K	Gray cast iron	0.18 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.18 - 0.33	120 - 220
H	Hard materials	0.14 - 0.26	40 - 90
DEPTH OF CUT		0.4 - 5.0	

CNMG 120408 PM UN110

		Fz	Vc
P	Steel - low carbon	0.18 - 0.34	100 - 180
	Steel - alloyed steel	0.18 - 0.30	100 - 180
	Steel - highly alloyed	0.18 - 0.28	100 - 150
M	Stainless steel - austenitic	0.20 - 0.30	100 - 160
	Stainless steel - duplex	0.20 - 0.28	100 - 130
K	Gray cast iron	0.18 - 0.36	100 - 180
	High-strength cast iron with globular graphite	0.18 - 0.34	100 - 160
H	Hard materials	0.14 - 0.26	40 - 90
DEPTH OF CUT		0.5 - 5.0	

CNMG 120408 MM UN210

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	100 - 180
	Steel - alloyed steel	0.10 - 0.25	100 - 180
	Steel - highly alloyed	0.10 - 0.23	100 - 150
M	Stainless steel - austenitic	0.12 - 0.25	100 - 160
	Stainless steel - duplex	0.12 - 0.23	100 - 130
S	Hard-to-process materials - nickel alloys	0.10 - 0.25	25 - 45
	Hard-to-process materials - titanium alloys	0.10 - 0.25	35 - 55
DEPTH OF CUT		0.5 - 4.0	

CNMG 120408 PT UN6015

		Fz	Vc
P	Steel - low carbon	0.24 - 0.48	200 - 300
	Steel - alloyed steel	0.24 - 0.45	200 - 300
	Steel - highly alloyed	0.24 - 0.43	200 - 300
M	Stainless steel - austenitic	0.26 - 0.45	200 - 280
	Stainless steel - duplex	0.26 - 0.42	200 - 260
K	Gray cast iron	0.24 - 0.51	200 - 300
	High-strength cast iron with globular graphite	0.24 - 0.48	200 - 270
DEPTH OF CUT		0.5 - 5.0	

CNMG 120408 PT UN6025

		Fz	Vc
P	Steel - low carbon	0.24 - 0.48	120 - 250
	Steel - alloyed steel	0.24 - 0.45	120 - 250
	Steel - highly alloyed	0.24 - 0.43	120 - 250
M	Stainless steel - austenitic	0.26 - 0.40	120 - 230
	Stainless steel - duplex	0.26 - 0.37	120 - 210
K	Gray cast iron	0.24 - 0.51	120 - 250
	High-strength cast iron with globular graphite	0.24 - 0.48	120 - 220
H	Hard materials	0.20 - 0.41	40 - 90
DEPTH OF CUT		0.5 - 5.0	

CNMG 120408 PR UN6025

		Fz	Vc
P	Steel - low carbon	0.34 - 0.53	120 - 250
	Steel - alloyed steel	0.34 - 0.50	120 - 250
	Steel - highly alloyed	0.34 - 0.48	120 - 250
M	Stainless steel - austenitic	0.36 - 0.44	120 - 230
	Stainless steel - duplex	0.36 - 0.41	120 - 210
K	Gray cast iron	0.34 - 0.56	120 - 250
	High-strength cast iron with globular graphite	0.34 - 0.53	120 - 220
H	Hard materials	0.30 - 0.46	40 - 90
DEPTH OF CUT		0.5 - 7.0	

CNMG 120412 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	120 - 250
	Steel - alloyed steel	0.14 - 0.30	120 - 250
	Steel - highly alloyed	0.14 - 0.28	120 - 250
M	Stainless steel - austenitic	0.16 - 0.26	120 - 230
	Stainless steel - duplex	0.16 - 0.23	120 - 210
K	Gray cast iron	0.14 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.33	120 - 220
H	Hard materials	0.10 - 0.26	40 - 90
DEPTH OF CUT		0.7 - 5.0	

CNMG 120412 PT UN6015

		Fz	Vc
P	Steel - low carbon	0.24 - 0.48	200 - 300
	Steel - alloyed steel	0.24 - 0.45	200 - 300
	Steel - highly alloyed	0.24 - 0.43	200 - 300
M	Stainless steel - austenitic	0.26 - 0.45	200 - 280
	Stainless steel - duplex	0.26 - 0.42	200 - 260
K	Gray cast iron	0.24 - 0.51	200 - 300
	High-strength cast iron with globular graphite	0.24 - 0.48	200 - 270
DEPTH OF CUT		0.7 - 7.0	

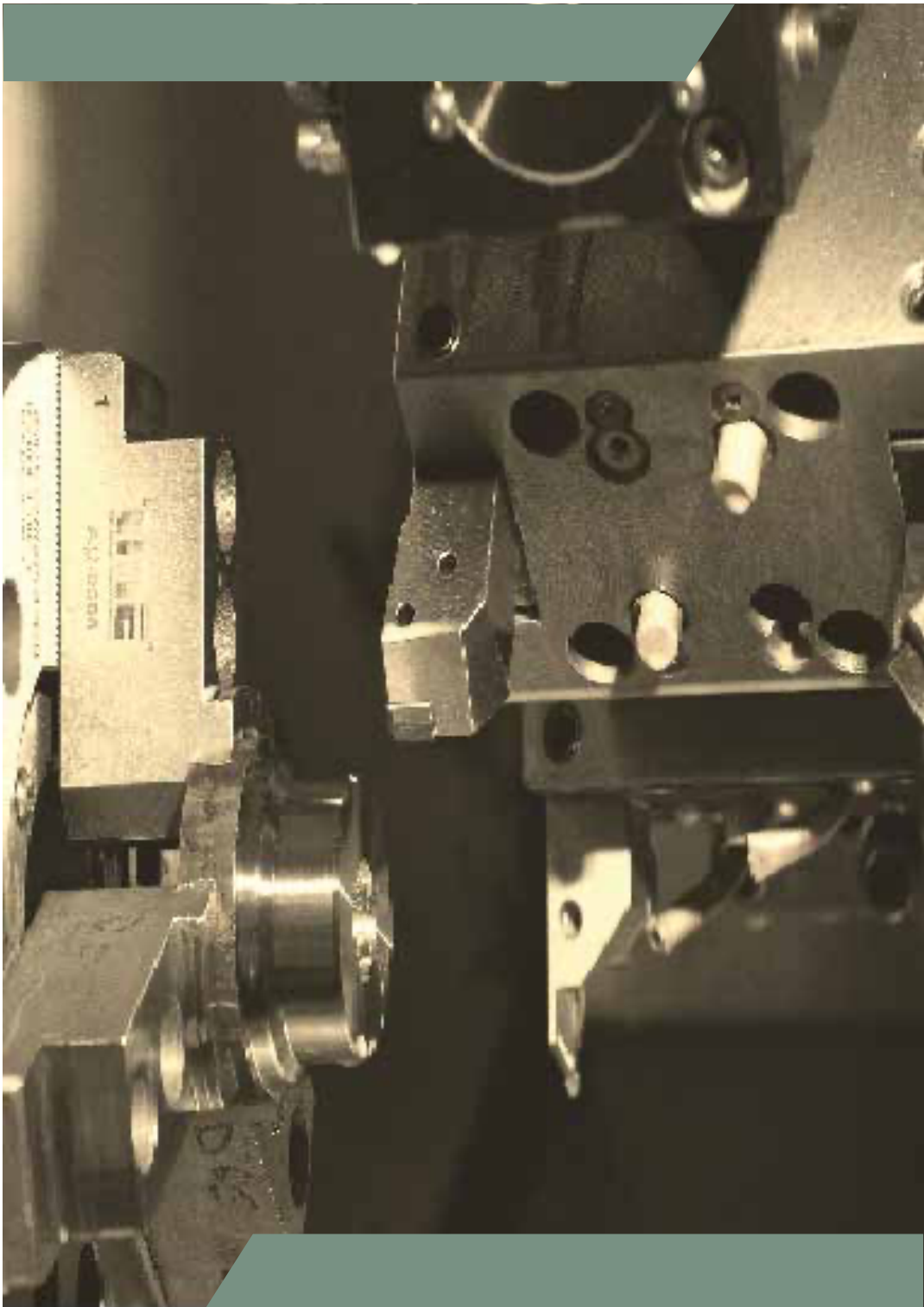


CNMG 120412 PT UN6025

		Fz	Vc
P	Steel - low carbon	0.24 - 0.48	120 - 250
	Steel - alloyed steel	0.24 - 0.45	120 - 250
	Steel - highly alloyed	0.24 - 0.43	120 - 250
M	Stainless steel - austenitic	0.26 - 0.40	120 - 230
	Stainless steel - duplex	0.26 - 0.37	120 - 210
K	Gray cast iron	0.24 - 0.51	120 - 250
	High-strength cast iron with globular graphite	0.24 - 0.48	120 - 220
H	Hard materials	0.20 - 0.41	40 - 90
DEPTH OF CUT		0.7 - 7.0	

CNMG 120412 PR UN6025

		Fz	Vc
P	Steel - low carbon	0.34 - 0.53	120 - 250
	Steel - alloyed steel	0.34 - 0.50	120 - 250
	Steel - highly alloyed	0.34 - 0.48	120 - 250
M	Stainless steel - austenitic	0.36 - 0.44	120 - 230
	Stainless steel - duplex	0.36 - 0.41	120 - 210
K	Gray cast iron	0.34 - 0.56	120 - 250
	High-strength cast iron with globular graphite	0.34 - 0.53	120 - 220
H	Hard materials	0.30 - 0.46	40 - 90
DEPTH OF CUT		0.7 - 7.0	

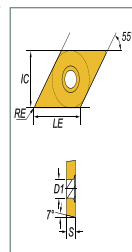


DCGT

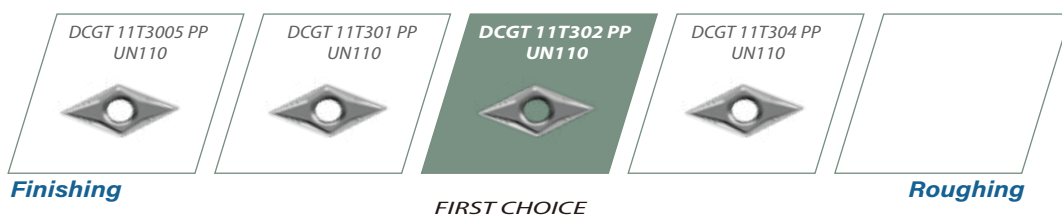
55° Rhombic insert - with 7° Positive Angle - Used Mostly in "Swiss- Machining"
Turning Machines- The small radius inserts, R0.1 and smaller, are peripheral ground

INSERTS

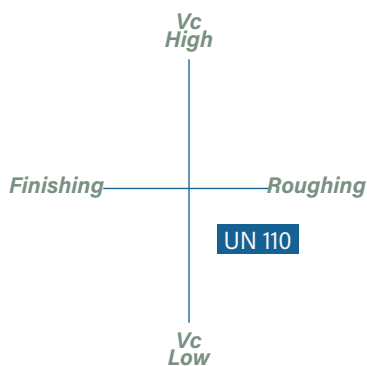
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000488	DCGT 11T3005 PP UN110	9.53	11.00	0.05	3.97
5100000490	DCGT 11T301 PP UN110	9.53	11.00	0.10	3.97
5100000456	DCGT 11T302 PP UN110	9.53	11.60	0.20	3.97
5100000458	DCGT 11T304 PP UN110	9.53	11.60	0.40	3.97



OVER-VIEW



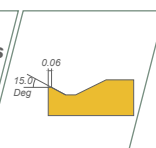
GRADES



CHIP-BREAKERS

PP

- For super finishing operations
- Very sharp chip breaker
- Chip Control starts at Fz: 0.07



DCGT 11T3005 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.05 - 0.8

DCGT 11T301 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.1 - 1.0

DCGT 11T302 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.15 - 1.5

DCGT 11T304 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.2 - 2.0

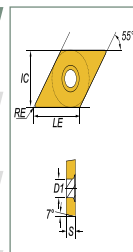


DCMT

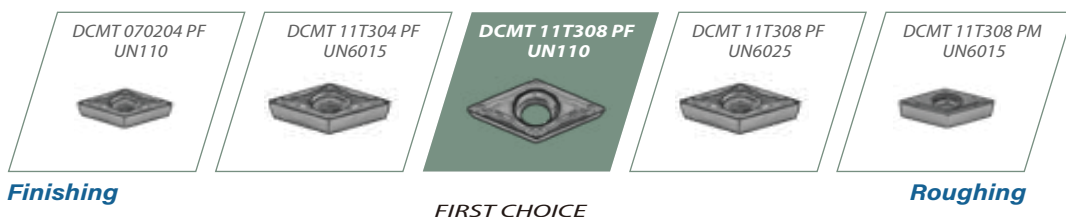
55° Rhombic insert - with 7° Positive Angle - Used Mostly for Internal Turning
Use Grade UN 110 as first Choice

INSERTS

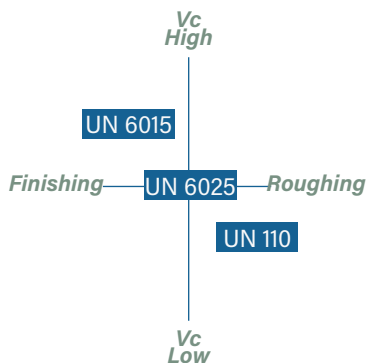
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000122	DCMT 070204 PF UN110	6.35	7.75	0.40	2.38
5100000126	DCMT 11T304 PF UN110	9.53	11.00	0.40	3.97
5100000302	DCMT 11T304 PF UN6015	9.53	11.00	0.40	3.97
5100000128	DCMT 11T304 PF UN6025	9.53	11.60	0.40	3.97
5100000130	DCMT 11T308 PM UN110	9.53	11.60	0.80	3.97
5100000304	DCMT 11T308 PM UN6015	9.53	11.60	0.80	3.97
5100000132	DCMT 11T308 PM UN6025	9.53	11.60	0.80	3.97



OVER-VIEW



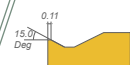
GRADES



CHIP-BREAKERS

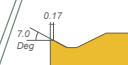
PF

- Sharp chip breaker
- For finishing operations
- Chip Control starts at Fz: 0.12



PM

- Semi Finishing chip breaker f
- First choice for stable machining and light-Mid. Cutting pressure
- Chip Control starts at Fz: 0.18



DCMT 070204 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.08 - 0.18	80 - 180
	Steel - alloyed steel	0.08 - 0.15	80 - 180
	Steel - highly alloyed	0.08 - 0.13	80 - 150

M	Stainless steel - austenitic	0.10 - 0.15	80 - 160
	Stainless steel - duplex	0.10 - 0.13	80 - 130

K	Gray cast iron	0.08 - 0.21	80 - 180
	High-strength cast iron with globular graphite	0.08 - 0.21	80 - 160

DEPTH OF CUT

0.3 - 1.0

DCMT 11T304 PF UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.21	120 - 210
	Steel - alloyed steel	0.10 - 0.18	120 - 210
	Steel - highly alloyed	0.10 - 0.16	120 - 210

M	Stainless steel - austenitic	0.12 - 0.18	120 - 190
	Stainless steel - duplex	0.12 - 0.15	120 - 170

K	Gray cast iron	0.10 - 0.24	120 - 210
	High-strength cast iron with globular graphite	0.10 - 0.21	120 - 180

DEPTH OF CUT

0.3 - 2.0

DCMT 11T304 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.21	120 - 250
	Steel - alloyed steel	0.10 - 0.18	120 - 250
	Steel - highly alloyed	0.10 - 0.16	120 - 250

M	Stainless steel - austenitic	0.12 - 0.16	120 - 230
	Stainless steel - duplex	0.11 - 0.13	120 - 210

K	Gray cast iron	0.10 - 0.24	120 - 250
	High-strength cast iron with globular graphite	0.10 - 0.21	120 - 220

DEPTH OF CUT

0.3 - 2.0

DCMT 11T304 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.21	80 - 180
	Steel - alloyed steel	0.10 - 0.18	80 - 180
	Steel - highly alloyed	0.10 - 0.16	80 - 150

M	Stainless steel - austenitic	0.12 - 0.18	80 - 160
	Stainless steel - duplex	0.12 - 0.16	80 - 130

K	Gray cast iron	0.10 - 0.24	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.22	80 - 160

DEPTH OF CUT

0.3 - 2.0



DCMT 11T308 PF UN6025

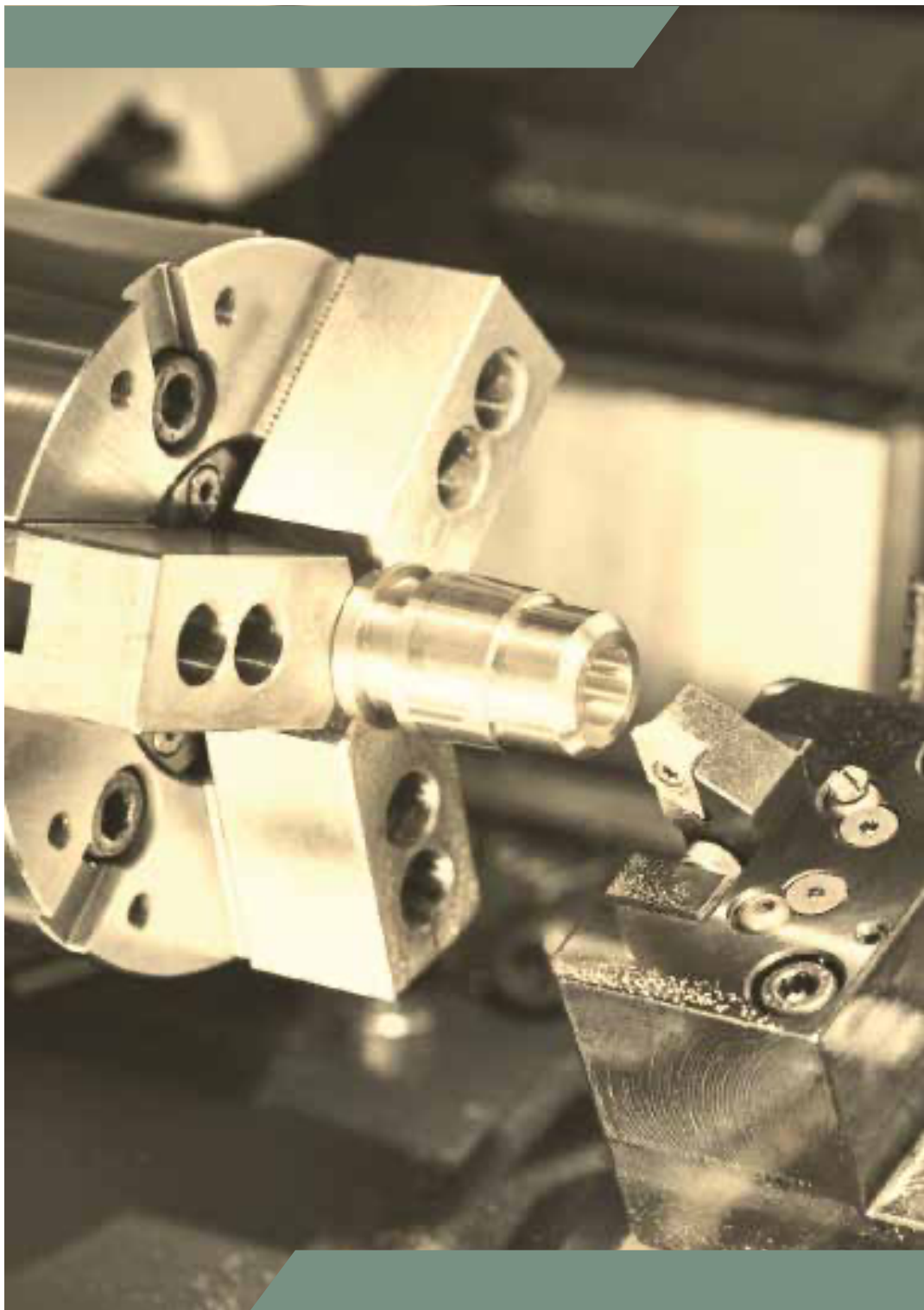
		Fz	Vc
P	Steel - low carbon	0.10 - 0.21	120 - 250
	Steel - alloyed steel	0.10 - 0.18	120 - 250
	Steel - highly alloyed	0.10 - 0.16	120 - 250
M	Stainless steel - austenitic	0.12 - 0.16	120 - 230
	Stainless steel - duplex	0.11 - 0.13	120 - 210
K	Gray cast iron	0.10 - 0.24	120 - 250
	High-strength cast iron with globular graphite	0.10 - 0.21	120 - 220
DEPTH OF CUT		0.3 - 3.0	

DCMT 11T308 PF UN110

		Fz	Vc
P	Steel - low carbon	0.10 - 0.21	80 - 180
	Steel - alloyed steel	0.10 - 0.18	80 - 180
	Steel - highly alloyed	0.10 - 0.16	80 - 150
M	Stainless steel - austenitic	0.12 - 0.18	80 - 160
	Stainless steel - duplex	0.12 - 0.16	80 - 130
K	Gray cast iron	0.10 - 0.24	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.22	80 - 160
DEPTH OF CUT		0.5 - 3.0	

DCMT 11T308 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.10 - 0.21	120 - 210
	Steel - alloyed steel	0.10 - 0.18	120 - 210
	Steel - highly alloyed	0.10 - 0.16	120 - 210
M	Stainless steel - austenitic	0.12 - 0.18	120 - 190
	Stainless steel - duplex	0.12 - 0.15	120 - 170
K	Gray cast iron	0.10 - 0.24	120 - 210
	High-strength cast iron with globular graphite	0.10 - 0.21	120 - 180
DEPTH OF CUT		0.5 - 3.0	

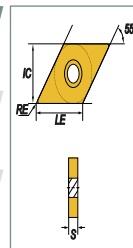


DNMG

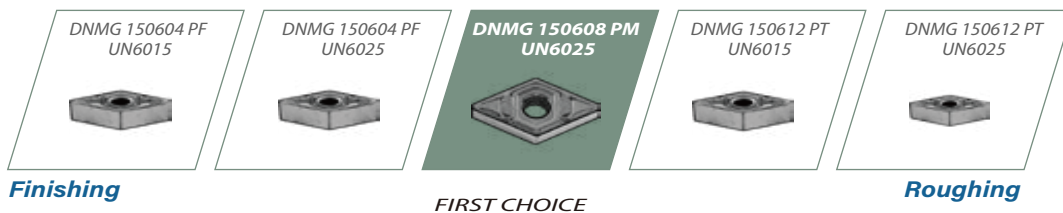
55° Rhombic insert - with Negative Side Angle - Used for External Machining Facing and Under-Cuts, Close to the Material Base

INSERTS

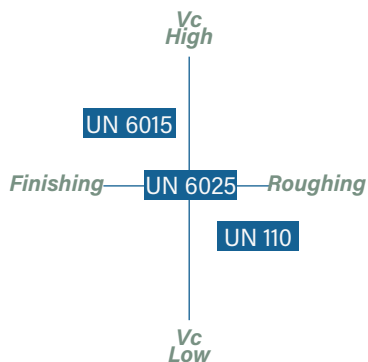
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000326	DNMG 150604 PF UN110	12.70	15.50	0.40	6.35
5100000324	DNMG 150604 PF UN6015	12.70	15.50	0.40	6.35
5100000242	DNMG 150604 PF UN6025	12.70	15.50	0.40	6.35
5100000026	DNMG 150608 MF UN210	12.70	15.50	0.80	6.35
5100000124	DNMG 150608 MM UN210	12.70	15.50	0.80	6.35
5100000038	DNMG 150608 PF UN6025	12.70	15.50	0.80	6.35
5100000328	DNMG 150608 PM UN110	12.70	15.50	0.80	6.35
5100000294	DNMG 150608 PM UN6015	12.70	15.50	0.80	6.35
5100000040	DNMG 150608 PM UN6025	12.70	15.50	0.80	6.35
5100000316	DNMG 150608 PT UN6015	12.70	15.50	0.80	6.35
5100000002	DNMG 150608 PT UN6025	12.70	15.50	0.80	6.35
5100000222	DNMG 150612 PM UN6025	12.70	15.50	1.20	6.35
5100000244	DNMG 150612 PT UN6025	12.70	15.50	1.20	6.35
5100000296	DNMG 150612 PT UN6015	12.70	15.50	1.20	6.35



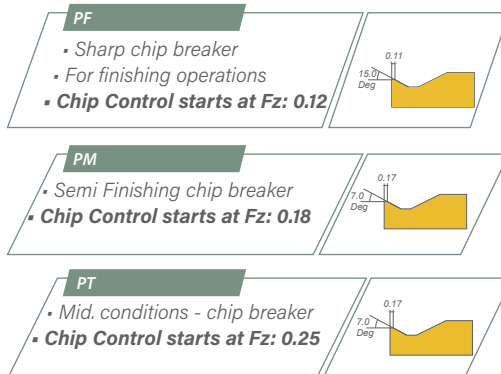
OVER-VIEW



GRADES



CHIP-BREAKERS



DNMG 150604 PF UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	120 - 240
	Steel - alloyed steel	0.10 - 0.25	120 - 240
	Steel - highly alloyed	0.10 - 0.23	120 - 240
M	Stainless steel - austenitic	0.12 - 0.25	120 - 220
	Stainless steel - duplex	0.12 - 0.22	120 - 220
K	Gray cast iron	0.10 - 0.31	120 - 240
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 210
<i>DEPTH OF CUT</i>		0.3 - 2.5	

DNMG 150604 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	120 - 240
	Steel - alloyed steel	0.10 - 0.25	120 - 240
	Steel - highly alloyed	0.10 - 0.23	120 - 240
M	Stainless steel - austenitic	0.12 - 0.21	120 - 220
	Stainless steel - duplex	0.12 - 0.18	120 - 200
K	Gray cast iron	0.10 - 0.31	120 - 240
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 210
<i>DEPTH OF CUT</i>		0.3 - 2.5	

DNMG 150604 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	80 - 180
	Steel - alloyed steel	0.10 - 0.25	80 - 180
	Steel - highly alloyed	0.10 - 0.23	80 - 180
M	Stainless steel - austenitic	0.12 - 0.22	80 - 160
	Stainless steel - duplex	0.12 - 0.20	80 - 130
K	Gray cast iron	0.10 - 0.31	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.29	80 - 160
<i>DEPTH OF CUT</i>		0.3 - 2.5	

DNMG 150608 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	120 - 240
	Steel - alloyed steel	0.10 - 0.25	120 - 240
	Steel - highly alloyed	0.10 - 0.23	120 - 240
M	Stainless steel - austenitic	0.12 - 0.21	120 - 220
	Stainless steel - duplex	0.12 - 0.18	120 - 200
K	Gray cast iron	0.10 - 0.31	120 - 240
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 210
<i>DEPTH OF CUT</i>		0.5 - 3.5	



DNMG 150608 MF UN210

		Fz	Vc
P	Steel - low carbon	0.08 - 0.21	80 - 180
	Steel - alloyed steel	0.08 - 0.18	80 - 180
	Steel - highly alloyed	0.08 - 0.16	80 - 150
M	Stainless steel - austenitic	0.10 - 0.18	80 - 160
	Stainless steel - duplex	0.10 - 0.16	80 - 130
S	Hard-to-process materials - nickel alloys	0.08 - 0.18	25 - 45
	Hard-to-process materials - titanium alloys	0.08 - 0.18	35 - 55
DEPTH OF CUT		0.5 - 3.5	

CDNMG 150608 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.45	200 - 300
	Steel - alloyed steel	0.14 - 0.42	200 - 300
	Steel - highly alloyed	0.14 - 0.40	200 - 300
M	Stainless steel - austenitic	0.16 - 0.42	200 - 280
	Stainless steel - duplex	0.16 - 0.39	200 - 260
K	Gray cast iron	0.14 - 0.48	200 - 300
	High-strength cast iron with globular graphite	0.14 - 0.45	200 - 270
DEPTH OF CUT		0.5 - 3.5	

DNMG 150608 MM UN210

		Fz	Vc
P	Steel - low carbon	0.15 - 0.33	80 - 180
	Steel - alloyed steel	0.15 - 0.30	80 - 180
	Steel - highly alloyed	0.15 - 0.28	80 - 150
M	Stainless steel - austenitic	0.17 - 0.30	80 - 160
	Stainless steel - duplex	0.17 - 0.28	80 - 130
S	Hard-to-process materials - nickel alloys	0.15 - 0.30	25 - 45
	Hard-to-process materials - titanium alloys	0.15 - 0.28	35 - 55
DEPTH OF CUT		0.5 - 3.5	

DNMG 150608 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.45	120 - 240
	Steel - alloyed steel	0.14 - 0.42	120 - 240
	Steel - highly alloyed	0.14 - 0.40	120 - 240
M	Stainless steel - austenitic	0.16 - 0.36	120 - 220
	Stainless steel - duplex	0.16 - 0.33	120 - 200
K	Gray cast iron	0.14 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.14 - 0.45	120 - 210
H	Hard materials	0.14 - 0.35	40 - 90
DEPTH OF CUT		0.5 - 4.0	

DNMG 150608 PM UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.45	80 - 180
	Steel - alloyed steel	0.14 - 0.42	80 - 180
	Steel - highly alloyed	0.14 - 0.40	80 - 150
M	Stainless steel - austenitic	0.16 - 0.42	80 - 160
	Stainless steel - duplex	0.16 - 0.40	80 - 130
K	Gray cast iron	0.14 - 0.48	80 - 180
	High-strength cast iron with globular graphite	0.14 - 0.46	80 - 160
H	Hard materials	0.10 - 0.21	40 - 90

DEPTH OF CUT 0.5 - 3.5

DNMG 150608 PT UN6025

		Fz	Vc
P	Steel - low carbon	0.18 - 0.45	120 - 240
	Steel - alloyed steel	0.18 - 0.42	120 - 240
	Steel - highly alloyed	0.18 - 0.40	120 - 240
K	Gray cast iron	0.14 - 0.48	240 - 330
	High-strength cast iron with globular graphite	0.14 - 0.45	240 - 300

DEPTH OF CUT 0.5 - 4.0

DNMG 150608 PT UN6015

		Fz	Vc
P	Steel - low carbon	0.18 - 0.45	120 - 240
	Steel - alloyed steel	0.18 - 0.42	120 - 240
	Steel - highly alloyed	0.18 - 0.40	120 - 240
M	Stainless steel - austenitic	0.20 - 0.42	120 - 220
	Stainless steel - duplex	0.20 - 0.39	120 - 200
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210

DEPTH OF CUT 0.5 - 4.0

DNMG 150612 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.18 - 0.45	120 - 240
	Steel - alloyed steel	0.18 - 0.42	120 - 240
	Steel - highly alloyed	0.18 - 0.40	120 - 240
M	Stainless steel - austenitic	0.20 - 0.42	120 - 220
	Stainless steel - duplex	0.20 - 0.39	120 - 200
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210
H	Hard materials	0.18 - 0.40	40 - 90

DEPTH OF CUT 0.8 - 5.0



DNMG 150612 PTUN6015

		Fz	Vc
P	Steel - low carbon	0.18 - 0.53	120 - 240
	Steel - alloyed steel	0.18 - 0.50	120 - 240
	Steel - highly alloyed	0.18 - 0.48	120 - 240
M	Stainless steel - austenitic	0.20 - 0.44	120 - 220
	Stainless steel - duplex	0.20 - 0.41	120 - 200
K	Gray cast iron	0.18 - 0.56	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.53	120 - 210
DEPTH OF CUT		0.8 - 5.0	

DNMG 150612 PT UN6025

		Fz	Vc
P	Steel - low carbon	0.18 - 0.53	120 - 240
	Steel - alloyed steel	0.18 - 0.50	120 - 240
	Steel - highly alloyed	0.18 - 0.48	120 - 240
M	Stainless steel - austenitic	0.20 - 0.44	120 - 220
	Stainless steel - duplex	0.20 - 0.41	120 - 200
K	Gray cast iron	0.18 - 0.56	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.53	120 - 210
H	Hard materials	0.18 - 0.35	40 - 90
DEPTH OF CUT		0.5 - 5.0	

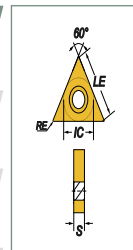


TCMT

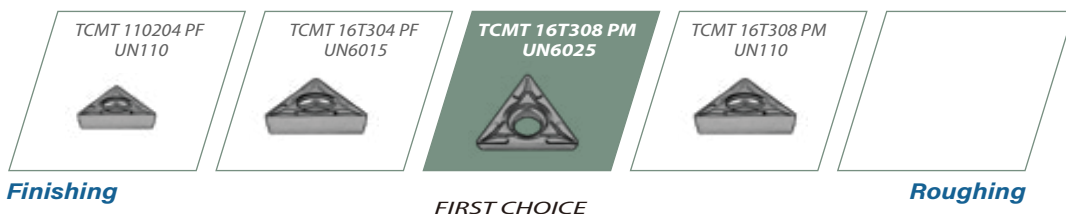
60° Triangular insert - with 7° Positive Angle - Used Mostly for Internal Turning
Use Grade UN 110, as first Choice

INSERTS

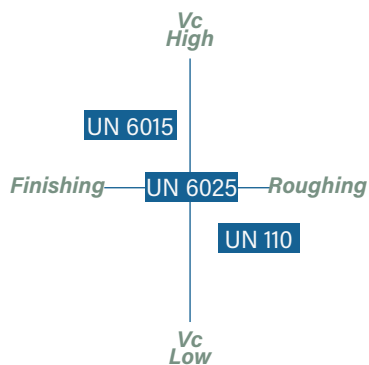
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000138	TCMT 110204 PF UN110	9.53	11.00	0.40	2.38
5100000142	TCMT 16T304 PF UN110	9.52	16.50	0.40	3.97
5100000422	TCMT 16T304 PF UN6015	9.52	16.50	0.40	3.97
5100000144	TCMT 16T304 PF UN6025	9.52	16.50	0.40	3.97
5100000146	TCMT 16T308 PM UN110	9.52	16.50	0.80	3.97
5100000306	TCMT 16T308 PM UN6015	9.52	16.50	0.80	3.97
5100000148	TCMT 16T308 PM UN6025	9.52	16.50	0.80	3.97



OVER-VIEW



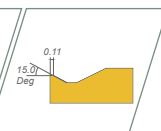
GRADES



CHIP-BREAKERS

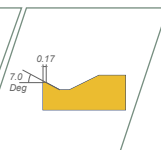
PF

- Sharp chip breaker
- For finishing operations
- Chip Control starts at Fz: 0.12



PM

- Semi Finishing chip breaker
- First choice for stable machining and light-Mid. cutting pressure
- Chip Control starts at Fz: 0.18



TCMT 110204 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.18	80 - 180
	Steel - alloyed steel	0.10 - 0.15	80 - 180
	Steel - highly alloyed	0.10 - 0.13	80 - 150
M	Stainless steel - austenitic	0.12 - 0.15	80 - 160
	Stainless steel - duplex	0.11 - 0.13	80 - 130
K	Gray cast iron	0.10 - 0.21	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.19	80 - 160
S	Hard-to-process materials - nickel alloys	0.10 - 0.15	25 - 45
	Hard-to-process materials - titanium alloys	0.10 - 0.15	35 - 55

DEPTH OF CUT

0.3 - 1.5

TCMT 16T304 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.20	120 - 210
	Steel - alloyed steel	0.10 - 0.18	120 - 210
	Steel - highly alloyed	0.10 - 0.16	120 - 210
M	Stainless steel - austenitic	0.12 - 0.16	120 - 190
	Stainless steel - duplex	0.11 - 0.13	120 - 170
K	Gray cast iron	0.10 - 0.24	120 - 210
	High-strength cast iron with globular graphite	0.10 - 0.21	120 - 180

DEPTH OF CUT

0.3 - 2.5

TCMT 16T304 PF UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.21	120 - 210
	Steel - alloyed steel	0.10 - 0.18	120 - 210
	Steel - highly alloyed	0.10 - 0.16	120 - 210
M	Stainless steel - austenitic	0.12 - 0.16	120 - 190
	Stainless steel - duplex	0.11 - 0.13	120 - 170
K	Gray cast iron	0.10 - 0.24	120 - 210
	High-strength cast iron with globular graphite	0.10 - 0.21	120 - 180

DEPTH OF CUT

0.3 - 2.5

TCMT 16T304 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.21	80 - 180
	Steel - alloyed steel	0.10 - 0.18	80 - 180
	Steel - highly alloyed	0.10 - 0.16	80 - 150
M	Stainless steel - austenitic	0.12 - 0.18	80 - 160
	Stainless steel - duplex	0.12 - 0.16	80 - 130
K	Gray cast iron	0.10 - 0.24	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.22	80 - 160

DEPTH OF CUT

0.3 - 2.5



TCMT 16T308 PM UN6015

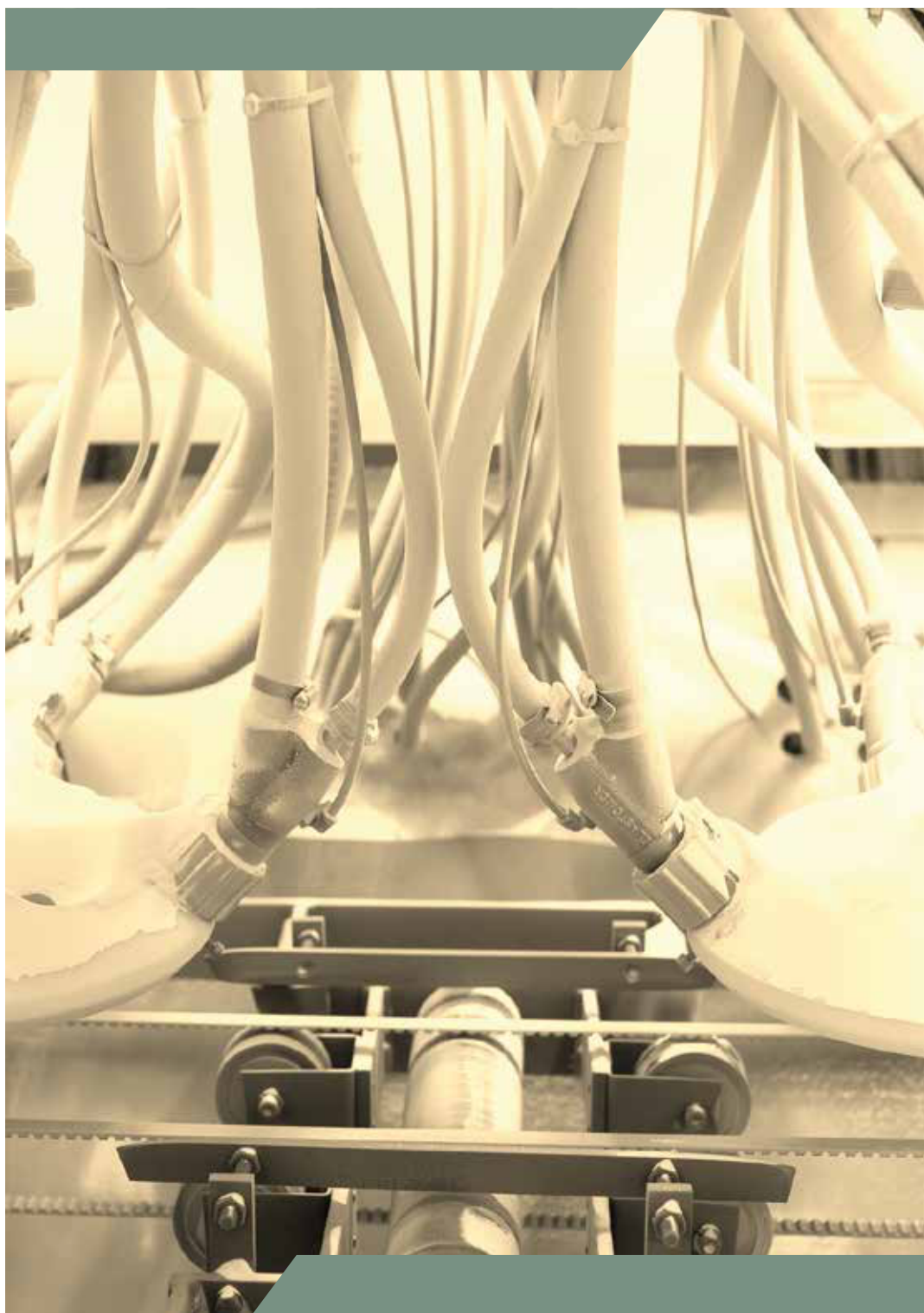
		Fz	Vc
P	Steel - low carbon	0.12 - 0.27	120 - 210
	Steel - alloyed steel	0.12 - 0.24	120 - 210
	Steel - highly alloyed	0.12 - 0.22	120 - 210
M	Stainless steel - austenitic	0.14 - 0.24	120 - 190
	Stainless steel - duplex	0.14 - 0.21	120 - 170
K	Gray cast iron	0.12 - 0.30	120 - 210
	High-strength cast iron with globular graphite	0.12 - 0.27	120 - 180
DEPTH OF CUT		0.5 - 4.0	

TCMT 16T308 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.12 - 0.27	120 - 210
	Steel - alloyed steel	0.12 - 0.24	120 - 210
	Steel - highly alloyed	0.12 - 0.22	120 - 210
M	Stainless steel - austenitic	0.14 - 0.20	120 - 190
	Stainless steel - duplex	0.14 - 0.17	120 - 170
K	Gray cast iron	0.12 - 0.30	120 - 210
	High-strength cast iron with globular graphite	0.12 - 0.27	120 - 180
H	Hard materials	0.12 - 0.20	40 - 90
DEPTH OF CUT		0.5 - 4.0	

TCMT 16T308 PM UN110

		Fz	Vc
P	Steel - low carbon	0.12 - 0.27	80 - 180
	Steel - alloyed steel	0.12 - 0.24	80 - 180
	Steel - highly alloyed	0.12 - 0.22	80 - 150
M	Stainless steel - austenitic	0.14 - 0.24	80 - 160
	Stainless steel - duplex	0.14 - 0.22	80 - 130
K	Gray cast iron	0.12 - 0.30	80 - 180
	High-strength cast iron with globular graphite	0.12 - 0.28	80 - 160
H	Hard materials	0.12 - 0.20	40 - 90
DEPTH OF CUT		0.5 - 4.0	

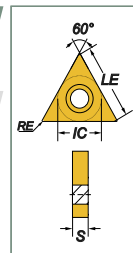


TNGG

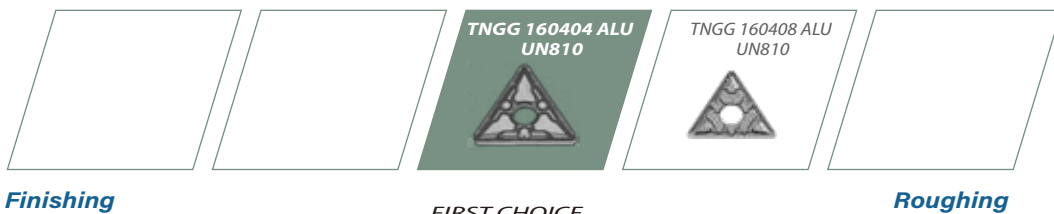
60° Triangular insert - with Negative Side Angle - Used Mostly for External Machining and Facing Operations - Unique solution for Aluminum and other Non Ferrous Materials

INSERTS

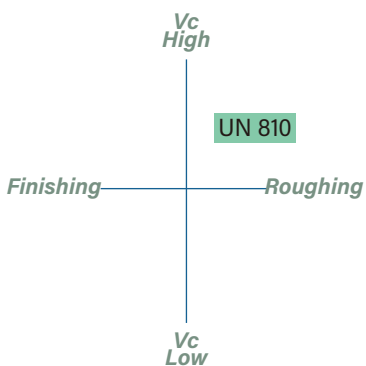
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000438	TNGG 160404 ALU UN810	9.52	16.50	0.40	4.76
5100000444	TNGG 160408 ALU UN810	9.52	16.50	0.80	4.76



OVER-VIEW



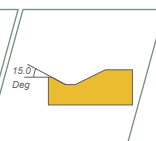
GRADES



CHIP-BREAKERS

ALU

- Sharp, positive chip breaker
- For turning Aluminum and other Sticky materials

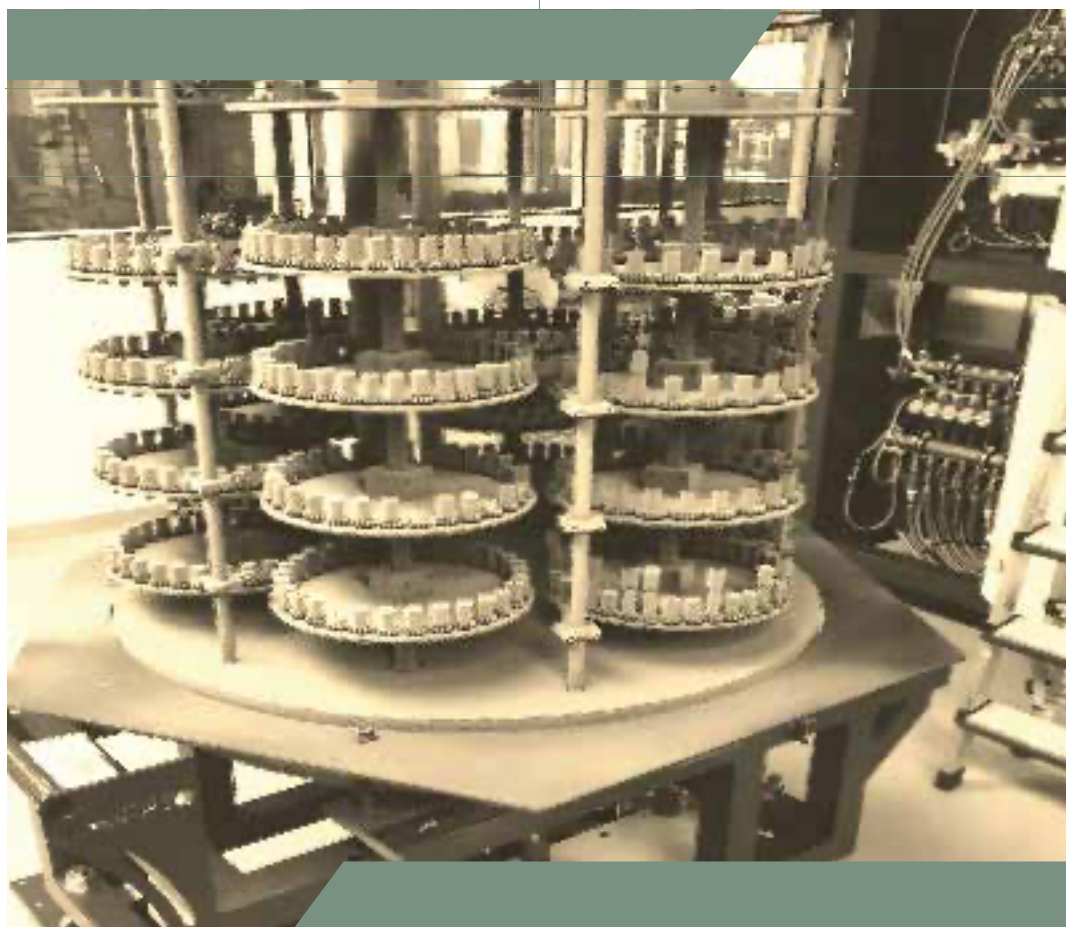


TNGG 160404 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz	Vc
		0.08 - 0.28	200 - 600
DEPTH OF CUT		0.4 - 2.5	

TNGG 160408 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz	Vc
		0.12 - 0.30	200 - 600
DEPTH OF CUT		0.8 - 4.0	

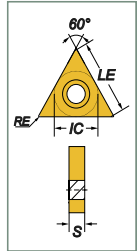


TNMA

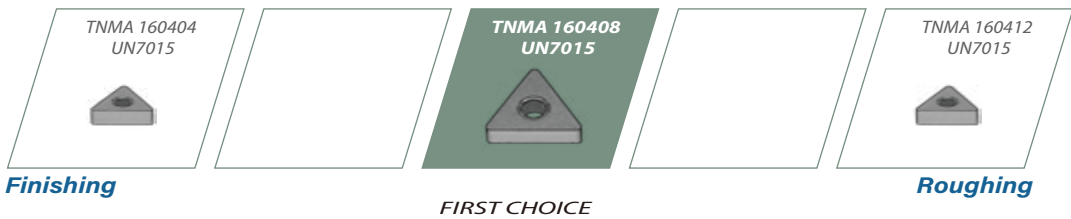
60° Triangular insert - with Negative Side Angle - Used for External Machining and Facing Operations - for Machining Cast-Iron at Mid. to High Speeds

INSERTS

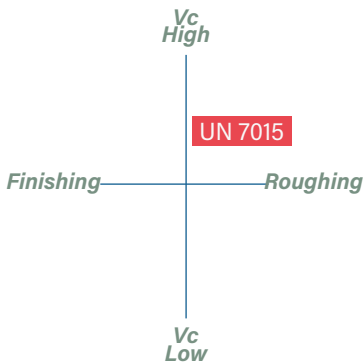
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000562	TNMA 160404 UN7015	9.52	16.50	0.40	4.76
5100000564	TNMA 160408 UN7015	9.52	16.50	0.80	4.76
5100000566	TNMA 160412 UN7015	9.52	16.50	1.20	4.76



OVER-VIEW



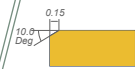
GRADES



CHIP-BREAKERS

(A)

- Flat top insert design
- Used mostly for Cast-Iron applications
- Chip Control starts at Fz: 0.15



TNMA 160404 UN7015

		<i>Fz</i>	<i>Vc</i>
K	Gray cast iron	0.10 - 0.30	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 270

DEPTH OF CUT 0.3 - 4.0

TNMA 160408 UN7015

		<i>Fz</i>	<i>Vc</i>
K	Gray cast iron	0.10 - 0.30	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 270

DEPTH OF CUT 0.5 - 4.0

TNMA 160412 UN7015

		<i>Fz</i>	<i>Vc</i>
K	Gray cast iron	0.10 - 0.30	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 270

DEPTH OF CUT 0.7 - 4.0

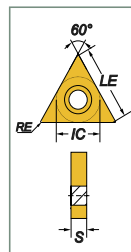


TNMG

60° Triangular insert - with Negative Side Angle - Used for External Machining and Facing Operations - First Choice for Cost Effective Turning

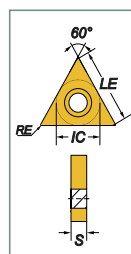
RADIUS 0.4

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000206	TNMG 160404 MF UN210	9.52	16.50	0.40	4.76
5100000182	TNMG 160404 PF UN110	9.52	16.50	0.40	4.76
5100000282	TNMG 160404 PF UN6015	9.52	16.50	0.40	4.76
5100000042	TNMG 160404 PF UN6025	9.52	16.50	0.40	4.76
5100000200	TNMG 160404 PM UN110	9.52	16.50	0.40	4.76
5100000284	TNMG 160404 PM UN6015	9.52	16.50	0.40	4.76
5100000064	TNMG 160404 PM UN6025	9.52	16.50	0.40	4.76



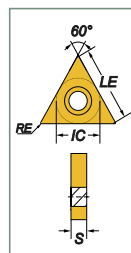
RADIUS 0.8

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000060	TNMG 160408 MF UN210	9.52	16.50	0.80	4.76
5100000050	TNMG 160408 MM UN210	9.52	16.50	0.80	4.76
5100000184	TNMG 160408 PF UN110	9.52	16.50	0.80	4.76
5100000378	TNMG 160408 PF UN6015	9.52	16.50	0.80	4.76
5100000044	TNMG 160408 PF UN6025	9.52	16.50	0.80	4.76
5100000202	TNMG 160408 PM UN110	9.52	16.50	0.80	4.76
5100000286	TNMG 160408 PM UN6015	9.52	16.50	0.80	4.76
5100000046	TNMG 160408 PM UN6025	9.52	16.50	0.80	4.76
5100000212	TNMG 160408 PR UN6025	9.52	16.50	0.80	4.76
5100000288	TNMG 160408 PT UN6015	9.52	16.50	0.80	4.76
5100000164	TNMG 160408 PT UN6025	9.52	16.50	0.80	4.76

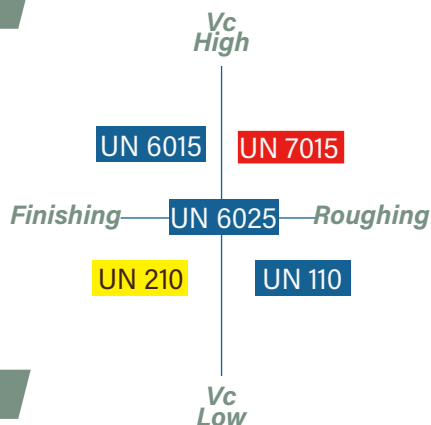


RADIUS 1.2

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000048	TNMG 160412 PR UN6025	9.52	16.50	1.20	4.76
5100000404	TNMG 160412 PT UN6015	9.52	16.50	1.20	4.76
5100000166	TNMG 160412 PT UN6025	9.52	16.50	1.20	4.76



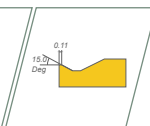
GRADES



CHIP-BREAKERS

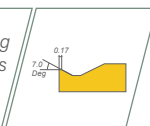
PF

- **For finishing operations**
- Sharp chip breaker
- **Chip Control starts at Fz: 0.12**



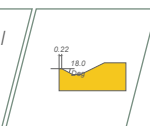
PM

- **Semi Finishing chip breaker** for general machining
- First choice for stable machining and Mid. Conditions cutting
- **Chip Control starts at Fz: 0.18**



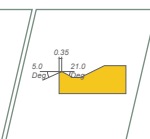
PT

- **Mid. Cutting conditions chip breaker** - for general machining
- First choice for Unstable machining conditions
- **Chip Control starts at Fz: 0.25**



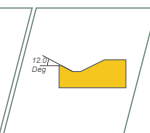
PR

- **Roughing chip breaker** - used in tough machining applications
- First choice for very Unstable machining or for thick casting "skin"
- **Chip Control starts at Fz: 0.35**



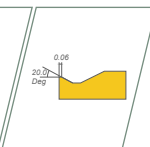
MF

- **For finishing operations**
- Sharp chip breaker - especially developed for Stainless Applications
- **Chip Control starts at Fz: 0.10**



MM

- **Semi Finishing chip breaker** - especially developed for stainless Applications
- **Chip Control starts at Fz: 0.14**



RADIUS 0.4

TNMG 160404 PF
UN6015



Finishing

TNMG 160404 PF
UN6025



**TNMG 160404 PM
UN6015**



FIRST CHOICE

TNMG 160404 PM
UN6025



TNMG 160404 PM
UN110



Roughing

RADIUS 0.8

TNMG 160408 PF
UN6015



Finishing

TNMG 160408 PF
UN6025



**TNMG 160408 PM
UN6015**



FIRST CHOICE

TNMG 160408 PM
UN110



TNMG 160408 PR
UN6025



Roughing

RADIUS 1.2

TNMG 160412 PT
UN6015



Finishing

**TNMG 160412 PT
UN6025**



FIRST CHOICE

TNMG 160412 PR
UN6025



Roughing

TNMG 160404 PF UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	200 - 300
	Steel - alloyed steel	0.10 - 0.25	200 - 300
	Steel - highly alloyed	0.10 - 0.23	200 - 300
M	Stainless steel - austenitic	0.12 - 0.25	200 - 280
	Stainless steel - duplex	0.12 - 0.22	200 - 260
K	Gray cast iron	0.10 - 0.31	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.28	200 - 270
<i>DEPTH OF CUT</i>		0.3 - 2.5	

TNMG 160404 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	120 - 240
	Steel - alloyed steel	0.10 - 0.25	120 - 240
	Steel - highly alloyed	0.10 - 0.23	120 - 240
M	Stainless steel - austenitic	0.12 - 0.21	120 - 220
	Stainless steel - duplex	0.12 - 0.18	120 - 200
K	Gray cast iron	0.10 - 0.31	120 - 240
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 210
<i>DEPTH OF CUT</i>		0.3 - 2.5	

TNMG 160404 MF UN210

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.08 - 0.21	80 - 180
	Steel - alloyed steel	0.08 - 0.18	80 - 180
	Steel - highly alloyed	0.08 - 0.16	80 - 150
M	Stainless steel - austenitic	0.10 - 0.18	80 - 160
	Stainless steel - duplex	0.10 - 0.16	80 - 130
S	Hard-to-process materials - nickel alloys	0.08 - 0.18	25 - 45
	Hard-to-process materials - titanium alloys	0.08 - 0.18	35 - 55
<i>DEPTH OF CUT</i>		0.3 - 2.0	

TNMG 160404 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	80 - 180
	Steel - alloyed steel	0.10 - 0.25	80 - 180
	Steel - highly alloyed	0.10 - 0.23	80 - 150
M	Stainless steel - austenitic	0.12 - 0.22	80 - 160
	Stainless steel - duplex	0.12 - 0.20	80 - 130
K	Gray cast iron	0.10 - 0.31	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.29	80 - 160
<i>DEPTH OF CUT</i>		0.3 - 2.5	



TNMG 160404 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	200 - 300
	Steel - alloyed steel	0.14 - 0.30	200 - 300
	Steel - highly alloyed	0.14 - 0.28	200 - 300
M	Stainless steel - austenitic	0.16 - 0.30	200 - 280
	Stainless steel - duplex	0.16 - 0.28	200 - 260
K	Gray cast iron	0.14 - 0.36	200 - 300
	High-strength cast iron with globular graphite	0.14 - 0.33	200 - 270
DEPTH OF CUT		0.2 - 2.5	

TNMG 160404 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	120 - 240
	Steel - alloyed steel	0.14 - 0.30	120 - 240
	Steel - highly alloyed	0.14 - 0.28	120 - 240
M	Stainless steel - austenitic	0.16 - 0.26	120 - 220
	Stainless steel - duplex	0.16 - 0.23	120 - 200
K	Gray cast iron	0.14 - 0.36	120 - 240
	High-strength cast iron with globular graphite	0.14 - 0.33	120 - 210
H	Hard materials	0.14 - 0.25	40 - 90
DEPTH OF CUT		0.2 - 2.5	

TNMG 160404 PM UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	80 - 180
	Steel - alloyed steel	0.14 - 0.30	80 - 180
	Steel - highly alloyed	0.14 - 0.28	80 - 150
M	Stainless steel - austenitic	0.16 - 0.30	80 - 160
	Stainless steel - duplex	0.16 - 0.28	80 - 130
K	Gray cast iron	0.14 - 0.36	80 - 180
	High-strength cast iron with globular graphite	0.14 - 0.34	80 - 160
H	Hard materials	0.14 - 0.25	40 - 90
DEPTH OF CUT		0.3 - 2.5	

TNMG 160408 PF UN6015

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	200 - 300
	Steel - alloyed steel	0.10 - 0.25	200 - 300
	Steel - highly alloyed	0.10 - 0.23	200 - 300
M	Stainless steel - austenitic	0.12 - 0.25	200 - 280
	Stainless steel - duplex	0.12 - 0.22	200 - 260
K	Gray cast iron	0.10 - 0.31	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.28	200 - 270
DEPTH OF CUT		0.5 - 3.0	

TNMG 160408 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	120 - 240
	Steel - alloyed steel	0.10 - 0.25	120 - 240
	Steel - highly alloyed	0.10 - 0.23	120 - 240
M	Stainless steel - austenitic	0.12 - 0.21	120 - 220
	Stainless steel - duplex	0.12 - 0.18	120 - 200
K	Gray cast iron	0.10 - 0.31	120 - 240
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 210
DEPTH OF CUT		0.5 - 3.0	

TNMG 160408 MF UN210

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.08 - 0.21	80 - 180
	Steel - alloyed steel	0.08 - 0.18	80 - 180
	Steel - highly alloyed	0.08 - 0.16	80 - 150
M	Stainless steel - austenitic	0.10 - 0.18	80 - 160
	Stainless steel - duplex	0.10 - 0.16	80 - 130
K	Gray cast iron	0.06 - 0.18	110 - 190
	High-strength cast iron with globular graphite	0.06 - 0.18	110 - 190
DEPTH OF CUT		0.4 - 2.0	

TNMG 160408 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	80 - 180
	Steel - alloyed steel	0.10 - 0.25	80 - 180
	Steel - highly alloyed	0.10 - 0.23	80 - 150
M	Stainless steel - austenitic	0.12 - 0.22	80 - 160
	Stainless steel - duplex	0.12 - 0.20	80 - 130
K	Gray cast iron	0.10 - 0.31	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.29	80 - 160
DEPTH OF CUT		0.5 - 3.5	

TNMG 160408 PM UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.14 - 0.33	200 - 300
	Steel - alloyed steel	0.14 - 0.30	200 - 300
	Steel - highly alloyed	0.14 - 0.28	200 - 300
M	Stainless steel - austenitic	0.16 - 0.30	200 - 280
	Stainless steel - duplex	0.16 - 0.27	200 - 260
K	Gray cast iron	0.14 - 0.36	200 - 300
	High-strength cast iron with globular graphite	0.14 - 0.33	200 - 270
DEPTH OF CUT		0.5 - 4.0	



TNMG 160408 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	120 - 240
	Steel - alloyed steel	0.14 - 0.30	120 - 240
	Steel - highly alloyed	0.14 - 0.28	120 - 240
M	Stainless steel - austenitic	0.16 - 0.26	120 - 220
	Stainless steel - duplex	0.16 - 0.23	120 - 200
K	Gray cast iron	0.14 - 0.36	120 - 240
	High-strength cast iron with globular graphite	0.14 - 0.33	120 - 210
H	Hard materials	0.14 - 0.25	40 - 90

DEPTH OF CUT

0.5 - 5.0

TNMG 160408 PM UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	80 - 180
	Steel - alloyed steel	0.14 - 0.30	80 - 180
	Steel - highly alloyed	0.14 - 0.28	80 - 150
M	Stainless steel - austenitic	0.16 - 0.30	80 - 160
	Stainless steel - duplex	0.16 - 0.28	80 - 130
K	Gray cast iron	0.14 - 0.36	80 - 180
	High-strength cast iron with globular graphite	0.14 - 0.34	80 - 160
H	Hard materials	0.14 - 0.25	40 - 90

DEPTH OF CUT

0.5 - 5.0

TNMG 160408 MM UN210

		Fz	Vc
P	Steel - low carbon	0.15 - 0.33	80 - 180
	Steel - alloyed steel	0.15 - 0.30	80 - 180
	Steel - highly alloyed	0.15 - 0.28	80 - 150
M	Stainless steel - austenitic	0.17 - 0.30	80 - 160
	Stainless steel - duplex	0.17 - 0.28	80 - 130
S	Hard-to-process materials - nickel alloys	0.15 - 0.30	25 - 45
	Hard-to-process materials - titanium alloys	0.15 - 0.30	35 - 55

DEPTH OF CUT

0.4 - 2.5

TNMG 160408 PT UN6015

		Fz	Vc
P	Steel - low carbon	0.18 - 0.45	200 - 300
	Steel - alloyed steel	0.18 - 0.42	200 - 300
	Steel - highly alloyed	0.18 - 0.40	200 - 300
M	Stainless steel - austenitic	0.20 - 0.38	200 - 280
	Stainless steel - duplex	0.20 - 0.35	200 - 280
K	Gray cast iron	0.18 - 0.48	200 - 300
	High-strength cast iron with globular graphite	0.18 - 0.45	200 - 300

DEPTH OF CUT

0.5 - 4.0

TNMG 160408 PT UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.45	120 - 240
	Steel - alloyed steel	0.18 - 0.42	120 - 240
	Steel - highly alloyed	0.18 - 0.40	120 - 240
M	Stainless steel - austenitic	0.20 - 0.38	120 - 220
	Stainless steel - duplex	0.20 - 0.35	120 - 200
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210
H	Hard materials	0.18 - 0.37	40 - 90
<i>DEPTH OF CUT</i>		0.5 - 5.0	

TNMG 160408 PR UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.34 - 0.58	120 - 240
	Steel - alloyed steel	0.34 - 0.55	120 - 240
	Steel - highly alloyed	0.34 - 0.53	120 - 240
M	Stainless steel - austenitic	0.36 - 0.50	120 - 220
	Stainless steel - duplex	0.36 - 0.47	120 - 200
K	Gray cast iron	0.34 - 0.61	120 - 240
	High-strength cast iron with globular graphite	0.34 - 0.58	120 - 210
H	Hard materials	0.34 - 0.50	40 - 90
<i>DEPTH OF CUT</i>		0.5 - 5.0	

TNMG 160412 PT UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.45	200 - 300
	Steel - alloyed steel	0.18 - 0.42	200 - 300
	Steel - highly alloyed	0.18 - 0.40	200 - 300
M	Stainless steel - austenitic	0.20 - 0.42	200 - 280
	Stainless steel - duplex	0.20 - 0.39	200 - 260
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210
<i>DEPTH OF CUT</i>		0.8 - 6.0	

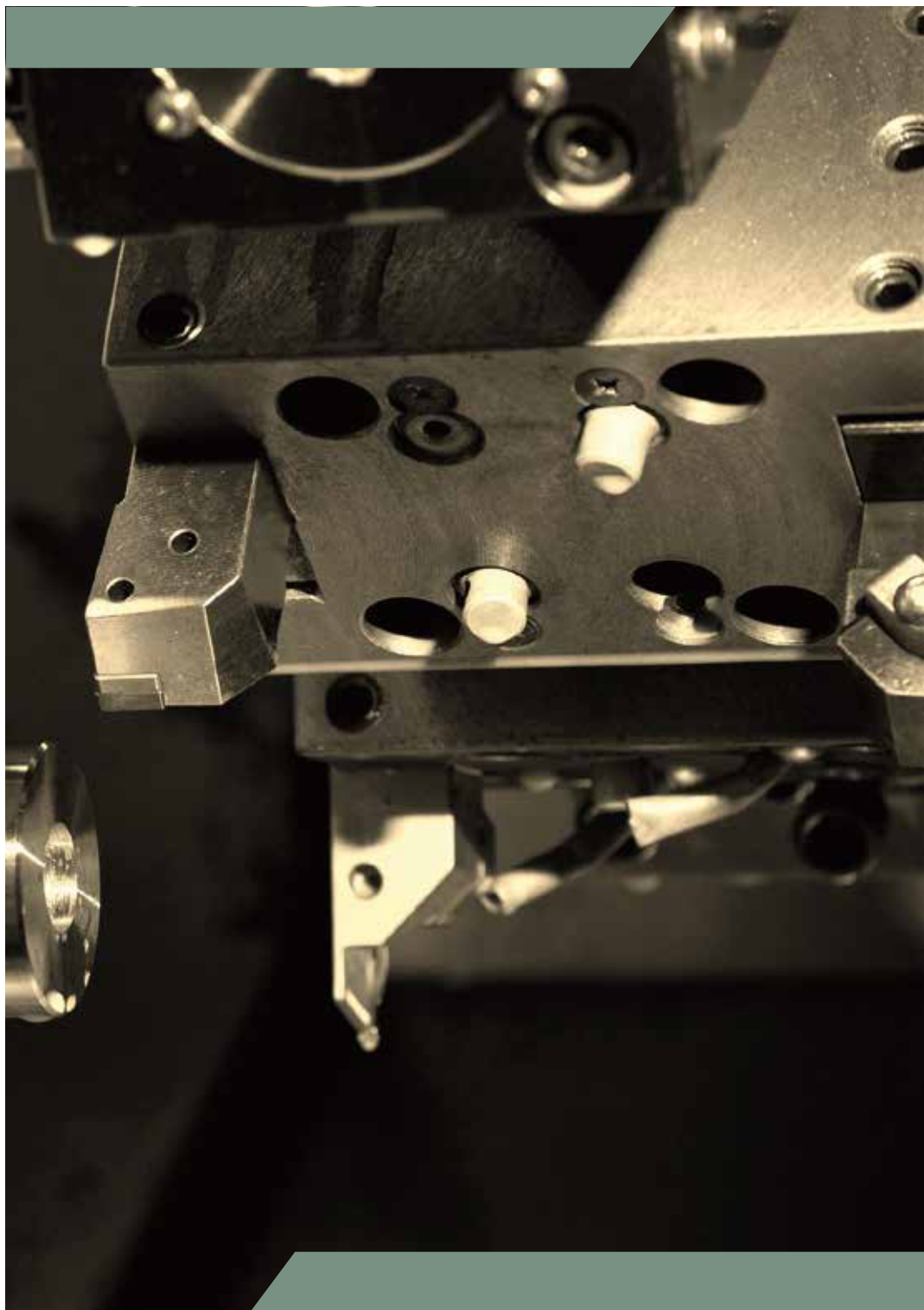
TNMG 160412 PT UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.18 - 0.45	120 - 240
	Steel - alloyed steel	0.18 - 0.42	120 - 240
	Steel - highly alloyed	0.18 - 0.40	120 - 240
M	Stainless steel - austenitic	0.20 - 0.38	120 - 220
	Stainless steel - duplex	0.20 - 0.35	120 - 200
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210
H	Hard materials	0.34 - 0.50	40 - 90
<i>DEPTH OF CUT</i>		0.5 - 4.0	



TNMG 160412 PR UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.34 - 0.58	120 - 240
	Steel - alloyed steel	0.34 - 0.55	120 - 240
	Steel - highly alloyed	0.34 - 0.53	120 - 240
M	Stainless steel - austenitic	0.36 - 0.51	120 - 220
	Stainless steel - duplex	0.36 - 0.48	120 - 200
K	Gray cast iron	0.34 - 0.61	120 - 240
	High-strength cast iron with globular graphite	0.34 - 0.58	120 - 210
H	Hard materials	0.34 - 0.50	40 - 90
DEPTH OF CUT		0.7 - 6.0	

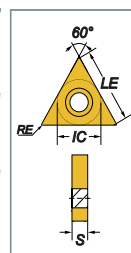


TNUX

60° Triangular insert - with Negative Side Angle - Used for External Machining.
Its Chip Breaker is Very Sharp and is Similar in Style to - KNUX 16

INSERTS

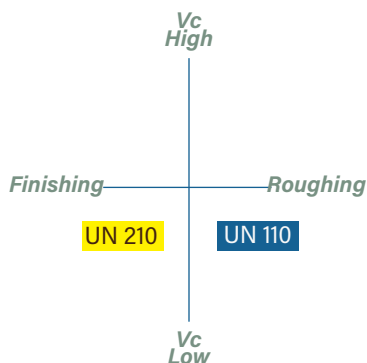
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000052	TNUX 160404 R UN110	9.52	16.50	0.40	4.76
5100000254	TNUX 160404 R UN210	9.52	16.50	0.40	4.76
5100000054	TNUX 160408 R UN110	9.52	16.50	0.80	4.76
5100000256	TNUX 160408 R UN210	9.52	16.50	0.80	4.76



OVER-VIEW



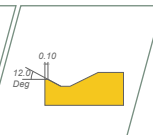
GRADES



CHIP-BREAKERS

(X)

- For finishing operations with performance similar to KNUX
- Sharp chip breaker
- Chip Control starts at Fz: 0.10



TNUX 160404 R UN110

		Fz	Vc
P	Steel - low carbon	0.18 - 0.45	120 - 240
	Steel - alloyed steel	0.18 - 0.42	120 - 240
	Steel - highly alloyed	0.18 - 0.40	120 - 240
M	Stainless steel - austenitic	0.20 - 0.38	120 - 220
	Stainless steel - duplex	0.20 - 0.35	120 - 200
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210
H	Hard materials	0.18 - 0.37	40 - 90
DEPTH OF CUT		0.5 - 5.0	

TNUX 160404 R UN210

		Fz	Vc
P	Steel - low carbon	0.34 - 0.58	120 - 240
	Steel - alloyed steel	0.34 - 0.55	120 - 240
	Steel - highly alloyed	0.34 - 0.53	120 - 240
M	Stainless steel - austenitic	0.36 - 0.50	120 - 220
	Stainless steel - duplex	0.36 - 0.47	120 - 200
K	Gray cast iron	0.34 - 0.61	120 - 240
	High-strength cast iron with globular graphite	0.34 - 0.58	120 - 210
H	Hard materials	0.34 - 0.50	40 - 90
DEPTH OF CUT		0.5 - 5.0	

TNUX 160408 R UN110

		Fz	Vc
P	Steel - low carbon	0.18 - 0.45	200 - 300
	Steel - alloyed steel	0.18 - 0.42	200 - 300
	Steel - highly alloyed	0.18 - 0.40	200 - 300
M	Stainless steel - austenitic	0.20 - 0.42	200 - 280
	Stainless steel - duplex	0.20 - 0.39	200 - 260
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210
DEPTH OF CUT		0.8 - 6.0	

TNUX 160408 R UN210

		Fz	Vc
P	Steel - low carbon	0.18 - 0.45	120 - 240
	Steel - alloyed steel	0.18 - 0.42	120 - 240
	Steel - highly alloyed	0.18 - 0.40	120 - 240
M	Stainless steel - austenitic	0.20 - 0.38	120 - 220
	Stainless steel - duplex	0.20 - 0.35	120 - 200
K	Gray cast iron	0.18 - 0.48	120 - 240
	High-strength cast iron with globular graphite	0.18 - 0.45	120 - 210
H	Hard materials	0.34 - 0.50	40 - 90
DEPTH OF CUT		0.5 - 4.0	

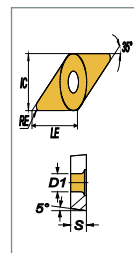


VBMT

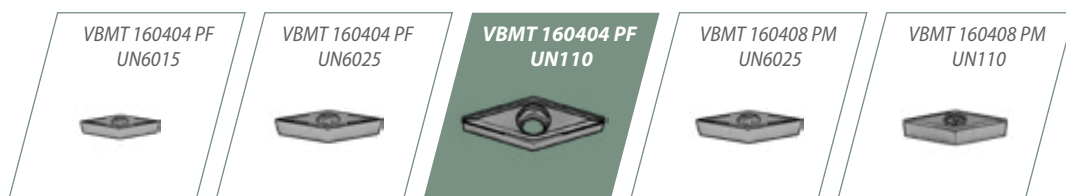
35° Rhombic insert - with 5° Positive Angle - Used Mostly for External Turning , where an Under Cut is Needed at a Wall of the Material .

INSERTS

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000150	VBMT 160404 PF UN110	9.52	16.50	0.40	4.76
5100000396	VBMT 160404 PF UN6015	9.52	16.50	0.40	4.76
5100000152	VBMT 160404 PF UN6025	9.52	16.50	0.40	4.76
5100000154	VBMT 160408 PM UN110	9.52	16.50	0.80	4.76
5100000398	VBMT 160408 PM UN6015	9.52	16.50	0.40	4.76
5100000156	VBMT 160408 PM UN6025	9.52	16.50	0.80	4.76



OVER-VIEW

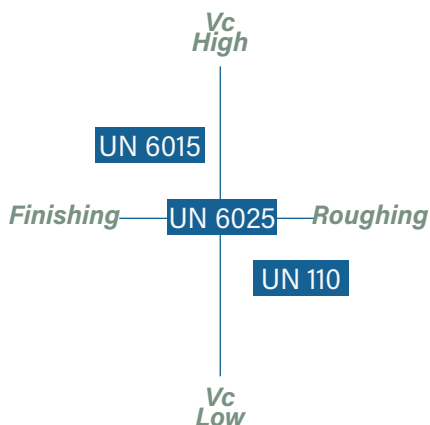


Finishing

FIRST CHOICE

Roughing

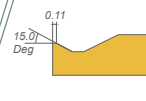
GRADES



CHIP-BREAKERS

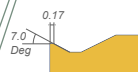
PF

- Sharp chip breaker
- For finishing operations
- **Chip Control starts at Fz: 0.12**



PM

- Semi Finishing chip breaker
- First choice for stable machining and light-Mid. Cutting pressure
- **Chip Control starts at Fz: 0.18**



VBMT 160404 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.21	80 - 180
	Steel - alloyed steel	0.10 - 0.18	80 - 180
	Steel - highly alloyed	0.10 - 0.16	80 - 150

M	Stainless steel - austenitic	0.12 - 0.18	80 - 160
	Stainless steel - duplex	0.12 - 0.16	80 - 130

K	Gray cast iron	0.10 - 0.24	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.22	80 - 160

DEPTH OF CUT 0.3 - 2.0

VBMT 160404 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.16 - 0.35	120 - 210
	Steel - alloyed steel	0.16 - 0.32	120 - 210
	Steel - highly alloyed	0.16 - 0.30	120 - 210

M	Stainless steel - austenitic	0.18 - 0.28	120 - 190
	Stainless steel - duplex	0.18 - 0.25	120 - 170

K	Gray cast iron	0.16 - 0.38	120 - 210
	High-strength cast iron with globular graphite	0.16 - 0.35	120 - 180

DEPTH OF CUT 0.5 - 2.0

VBMT 160408 PM UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.16 - 0.35	120 - 210
	Steel - alloyed steel	0.16 - 0.32	120 - 210
	Steel - highly alloyed	0.16 - 0.30	120 - 210

M	Stainless steel - austenitic	0.18 - 0.28	120 - 190
	Stainless steel - duplex	0.18 - 0.25	120 - 170

K	Gray cast iron	0.16 - 0.38	120 - 210
	High-strength cast iron with globular graphite	0.16 - 0.35	120 - 180

H	Hard materials	0.16 - 0.27	40 - 90
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DEPTH OF CUT 0.5 - 3.5

VBMT 160408 PM UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.16 - 0.35	80 - 180
	Steel - alloyed steel	0.16 - 0.32	80 - 180
	Steel - highly alloyed	0.16 - 0.30	80 - 150

M	Stainless steel - austenitic	0.18 - 0.32	80 - 160
	Stainless steel - duplex	0.18 - 0.30	80 - 130

K	Gray cast iron	0.16 - 0.38	80 - 180
	High-strength cast iron with globular graphite	0.16 - 0.36	80 - 160

S	Hard-to-process materials - nickel alloys	0.16 - 0.32	25 - 45
	Hard-to-process materials - titanium alloys	0.16 - 0.32	35 - 55

H	Hard materials	0.16 - 0.27	40 - 90
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DEPTH OF CUT 0.5 - 3.5



VBMT 160404 PF UN6015

		Fz	Vc
P	Steel - low carbon	0.16 - 0.35	180 - 280
	Steel - alloyed steel	0.16 - 0.32	180 - 280
	Steel - highly alloyed	0.16 - 0.30	180 - 280
M	Stainless steel - austenitic	0.18 - 0.28	180 - 260
	Stainless steel - duplex	0.18 - 0.25	180 - 240
K	Gray cast iron	0.16 - 0.38	180 - 280
	High-strength cast iron with globular graphite	0.16 - 0.35	180 - 250
H	Hard materials	0.14 - 0.25	40 - 90
DEPTH OF CUT		0.5 - 2.0	

VBMT 160408 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.16 - 0.35	180 - 280
	Steel - alloyed steel	0.16 - 0.32	180 - 280
	Steel - highly alloyed	0.16 - 0.30	180 - 280
M	Stainless steel - austenitic	0.18 - 0.28	180 - 260
	Stainless steel - duplex	0.18 - 0.25	180 - 240
K	Gray cast iron	0.16 - 0.38	180 - 280
	High-strength cast iron with globular graphite	0.16 - 0.35	180 - 250
H	Hard materials	0.14 - 0.25	40 - 90
DEPTH OF CUT		0.5 - 2.0	

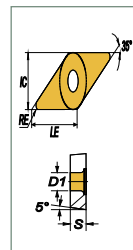


VCGT

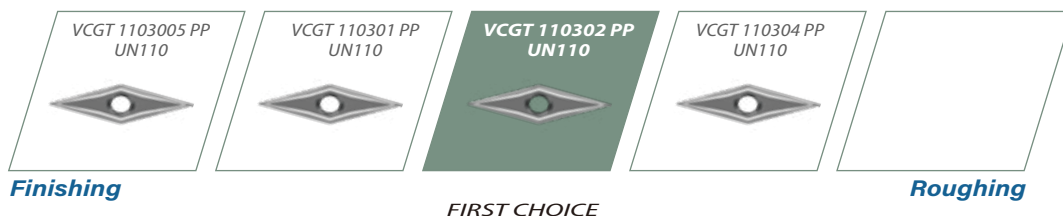
35° Rhombic insert - with 7° Positive Angle - Used Mostly in "Swiss- Machining"
Turning Machines- The small radius inserts, R0.1 and smaller, are peripheral ground

INSERTS

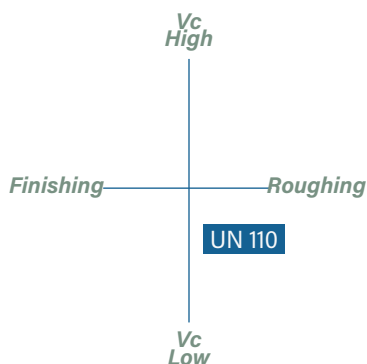
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000532	VCGT 1103005 PP UN110	9.53	11.00	0.05	3.97
5100000534	VCGT 110301 PP UN110	9.53	11.00	0.10	3.97
5100000536	VCGT 110302 PP UN110	9.53	11.60	0.20	3.97
5100000544	VCGT 110304 PP UN110	9.53	11.60	0.40	3.97



OVER-VIEW



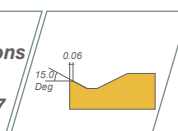
GRADES



CHIP-BREAKERS

PP

- For super finishing operations
- Sharp chip breaker
- Chip Control starts at Fz: 0.07



VCGT 1103005 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.05 - 0.8

VCGT 110301 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.1 - 1.0

VCGT 110302 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.15 - 1.5

VCGT 110304 PP UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.07 - 0.17	40 - 120
	Steel - alloyed steel	0.07 - 0.15	40 - 110
	Steel - highly alloyed	0.07 - 0.13	30 - 100

M	Stainless steel - austenitic	0.07 - 0.15	40 - 110
	Stainless steel - duplex	0.07 - 0.13	30 - 90

K	Gray cast iron		
	High-strength cast iron with globular graphite		

DEPTH OF CUT 0.2 - 2.0

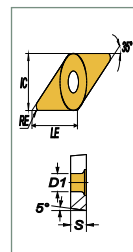


VCMT

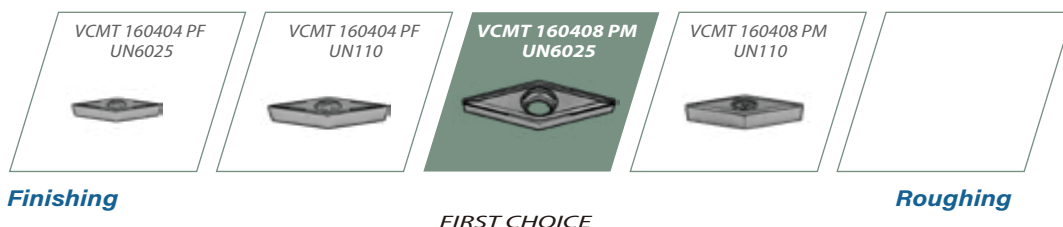
35° Rhombic insert - with 7° Positive Angle - Used Mostly for External Turning , where an Under Cut is Needed at a Wall of the Material .

INSERTS

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000348	VCMT 160404 PF UN110	9.52	16.50	0.40	4.76
5100000346	VCMT 160404 PF UN6025	9.52	16.50	0.40	4.76
5100000352	VCMT 160408 PM UN110	9.52	16.50	0.80	4.76
5100000350	VCMT 160408 PM UN6025	9.52	16.50	0.80	4.76



OVER-VIEW

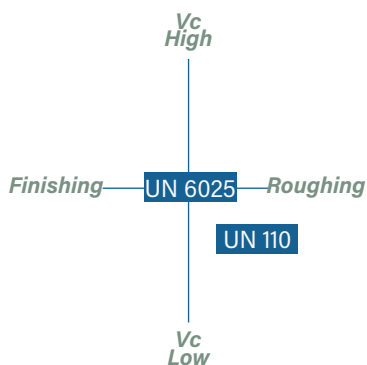


Finishing

FIRST CHOICE

Roughing

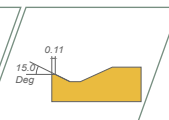
GRADES



CHIP-BREAKERS

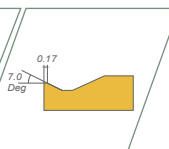
PF

- Sharp chip breaker
- For finishing operations
- Chip Control starts at Fz: 0.12



PM

- Semi Finishing chip breaker f
- First choice for stable machining and light-Mid. Cutting pressure
- Chip Control starts at Fz: 0.18



VCMT 160404 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.16 - 0.35	120 - 210
	Steel - alloyed steel	0.16 - 0.32	120 - 210
	Steel - highly alloyed	0.16 - 0.30	120 - 210

M	Stainless steel - austenitic	0.18 - 0.28	120 - 190
	Stainless steel - duplex	0.18 - 0.25	120 - 170

K	Gray cast iron	0.16 - 0.38	120 - 210
	High-strength cast iron with globular graphite	0.16 - 0.35	120 - 180

DEPTH OF CUT 0.5 - 2.0

VCMT 160404 PF UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.21	80 - 180
	Steel - alloyed steel	0.10 - 0.18	80 - 180
	Steel - highly alloyed	0.10 - 0.16	80 - 150

M	Stainless steel - austenitic	0.12 - 0.18	80 - 160
	Stainless steel - duplex	0.12 - 0.16	80 - 130

K	Gray cast iron	0.10 - 0.24	80 - 180
	High-strength cast iron with globular graphite	0.10 - 0.22	80 - 160

DEPTH OF CUT 0.3 - 2.0

VCMT 160408 PM UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.16 - 0.35	120 - 210
	Steel - alloyed steel	0.16 - 0.32	120 - 210
	Steel - highly alloyed	0.16 - 0.30	120 - 210

M	Stainless steel - austenitic	0.18 - 0.28	120 - 190
	Stainless steel - duplex	0.18 - 0.25	120 - 170

K	Gray cast iron	0.16 - 0.38	120 - 210
	High-strength cast iron with globular graphite	0.16 - 0.35	120 - 180

H	Hard materials	0.16 - 0.27	40 - 90
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DEPTH OF CUT 0.5 - 3.5

VCMT 160408 PM UN110

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.16 - 0.35	80 - 180
	Steel - alloyed steel	0.16 - 0.32	80 - 180
	Steel - highly alloyed	0.16 - 0.30	80 - 150

M	Stainless steel - austenitic	0.18 - 0.32	80 - 160
	Stainless steel - duplex	0.18 - 0.30	80 - 130

K	Gray cast iron	0.16 - 0.38	80 - 180
	High-strength cast iron with globular graphite	0.16 - 0.35	80 - 160

H	Hard materials	0.16 - 0.27	40 - 90
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DEPTH OF CUT 0.5 - 3.5

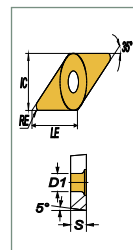


VNMG

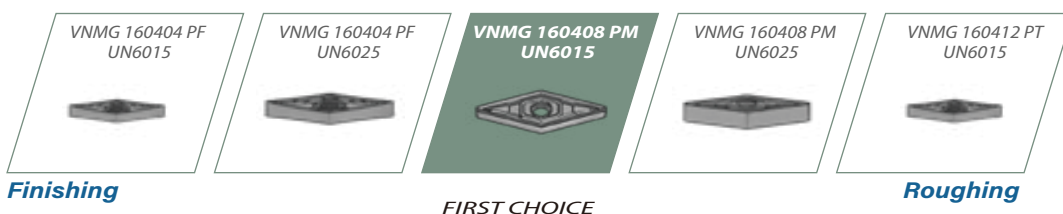
35° Rhombic insert - with Negative Side Angle - Used for External Machining
Facing and Under-Cuts Close to the Material's Base

INSERTS

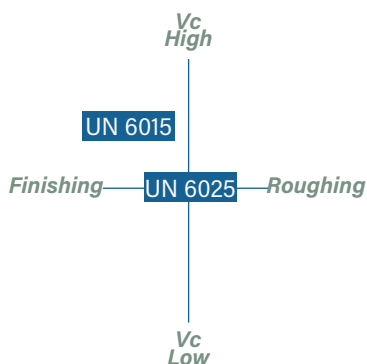
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000290	VNMG 160404 PF UN6015	9.52	16.50	0.40	4.76
5100000056	VNMG 160404 PF UN6025	9.52	16.50	0.40	4.76
5100000292	VNMG 160408 PM UN6015	9.52	16.50	0.80	4.76
5100000058	VNMG 160408 PM UN6025	9.52	16.50	0.80	4.76
5100000318	VNMG 160408 PT UN6015	9.52	16.50	0.80	4.76
5100000320	VNMG 160412 PT UN6015	9.52	16.50	1.20	4.76



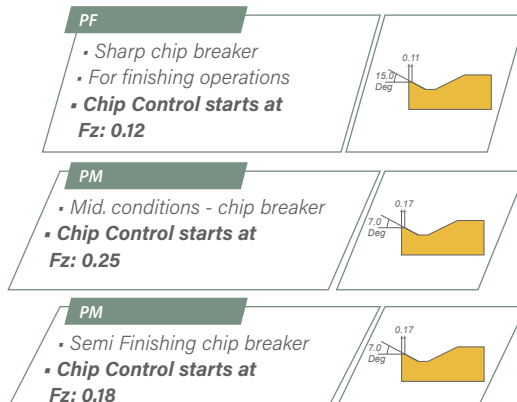
OVER-VIEW



GRADES



CHIP-BREAKERS



VNMG 160404 PF UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.08 - 0.33	180 - 280
	Steel - alloyed steel	0.08 - 0.30	180 - 280
	Steel - highly alloyed	0.08 - 0.28	180 - 280
M	Stainless steel - austenitic	0.10 - 0.30	180 - 260
	Stainless steel - duplex	0.10 - 0.27	180 - 240
K	Gray cast iron	0.08 - 0.36	180 - 280
	High-strength cast iron with globular graphite	0.08 - 0.33	180 - 250
<i>DEPTH OF CUT</i>		0.3 - 1.5	

VNMG 160404 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.08 - 0.33	120 - 240
	Steel - alloyed steel	0.08 - 0.30	120 - 240
	Steel - highly alloyed	0.08 - 0.28	120 - 240
M	Stainless steel - austenitic	0.10 - 0.26	120 - 220
	Stainless steel - duplex	0.10 - 0.23	120 - 200
K	Gray cast iron	0.08 - 0.36	120 - 240
	High-strength cast iron with globular graphite	0.08 - 0.33	120 - 210
<i>DEPTH OF CUT</i>		0.3 - 1.5	

VNMG 160408 PM UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.08 - 0.33	180 - 280
	Steel - alloyed steel	0.08 - 0.30	180 - 280
	Steel - highly alloyed	0.08 - 0.28	180 - 280
M	Stainless steel - austenitic	0.10 - 0.30	180 - 260
	Stainless steel - duplex	0.10 - 0.27	180 - 240
K	Gray cast iron	0.08 - 0.36	180 - 280
	High-strength cast iron with globular graphite	0.08 - 0.33	180 - 250
<i>DEPTH OF CUT</i>		0.5 - 3.5	

VNMG 160408 PM UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.08 - 0.33	120 - 240
	Steel - alloyed steel	0.08 - 0.30	120 - 240
	Steel - highly alloyed	0.08 - 0.28	120 - 240
M	Stainless steel - austenitic	0.10 - 0.26	120 - 220
	Stainless steel - duplex	0.10 - 0.23	120 - 200
K	Gray cast iron	0.08 - 0.36	120 - 240
	High-strength cast iron with globular graphite	0.08 - 0.33	120 - 210
H	Hard materials	0.08 - 0.25	40 - 90
<i>DEPTH OF CUT</i>		0.5 - 2.5	



VNMG 160408 PT UN6015

		Fz	Vc
P	Steel - low carbon	0.25 - 0.43	180 - 280
	Steel - alloyed steel	0.25 - 0.40	180 - 280
	Steel - highly alloyed	0.25 - 0.38	180 - 280
M	Stainless steel - austenitic	0.27 - 0.42	180 - 260
	Stainless steel - duplex	0.27 - 0.39	180 - 240
K	Gray cast iron	0.20 - 0.46	180 - 280
	High-strength cast iron with globular graphite	0.20 - 0.43	180 - 250
DEPTH OF CUT		0.4 - 1.2	

VNMG 160412 PT UN6015

		Fz	Vc
P	Steel - low carbon	0.25 - 0.43	180 - 280
	Steel - alloyed steel	0.25 - 0.40	180 - 280
	Steel - highly alloyed	0.25 - 0.38	180 - 280
M	Stainless steel - austenitic	0.27 - 0.42	180 - 260
	Stainless steel - duplex	0.27 - 0.39	180 - 240
K	Gray cast iron	0.20 - 0.46	180 - 280
	High-strength cast iron with globular graphite	0.20 - 0.43	180 - 250
DEPTH OF CUT		0.6 - 1.8	

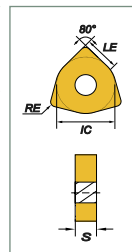


WNGG

Trigon Inserts with 80° working corners - Negative Side Angle - Used for External Machining and Facing Operations - Unique solution for Aluminum and other Non Ferrous Materials

INSERTS

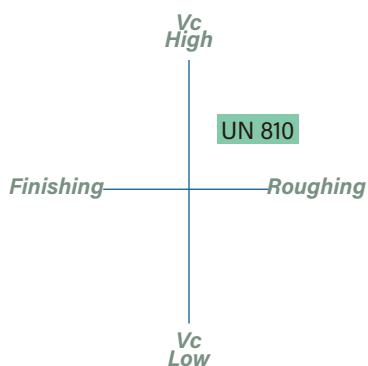
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000550	WNGG 080402 ALU UN810	12.70	8.70	0.20	4.76
5100000470	WNGG 080404 ALU UN810	12.70	8.70	0.40	4.76
5100000366	WNGG 080408 ALU UN810	12.70	8.70	0.80	4.76



OVER-VIEW



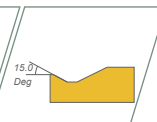
GRADES



CHIP-BREAKERS

ALU

- Sharp, positive chip breaker
- For turning Aluminum and other Sticky materials



WNGG 080402 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz	Vc
		0.06 - 0.22	200 - 600

DEPTH OF CUT 0.1 - 1.6

WNGG 080404 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz	Vc
		0.06 - 0.22	200 - 600

DEPTH OF CUT 0.3 - 2.0

WNGG 080408 ALU UN810

N	Aluminum - Non-ferrous alloy	Fz	Vc
		0.12 - 0.35	200 - 600

DEPTH OF CUT 0.6 - 4.0

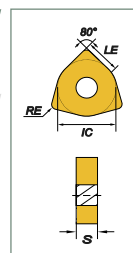


WNMA

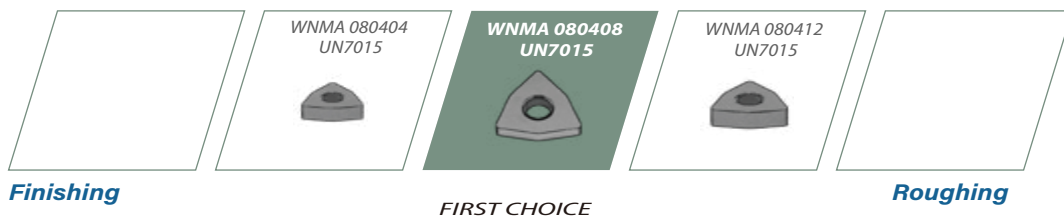
Trigon Inserts with 80° working corners - with Negative Side Angle - For External Machining and Facing Operations - Mostly Used for Machining Cast-Iron at Mid. to High Speeds

INSERTS

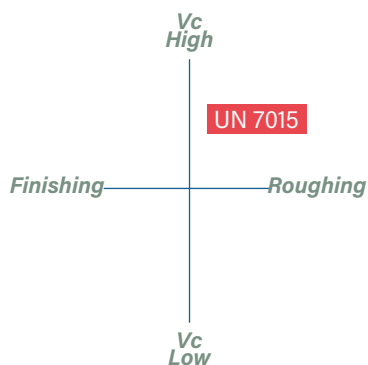
CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000570	WNMA 080404 UN7015	12.70	8.70	0.40	4.76
5100000572	WNMA 080408 UN7015	12.70	8.70	0.80	4.76
5100000574	WNMA 080412 UN7015	12.70	8.70	1.20	4.76



OVER-VIEW



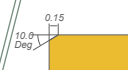
GRADES



CHIP-BREAKERS

(A)

- Flat top insert design
- Used mostly for Cast-Iron applications
- Chip Control starts at Fz: 0.15



WNMA 080404 UN7015

		Fz	Vc
K	Gray cast iron	0.10 - 0.30	200 - 350
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 320
DEPTH OF CUT		0.5 - 4.0	

WNMA 080408 UN7015

		Fz	Vc
K	Gray cast iron	0.10 - 0.30	200 - 350
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 320
DEPTH OF CUT		0.5 - 5.0	

WNMA 080412 UN7015

		Fz	Vc
K	Gray cast iron	0.10 - 0.30	200 - 350
	High-strength cast iron with globular graphite	0.10 - 0.27	200 - 320
DEPTH OF CUT		0.7 - 6.0	

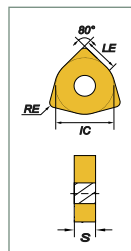


WNMG

Trigon Inserts with 80° working corners - with Negative Side Angle - For External Machining and Facing Operations - for Cost Effective General Turning

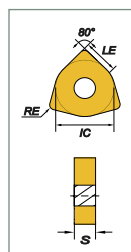
RADIUS 0.4

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000082	WNMG 080404 MF UN210	12.70	8.70	0.40	4.76
5100000270	WNMG 080404 PF UN6015	12.70	8.70	0.40	4.76
5100000066	WNMG 080404 PF UN6025	12.70	8.70	0.40	4.76
5100000272	WNMG 080404 PM UN6015	12.70	8.70	0.40	4.76
5100000214	WNMG 080404 PM UN6025	12.70	8.70	0.40	4.76



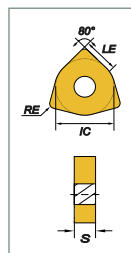
RADIUS 0.8

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000240	WNMG 080408 MF UN210	12.70	8.70	0.80	4.76
5100000076	WNMG 080408 MM UN210	12.70	8.70	0.80	4.76
5100000310	WNMG 080408 PF UN110	12.70	8.70	0.80	4.76
5100000274	WNMG 080408 PF UN6015	12.70	8.70	0.80	4.76
5100000070	WNMG 080408 PF UN6025	12.70	8.70	0.80	4.76
5100000276	WNMG 080408 PM UN6015	12.70	8.70	0.80	4.76
5100000074	WNMG 080408 PM UN6025	12.70	8.70	0.80	4.76
5100000080	WNMG 080408 PR UN6025	12.70	8.70	0.80	4.76
5100000278	WNMG 080408 PT UN6015	12.70	8.70	0.80	4.76
5100000170	WNMG 080408 PT UN6025	12.70	8.70	0.80	4.76

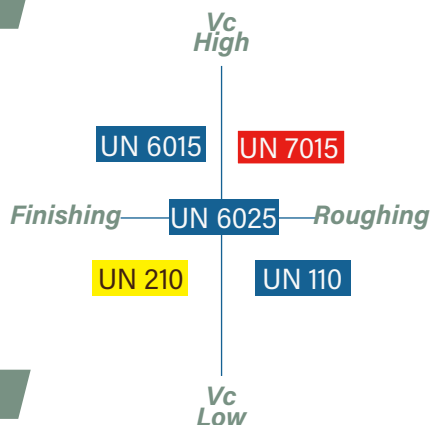


RADIUS 1.2

CAT. NUM	DESCRIPTION	IC	LE	RE	S
5100000086	WNMG 080412 PR UN6025	12.70	8.70	1.20	4.76
5100000280	WNMG 080412 PT UN6015	12.70	8.70	1.20	4.76
5100000204	WNMG 080412 PT UN6025	12.70	8.70	1.20	4.76



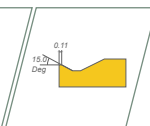
GRADES



CHIP-BREAKERS

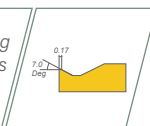
PF

- **For finishing operations**
- Sharp chip breaker
- **Chip Control starts at Fz: 0.12**



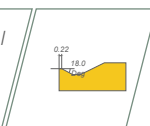
PM

- **Semi Finishing chip breaker** for general machining
- First choice for stable machining and Mid. Conditions cutting
- **Chip Control starts at Fz: 0.18**



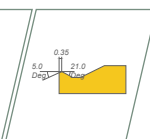
PT

- **Mid. Cutting conditions chip breaker** - for general machining
- First choice for Unstable machining conditions
- **Chip Control starts at Fz: 0.25**



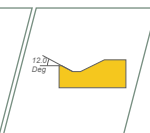
PR

- **Roughing chip breaker** - used in tough machining applications
- First choice for very Unstable machining or for thick casting "skin"
- **Chip Control starts at Fz: 0.35**



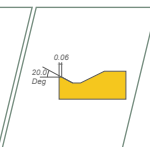
MF

- **For finishing operations**
- Sharp chip breaker - especially developed for Stainless Applications
- **Chip Control starts at Fz: 0.10**

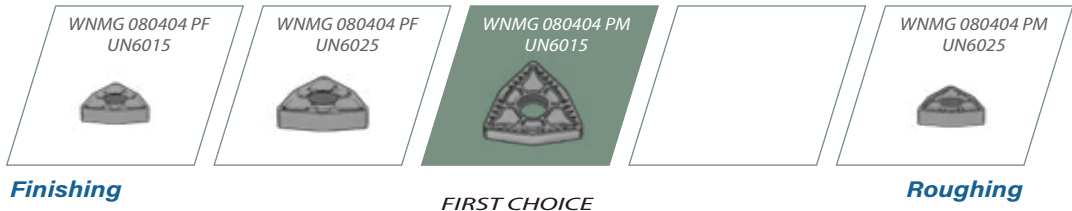


MM

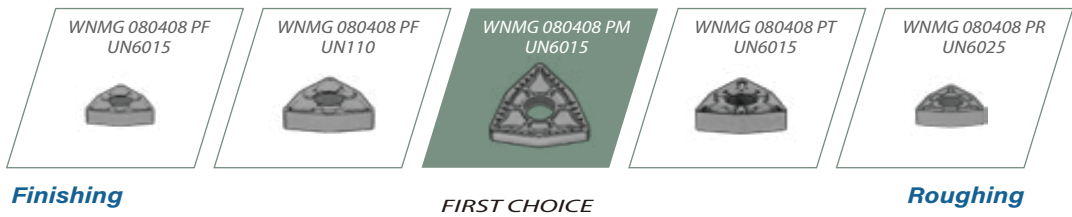
- **Semi Finishing chip breaker** - especially developed for stainless Applications
- **Chip Control starts at Fz: 0.14**



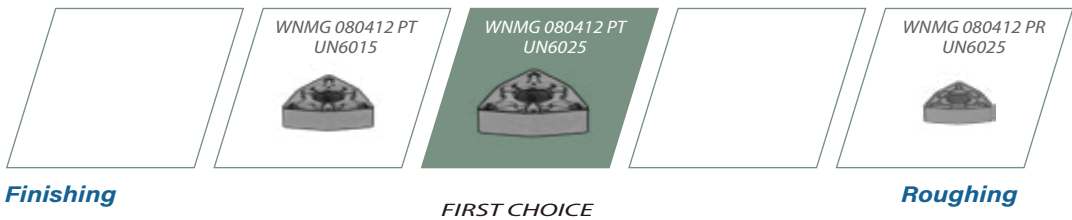
RADIUS 0.4



RADIUS 0.8



RADIUS 1.2



WNMG 080404 PF UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	200 - 300
	Steel - alloyed steel	0.10 - 0.25	200 - 300
	Steel - highly alloyed	0.10 - 0.23	200 - 300
M	Stainless steel - austenitic	0.12 - 0.25	200 - 280
	Stainless steel - duplex	0.12 - 0.22	200 - 260
K	Gray cast iron	0.10 - 0.31	200 - 300
	High-strength cast iron with globular graphite	0.10 - 0.28	200 - 270
<i>DEPTH OF CUT</i>		0.3 - 2.5	

WNMG 080404 PF UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.10 - 0.28	120 - 250
	Steel - alloyed steel	0.10 - 0.25	120 - 250
	Steel - highly alloyed	0.10 - 0.23	120 - 250
M	Stainless steel - austenitic	0.12 - 0.21	120 - 230
	Stainless steel - duplex	0.12 - 0.18	120 - 210
K	Gray cast iron	0.10 - 0.31	120 - 250
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 220
<i>DEPTH OF CUT</i>		0.3 - 2.5	

WNMG 080404 PM UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.14 - 0.33	200 - 300
	Steel - alloyed steel	0.14 - 0.30	200 - 300
	Steel - highly alloyed	0.14 - 0.28	200 - 300
M	Stainless steel - austenitic	0.16 - 0.30	200 - 280
	Stainless steel - duplex	0.16 - 0.27	200 - 260
K	Gray cast iron	0.14 - 0.36	200 - 300
	High-strength cast iron with globular graphite	0.14 - 0.33	200 - 270
<i>DEPTH OF CUT</i>		0.2 - 2.5	

WNMG 080404 PM UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.14 - 0.33	120 - 250
	Steel - alloyed steel	0.14 - 0.30	120 - 250
	Steel - highly alloyed	0.14 - 0.28	120 - 250
M	Stainless steel - austenitic	0.16 - 0.26	120 - 230
	Stainless steel - duplex	0.16 - 0.23	120 - 210
K	Gray cast iron	0.14 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.33	120 - 220
H	Hard materials	0.10 - 0.26	40 - 90
<i>DEPTH OF CUT</i>		0.2 - 2.5	



WNMG 080408 PF UN6025

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	120 - 250
	Steel - alloyed steel	0.10 - 0.25	120 - 250
	Steel - highly alloyed	0.10 - 0.23	120 - 250
M	Stainless steel - austenitic	0.12 - 0.21	120 - 230
	Stainless steel - duplex	0.12 - 0.18	120 - 210
K	Gray cast iron	0.10 - 0.31	120 - 250
	High-strength cast iron with globular graphite	0.10 - 0.28	120 - 220
DEPTH OF CUT		0.5 - 4.0	

WNMG 080408 PF UN110

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	100 - 180
	Steel - alloyed steel	0.14 - 0.30	100 - 180
	Steel - highly alloyed	0.14 - 0.28	100 - 150
M	Stainless steel - austenitic	0.16 - 0.24	100 - 160
	Stainless steel - duplex	0.16 - 0.22	100 - 130
K	Gray cast iron	0.14 - 0.36	100 - 180
	High-strength cast iron with globular graphite	0.14 - 0.34	100 - 160
DEPTH OF CUT		0.5 - 4.0	

WNMG 080408 PM UN6015

		Fz	Vc
P	Steel - low carbon	0.14 - 0.33	200 - 300
	Steel - alloyed steel	0.14 - 0.30	200 - 300
	Steel - highly alloyed	0.14 - 0.28	200 - 300
M	Stainless steel - austenitic	0.16 - 0.30	200 - 280
	Stainless steel - duplex	0.16 - 0.27	200 - 260
K	Gray cast iron	0.14 - 0.36	200 - 300
	High-strength cast iron with globular graphite	0.14 - 0.33	200 - 270
DEPTH OF CUT		0.5 - 4.0	

WNMG 080408 PM UN6025

		Fz	Vc
P	Steel - low carbon	0.18 - 0.33	120 - 250
	Steel - alloyed steel	0.18 - 0.30	120 - 250
	Steel - highly alloyed	0.18 - 0.28	120 - 250
M	Stainless steel - austenitic	0.20 - 0.26	120 - 230
	Stainless steel - duplex	0.20 - 0.23	120 - 210
K	Gray cast iron	0.18 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.18 - 0.33	120 - 220
H	Hard materials	0.14 - 0.26	40 - 90
DEPTH OF CUT		0.4 - 5.0	

WNMG 080408 PT UN6025

		Fz	Vc
P	Steel - low carbon	0.24 - 0.48	120 - 250
	Steel - alloyed steel	0.24 - 0.45	120 - 250
	Steel - highly alloyed	0.24 - 0.43	120 - 250
M	Stainless steel - austenitic	0.26 - 0.40	120 - 230
	Stainless steel - duplex	0.26 - 0.37	120 - 210
K	Gray cast iron	0.24 - 0.51	120 - 250
	High-strength cast iron with globular graphite	0.24 - 0.48	120 - 220
H	Hard materials	0.20 - 0.41	40 - 90
DEPTH OF CUT		0.5 - 5.0	

WNMG 080408 PR UN6025

		Fz	Vc
P	Steel - low carbon	0.34 - 0.53	120 - 250
	Steel - alloyed steel	0.34 - 0.50	120 - 250
	Steel - highly alloyed	0.34 - 0.48	120 - 250
M	Stainless steel - austenitic	0.36 - 0.44	120 - 230
	Stainless steel - duplex	0.36 - 0.41	120 - 210
K	Gray cast iron	0.34 - 0.56	120 - 250
	High-strength cast iron with globular graphite	0.34 - 0.53	120 - 220
H	Hard materials	0.30 - 0.46	40 - 90
DEPTH OF CUT		0.5 - 7.0	

WNMG 080408 MF UN210

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	100 - 180
	Steel - alloyed steel	0.10 - 0.25	100 - 180
	Steel - highly alloyed	0.10 - 0.23	100 - 150
M	Stainless steel - austenitic	0.12 - 0.25	100 - 160
	Stainless steel - duplex	0.12 - 0.23	100 - 130
S	Hard-to-process materials - nickel alloys	0.10 - 0.25	25 - 45
	Hard-to-process materials - titanium alloys	0.10 - 0.25	35 - 55
DEPTH OF CUT		0.5 - 4.0	

WNMG 080408 MM UN210

		Fz	Vc
P	Steel - low carbon	0.10 - 0.28	100 - 180
	Steel - alloyed steel	0.10 - 0.25	100 - 180
	Steel - highly alloyed	0.10 - 0.23	100 - 150
M	Stainless steel - austenitic	0.12 - 0.25	100 - 160
	Stainless steel - duplex	0.12 - 0.23	100 - 130
S	Hard-to-process materials - nickel alloys	0.10 - 0.25	25 - 45
	Hard-to-process materials - titanium alloys	0.10 - 0.25	35 - 55
DEPTH OF CUT		0.5 - 4.0	



WNMG 080408 PT UN6015

		Fz	Vc
P	Steel - low carbon	0.24 - 0.48	200 - 300
	Steel - alloyed steel	0.24 - 0.45	200 - 300
	Steel - highly alloyed	0.24 - 0.43	200 - 300
M	Stainless steel - austenitic	0.26 - 0.45	200 - 280
	Stainless steel - duplex	0.26 - 0.42	200 - 260
K	Gray cast iron	0.24 - 0.51	200 - 300
	High-strength cast iron with globular graphite	0.24 - 0.48	200 - 270
DEPTH OF CUT		0.5 - 5.0	

WNMG 080408 PM UN110

		Fz	Vc
P	Steel - low carbon	0.18 - 0.34	100 - 180
	Steel - alloyed steel	0.18 - 0.30	100 - 180
	Steel - highly alloyed	0.18 - 0.28	100 - 150
M	Stainless steel - austenitic	0.20 - 0.30	100 - 160
	Stainless steel - duplex	0.20 - 0.28	100 - 130
K	Gray cast iron	0.18 - 0.36	100 - 180
	High-strength cast iron with globular graphite	0.18 - 0.34	100 - 160
H	Hard materials	0.14 - 0.26	40 - 90
DEPTH OF CUT		0.5 - 5.0	

WNMG 080408 PR UN6025

		Fz	Vc
P	Steel - low carbon	0.34 - 0.53	120 - 250
	Steel - alloyed steel	0.34 - 0.50	120 - 250
	Steel - highly alloyed	0.34 - 0.48	120 - 250
M	Stainless steel - austenitic	0.36 - 0.44	120 - 230
	Stainless steel - duplex	0.36 - 0.41	120 - 210
K	Gray cast iron	0.34 - 0.56	120 - 250
	High-strength cast iron with globular graphite	0.34 - 0.53	120 - 220
H	Hard materials	0.30 - 0.46	40 - 90
DEPTH OF CUT		0.5 - 7.0	

WNMG 080412 PM UN6025

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.14 - 0.33	120 - 250
	Steel - alloyed steel	0.14 - 0.30	120 - 250
	Steel - highly alloyed	0.14 - 0.28	120 - 250
M	Stainless steel - austenitic	0.16 - 0.26	120 - 230
	Stainless steel - duplex	0.16 - 0.23	120 - 210
K	Gray cast iron	0.14 - 0.36	120 - 250
	High-strength cast iron with globular graphite	0.14 - 0.33	120 - 220
H	Hard materials	0.10 - 0.26	40 - 90
<i>DEPTH OF CUT</i>		0.7 - 5.0	

WNMG 080412 PT UN6015

		<i>Fz</i>	<i>Vc</i>
P	Steel - low carbon	0.24 - 0.48	200 - 300
	Steel - alloyed steel	0.24 - 0.45	200 - 300
	Steel - highly alloyed	0.24 - 0.43	200 - 300
M	Stainless steel - austenitic	0.26 - 0.45	200 - 280
	Stainless steel - duplex	0.26 - 0.42	200 - 260
K	Gray cast iron	0.24 - 0.51	200 - 300
	High-strength cast iron with globular graphite	0.24 - 0.48	200 - 270
<i>DEPTH OF CUT</i>		0.7 - 7.0	



TECHNICAL INFORMATION



Comparison of CVD Grades

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Comparison of PVD Grades

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Comparison of chip breakers

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Comparison of CVD Grades

		SWISS.BLUE	KENNAMETAL	MITSUBISHI
P	<i>Finishing</i>	UN6015	KCP05 KC9105	UC5115
	<i>Semi-Finishing</i>	UN6015	KCP10 KC9110 TN7005 TN7015	UC5115 UE6020
	<i>Semi-Roughing</i>	UN6025	KCP25 KC9025 KC9125 TN7015	UE6020
M	<i>Finishing</i>	UN6015	KCM15 TN7010	MC7015
	<i>Semi-Finishing</i>	UN6025	KC9225 TN7015	MC7025
K	<i>Semi-Finishing</i>	UN6015	KVK20 KCK20 KC9315 KC9110 TN5015	MC5005
	<i>Roughing</i>	UN7015	KCK20 KC9320 TN5020	MC5015

TAEGUTEC

SANDVIK

TUNGALOY

ISCAR

TT8115 TT1100

GC4010

T9005

IC9150 IC8150

TT8125 TT1300

GC4315

T9015

IC9150 IC9015
IC8150

TT8135 TT1500

GC4325

T9025

IC9025 IC9250
IC9054 IC8350

TT2500

GC2015

T9015

IC9250

TT3500

GC2025

T6020 T9025

IC9250 IC9025
IC9054

TT1300

GC3205
GC3210

T5010

IC9150

TT1500

GC3215

T5020

IC9150
IC9015



Comparison of PVD Grades

		SWISS.BLUE	KENNAMETAL	MITSUBISHI
P	<i>Finishing</i>	UN110	KC715M	VP10TF
	<i>Semi-Finishing</i>	UN330	KC715M	VP15TF
	<i>Semi-Roughing</i>	UN330	KC522M	VP30RT
M	<i>Finishing</i>	UN210	KC715M	VP15TF
	<i>Semi-Finishing</i>	UN330	KC522M	VP20RT
K	<i>Semi-Finishing</i>	UN110	KC510M	VP15TF
	<i>Roughing</i>	UN330	KC520M	VP20RT
S	<i>Finishing</i>	UN330	KC510M	VP15TF
	<i>Semi-Finishing</i>	UN330	KC522M	VP15TF

TAEGUTEC	SANDVIK	TUNGALOY	ISCAR
TT9030	GC1015	AH8015	IC907
TT8020	GC1025 GC1130	AH725	IC908
TT8020	GC1015 GC1025	GH330 AH330	IC908
TT8020 TT9030	GC1025 GC1030	GH330	IC907
TT8030	GC1025 GC1030	AH120	IC908
	GC1010 GC1020	AH110	IC907
TT6030	GC1020	AH120	IC908
TT6030	GC1025	AG120	IC907
	GC1025	AH120	IC908



Comparison of Chip-Breakers

		SWISS.BLUE	SECO	MITSUBISHI
P	Finishing	PF	FF1 FF2	PK FH FP FY
	Semi-Finishing	PM	MF3 MF5 M3 M5	MP MA MH
	Semi-Roughing	PT (STD)	MR6 MR7	RP GH Std.
	Roughing	PR	R4 R5 R6 57 RR6 R7 R8 RR9	HR HZ HL HM HX HV
M	Finishing	MF	MF1	SH LM
	Semi-Finishing	MM	MF4	MS GM MM MA ES
K	Semi-Finishing	(STD)	M5	MK GK Std.
	Roughing	(A)		RK
S	Finishing	PF	MF4 MF5	LS MJ MJ
	Semi-Finishing	PM	M1	MS
	Roughing	PR	M5 MR3 MR4	RS GJ

WALTER	TAEGUTEC	SANDVIK	TUNGALOY	KYOCERA
FP5	FA	PF	01 TF 11 ZF	DP GP PP XP XP-T XF
MP5	MP	PM	NM ZM T M AM DM 33 37 38	PG CJ GS PS HS PT
RP5 RP7 NM6 NM9	MT	QR	TH Std.	PH GT Std.
NR6 NRF NRR	RT	PR	TRS TU TUS	PX
NF4	SF	MF	SS	MQ GU
RM5 NM4	ML EM VF	MM QM XM K	SA SF SM S	MS MU SU HU TK ST
RK5 NM5		KM	CM Std.	KG Std. C
RK7		KR		KH GC
NF4 NFT	EA	SGF	HRF	
NMS NMT		NGP SN	HRM SA HMM	MS MU TK
NRS NRT	ET	SR SMR		



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<i>APGT 100308 PDTR ALU UN830</i>	
<i>APGT 1604 PDTR ALU UN830</i>	

APKT	Pg.017
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<i>APKT 100308 PDTR PF UN330</i>	
<i>APKT 100308 PDTR UF UN330</i>	
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<i>APKT 1604 PDTR PT UN330</i>	
<i>APKT 160408 PDTR PT UN330</i>	

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<i>RPMT 10T3 MO PM UN330</i>	
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<i>SEKT 12T3 AGSN PM UN330</i>	

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TPKR	Pg.051
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CUTTERS

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SN0904-FM-50-Z4-22
 SN0904-FM-63-Z6-22
 SN0904-FM-80-Z7-27

SN1206 Pg.068

SN1206-FM-50-Z4-22
 SN1206-FM-63-Z6-22
 SN1206-FM-80-Z7-27

DRILLING

SPMG Pg.073

SPMG 050204 PM UN330
 SPMG 050204 PR UN330
 SPMG 060204 PM UN330
 SPMG 060204 PR UN330
 SPMG 07T308 PM UN330
 SPMG 07T308 PR UN330
 SPMG 090408 PM UN330
 SPMG 090408 PR UN330
 SPMG 110408 PM UN330
 SPMG 110408 PR UN330
 SPMG 140512 PM UN330

WCMX Pg.077

WCMX 030208 PM UN330
 WCMX 040208 PM UN330
 WCMX 050308 PM UN330
 WCMX 06T308 PM UN330
 WCMX 080412 PM UN330



TURNING

CCMT Pg.091

CCMT 060204 PF UN110
 CCMT 09T304 PM UN110
 CCMT 09T304 PM UN6015
 CCMT 09T304 PM UN6025
 CCMT 09T308 PM UN110
 CCMT 09T308 PM UN6015
 CCMT 09T308 PM UN6025
 CCMT 120404 PM UN110
 CCMT 120404 PM UN6025
 CCMT 120408 PM UN110
 CCMT 120408 PM UN6015
 CCMT 120408 PM UN6025
 CCMT 120412 PM UN110
 CCMT 120412 PM UN6025

CNGG Pg.097

CNGG 120402 ALU UN810
 CNGG 120404 ALU UN810
 CNGG 120408 ALU UN810
 CNGG 120412 ALU UN810

CNMA Pg.099

CNMA 120404 UN7015
 CNMA 120408 UN7015
 CNMA 120412 UN7015

CNMG Pg.101

CNMG 120404 MF UN210
 CNMG 120404 PF UN110
 CNMG 120404 PF UN6015
 CNMG 120404 PF UN6025
 CNMG 120404 PM UN110
 CNMG 120404 PM UN6015
 CNMG 120404 PM UN6025
 CNMG 120408 MF UN210
 CNMG 120408 MM UN210
 CNMG 120408 PF UN110
 CNMG 120408 PF UN6015
 CNMG 120408 PF UN6025
 CNMG 120408 PM UN110
 CNMG 120408 PM UN6015
 CNMG 120408 PM UN6025
 CNMG 120408 PR UN6025
 CNMG 120408 PT UN6015
 CNMG 120408 PT UN6025
 CNMG 120412 PM UN6025
 CNMG 120412 PR UN6025
 CNMG 120412 PT UN6015
 CNMG 120412 PT UN6025

DCGT Pg.111

DCGT 11T3005 PP UN110
 DCGT 11T301 PP UN110
 DCGT 11T302 PP UN110
 DCGT 11T304 PP UN110

DCMT Pg.113

DCMT 070204 PF UN110
 DCMT 11T304 PF UN110
 DCMT 11T304 PF UN6015
 DCMT 11T304 PF UN6025
 DCMT 11T308 PF UN110
 DCMT 11T308 PF UN6015
 DCMT 11T308 PF UN6025

DNMG Pg.117

DNMG 150604 PF UN110
 DNMG 150604 PF UN6015
 DNMG 150604 PF UN6025
 DNMG 150608 MF UN210
 DNMG 150608 MM UN210
 DNMG 150608 PF UN6025
 DNMG 150608 PM UN110
 DNMG 150608 PM UN6015
 DNMG 150608 PM UN6025
 DNMG 150608 PT UN6015
 DNMG 150608 PT UN6025
 DNMG 150612 PM UN6025
 DNMG 150612 PT UN6015
 DNMG 150612 PT UN6025

TCMT Pg.123

TCMT 110204 PF UN110
 TCMT 16T304 PF UN110
 TCMT 16T304 PF UN6015
 TCMT 16T304 PF UN6025
 TCMT 16T308 PM UN110
 TCMT 16T308 PM UN6015
 TCMT 16T308 PM UN6025

TNGG Pg.127

TNGG 160404 ALU UN810
 TNGG 160408 ALU UN810

TNMA Pg.129

TNMA 160404 UN7015
 TNMA 160408 UN7015
 TNMA 160412 UN7015

TNMG Pg.131

TNMG 160404 MF UN210
TNMG 160404 PF UN110
TNMG 160404 PF UN6015
TNMG 160404 PF UN6025
TNMG 160404 PM UN110
TNMG 160404 PM UN6015
TNMG 160404 PM UN6025
TNMG 160408 MF UN210
TNMG 160408 MM UN210
TNMG 160408 PF UN110
TNMG 160408 PF UN6015
TNMG 160408 PF UN6025
TNMG 160408 PM UN110
TNMG 160408 PM UN6015
TNMG 160408 PM UN6025
TNMG 160408 PR UN6025
TNMG 160408 PT UN6015
TNMG 160408 PT UN6025
TNMG 160412 PR UN6025
TNMG 160412 PT UN6015
TNMG 160412 PT UN6025

TNUX Pg.141

TNUX 160404 R UN110
TNUX 160404 R UN210
TNUX 160408 R UN110
TNUX 160408 R UN210

VBMT Pg.143

VBMT 160404 PF UN110
VBMT 160404 PF UN6015
VBMT 160404 PF UN6025
VBMT 160408 PM UN110
VBMT 160408 PM UN6015
VBMT 160408 PM UN6025

VCGT Pg.147

VCGT 1103005 PP UN110
VCGT 110301 PP UN110
VCGT 110302 PP UN110
VCGT 110304 PP UN110

VCMT Pg.149

VCMT 160404 PF UN110
VCMT 160404 PF UN6025
VCMT 160408 PM UN110
VCMT 160408 PM UN6025

VNMG Pg.151

VNMG 160404 PF UN6015
VNMG 160404 PF UN6025
VNMG 160408 PM UN6015
VNMG 160408 PM UN6025
VNMG 160408 PT UN6015
VNMG 160412 PT UN6015

WNGG Pg.155

WNGG 080402 ALU UN810
WNGG 080404 ALU UN810
WNGG 080408 ALU UN810

WNMA Pg.157

WNMA 080404 UN7015
WNMA 080408 UN7015
WNMA 080412 UN7015

WNMG Pg.159

WNMG 080404 MF UN210
WNMG 080404 PF UN6015
WNMG 080404 PF UN6025
WNMG 080404 PM UN6015
WNMG 080404 PM UN6025
WNMG 080408 MF UN210
WNMG 080408 MM UN210
WNMG 080408 PF UN110
WNMG 080408 PF UN6015
WNMG 080408 PF UN6025
WNMG 080408 PM UN6015
WNMG 080408 PM UN6025
WNMG 080408 PR UN6025
WNMG 080408 PT UN6015
WNMG 080408 PT UN6025
WNMG 080412 PR UN6025
WNMG 080412 PT UN6015
WNMG 080412 PT UN6025

