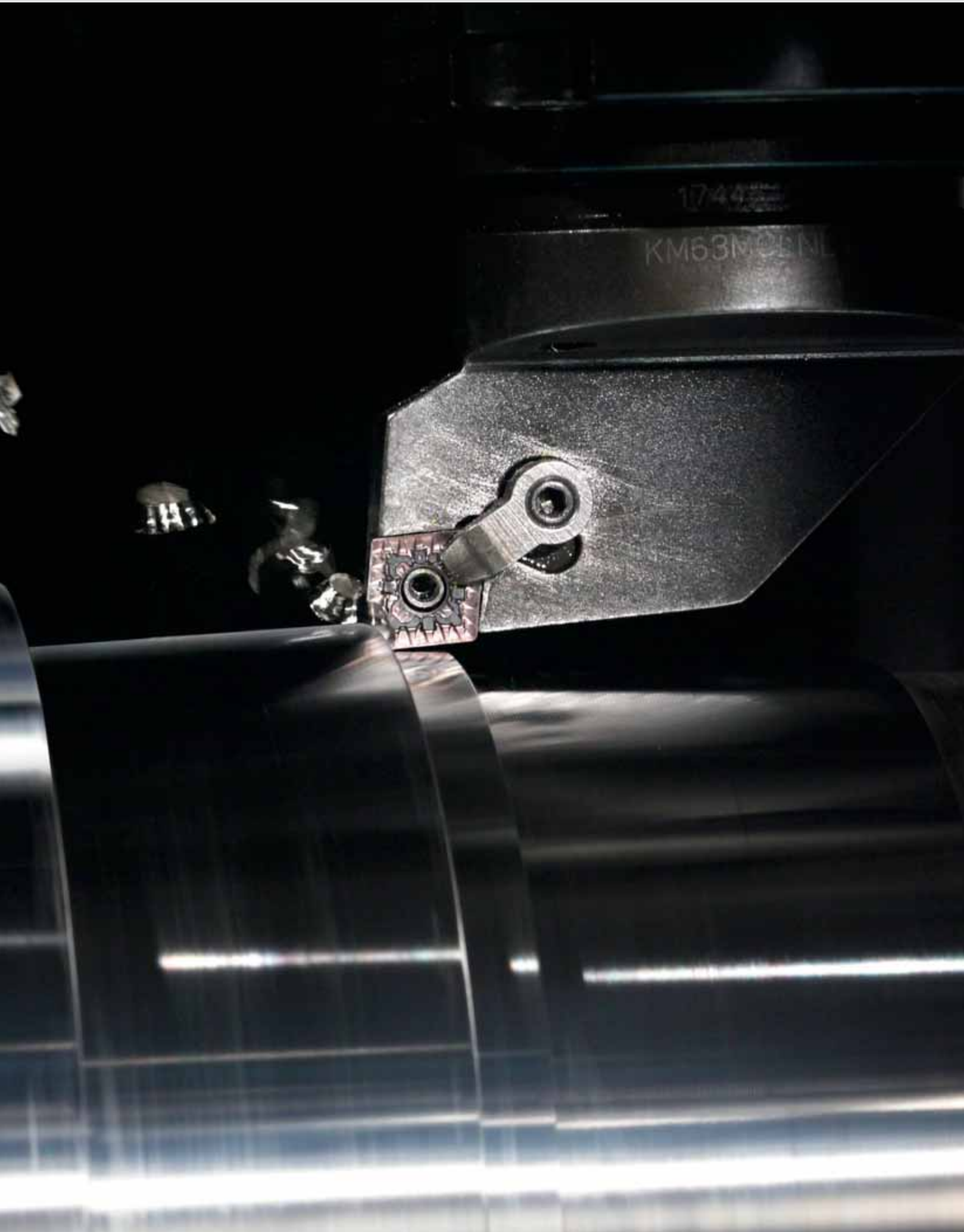
WIDIA™ Victory™ Carbide Inserts
ADVANCES 2015

WIDIA™



ISO/ANSI Inserts

WIDIA™ Victory™ — A Complete High-Performance Turning Portfolio

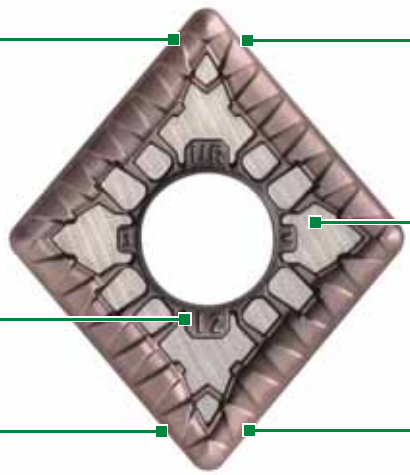
Specifically engineered multilayer coating provides high-speed capability for finishing to roughing operations. New geometries enhance chip control for better tool life and superior surface finshes.

- Market-leading technology.
- Up to 30% longer tool life.
- Higher productivity through increased speed capability.

Victory™

Steel and Stainless Steel Grades
- Reduce cycle times — high speed and feed capability.
- Long tool life — new multilayer coating provides better wear resistance.
- Proven seating — smooth and secure seating surface.
- Outer layer is bronze-colored for easier wear detection.

Post–coat treatment
- Improves edge toughness.
- Long, predictable tool life.
- Reduces depth-of-cut notching.
- Wide range of applications.

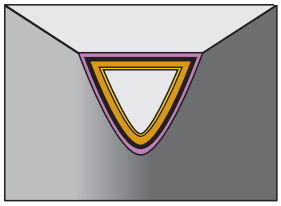


Improved edge toughness
- Provides smooth outer surface to reduce forces, friction, and workpiece sticking.

Post-coat grinding
- Provides secure seating surface.

New geometry identification system

MT-CVD/CVD–TiN-TiCN-Al_2O_3-ZrCN

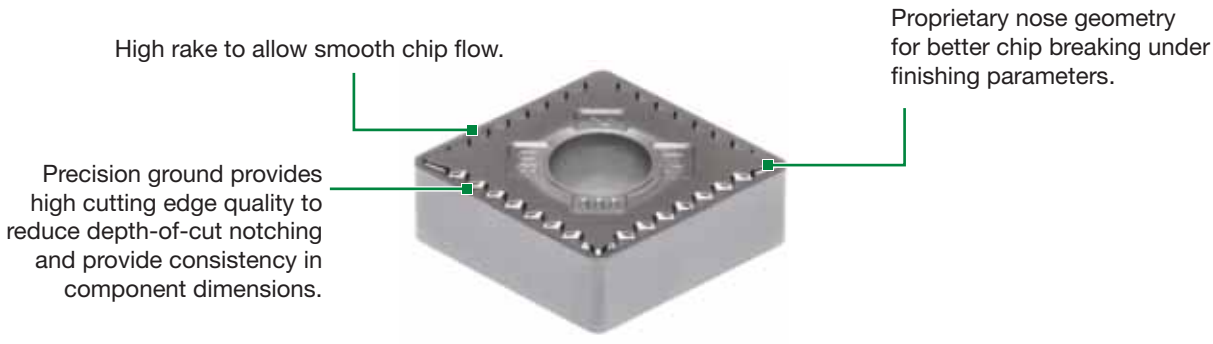


Alpha alumina layer
- Provides coating integrity at elevated speeds.
- Higher productivity and dependability at high cutting temperatures.

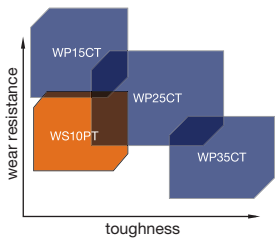
New -FS Geometry

The -FS geometry is designed to offer better tool life and superior surface finishes.

- All inserts are G tolerance inserts. This is a critical feature in some applications, especially the aerospace industry.
- Reduced cycle times — high speed and feed capability.
- Reduced cutting forces — improved dimensional control and reduced deflections.
- New chip forming elements — better chip control.
- Long tool life — new multilayer coating provides better wear resistance.
- Proven seating — smooth and secure seating surface.

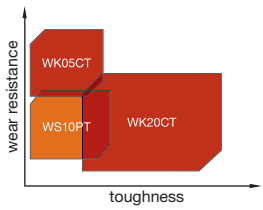


Victory Toughness/Wear Resistance



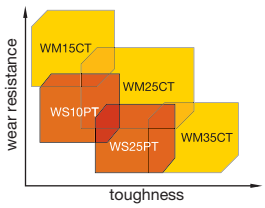
WP Grades for Steel

- Three grades and seven primary geometries for use in roughing to finishing operations.
- Increase cutting speed and/or feed rate to gain productivity.



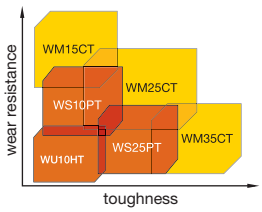
WK Grades for Cast Iron

- Two grades to cover all of your cast iron turning operations.
- Increase cutting speed and/or feed rate by up to 30% over similar competitive grades.



WM Grades for Stainless Steel

- Three grades across 12 geometries for use in roughing to finishing operations.
- Very good balance of wear resistance and toughness for long predictable tool life. Flat top geometry for machining cast iron. For finishing to roughing applications.

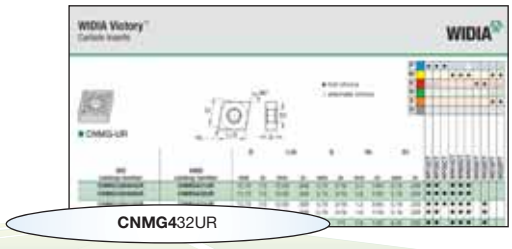


WS Grades for High-Temp Alloys

- Two grades for use in roughing to finishing operations.
- Very good wear resistance for longer tool life.

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



C — Insert Shape

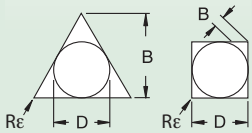
H	Hexagon 120°	
O	Octagon 135°	
P	Pentagon 108°	
R	Round —	
S	Square 90°	
T	Triangular 60°	
C D E M V	Rhomboid 80° 55° 75° 86° 35°	
W	Trigon 80° with enlarged corner angles	
L	Rectangular 90°	
A B N/K	Parallelogram 85° 82° 55°	

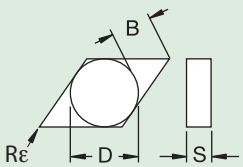
N — Insert Clearance Angle

A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
O	Indicated for other clearance angles requiring descriptions.

M — Tolerance Class

Tolerances apply prior to edge prep and coating





D = Theoretical diameter of the insert inscribed circle
S = Thickness
B = See figures below

tolerance class	tolerance on "D"	tolerance on "B"	tolerance on "S"
C	±.0010"	±.0005"	±.001"
H	±.0005"	±.0005"	±.001"
E	±.0010"	±.0010"	±.001"
G	±.0010"	±.0010"	±.005"
M	See tables on next page		±.005"
U	See tables on next page		±.005"

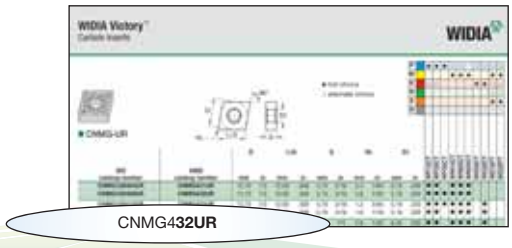
G — Insert Features

N	
R	
F	
A	
M	
G	
W	
T	
Q	
U	
B	
H	
C	
J	
X	Special Design

4 — Size

		Code for inch cutting edge length "L10"						
inch	"D" inch	C	D	R	S	T	V	W
1.2 (5)	5/32	S4	04	03	03	06	—	—
1.5 (6)	3/16	04	05	04	04	08	08	S3
1.8 (7)	7/32	05	06	05	05	09	09	03
—	.236	—	—	06	—	—	—	—
2	1/4	06	07	06	06	11	11	04
2.5	5/16	08	09	07	07	13	13	05
—	.315	—	—	08	—	—	—	—
3	3/8	09	11	09	09	16	16	06
—	.394	—	—	10	—	—	—	—
3.5	7/16	11	13	11	11	19	19	07
—	.472	—	—	12	—	—	—	—
4	1/2	12	15	12	12	22	22	08
4.5	9/16	14	17	14	14	24	24	09
5	5/8	16	19	15	15	27	27	10
—	.630	—	—	16	—	—	—	—
5.5	11/16	17	21	17	17	30	30	11
6	3/4	19	23	19	19	33	33	13
—	.787	—	—	20	—	—	—	—
7	7/8	22	27	22	22	38	38	15
—	.984	—	—	25	—	—	—	—
8	1	25	31	25	25	44	44	17
10	1-1/4	32	38	31	31	54	54	21
—	1.260	—	—	32	—	—	—	—

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



3	2			UR
Thickness S	Corner Radius "Rε"	Hand of Insert (optional)	Cutting Edge (optional)	Chipbreaker (optional)

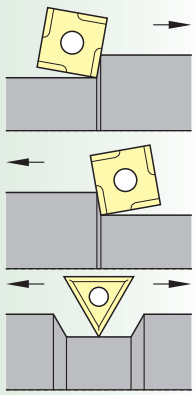
symbol	thickness
inch	inch
.5 (1)	1/32
.6	.040
1 (2)	1/16
1.2	5.64
1.5	3/32
2	1/8
2.5	5/32
3	3/16
3.5	7/32
4	1/4
5	5/16
6	3/8
7	7/16
18	1/2

symbol	corner radius
inch	inch
X0	.0015
0	.004
.5	.008
1	1/64
2	1/32
3	3/64
4	1/16
5	5/64
6	3/32
7	7/64
8	1/8
—	round insert
—	

R = Right hand

L = Left hand

N = Neutral



F Sharp

E Rounded

T Chamfered

S Chamfered and Rounded

K Double-Chamfered

P Double-Chamfered and Rounded

13 = Railroad Light

CT = Copy Turning

FF = Fine Finishing

FP = Finish Positive

FW = Finish Wiper

ML = Medium Light

MR = Medium Roughing

MW = Medium Wiper

RH = Roughing Heavy

T = Negative Land

UF = Universal Finishing

UM = Universal Medium

UR = Universal Roughing

.NMP = Sharp Medium

MP = Medium Positive

FS = Finishing High-Temp(S)

MS = Medium High-Temp(S)

MU = Medium Universal

SR = Super Roughing

65 = Heavy Roughing

	± Tolerance on "D"					± Tolerance on "B"			
	Class M Tolerance		Class U Tolerance			Class M Tolerance		Class U Tolerance	
"D"	Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C	"D"	Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C
inch	inch	inch	inch	inch	inch	inch	inch	inch	inch
5/32	.002	–	–	–	5/32	.003	–	–	–
3/16	.002	–	–	.003	3/16	.003	–	–	.005
7/32	.002	.002	.002	.003	7/32	.003	.004	–	.005
1/4	.002	.002	.002	.003	1/4	.003	.004	–	.005
5/16	.002	.002	.002	.003	5/16	.003	.004	–	.005
3/8	.002	.002	.002	.003	3/8	.003	.004	.007	.005
7/16	.003	.003	.003	.005	7/16	.005	.006	–	–
1/2	.003	.003	.003	.005	1/2	.005	.006	.010	.008
9/16	.003	.003	.003	.005	9/16	.005	.006	–	–
5/8	.004	.004	.004	.007	5/8	.006	.007	–	.011
11/16	.004	.004	.004	.007	11/16	.006	.007	–	.011
3/4	.004	.004	.004	.007	3/4	.006	.007	–	.011
7/8	.005	–	–	.010	7/8	.006	–	–	.015
1	.005	–	–	.010	1	.007	–	–	.015
1 1/4	.006	–	–	.010	1 1/4	.008	–	–	.015

A system of grades, geometries, and application guidelines to provide optimal solutions for your metalcutting needs. It's easy to determine which WIDIA™ chip-control cutting tool will work best in your specific workpiece materials and applications!

W — Brand

P — Primary Workpiece Material

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials
U	Universal Machining

15 — Application Range*

05	=	fine finishing
10	=	finishing
15	=	medium to roughing
20	=	
25	=	
30	=	roughing
35	=	
40	=	heaviest roughing
45	=	
50	=	

*Samples shown are based on turning and will differ within applications

C — Insert Material

H	=	Carbide (blank)
C	=	Carbide + CVD
P	=	Carbide + PVD
T	=	Cermet
Y	=	Ceramics
D	=	Diamond
B	=	PCBN
S	=	HSS
E	=	HSS-E
M	=	HSS-E-PM

T — Application

T	=	Turning
M	=	Milling
H	=	Holemaking
D	=	Solid Drills
E	=	Solid End Mills
G	=	Taps
R	=	Reamer
V	=	Thread Mills

Positive Inserts

Positive Style Inserts

- Screw-On inserts are your first choice for I.D. turning of all materials and O.D. turning on small to medium lathes.
- Suitable for all workpiece materials.

Negative Inserts

Negative Style Inserts

- Negative style inserts are your first choice for general machining of all materials on medium to large lathes.
- Negative style inserts offer the best economy for high metal removal rates.
- Available in flat-top and chip-control geometries with both molded and ground peripheries.
- Suitable for all workpiece materials

Insert Selection System

How to Use

WIDIA's three-step insert selection system makes choosing and applying the most productive tool as easy as 1, 2, 3.
Tool recommendations are based on six workpiece material groups, optimizing selection accuracy.

Example:
Six workpiece material groups

■ Step 1 • Select the insert geometry

Given: depths of cut = 1mm (.040")
feed = 4mm (.016 ipr)
Unknown: insert geometry
Solution: -RH

■ Step 2 • Select the grade

Given: cutting conditions:
lightly interrupted cut
Geometry: -RH
Unknown: grade
Solution: WP25CT

■ Step 3 • Select the cutting speed

Given: grade WP35CT
cutting conditions
material CK15
Unknown: cutting speed
Solution: 210 m/min

Need help in selecting a product?
Additional information can be obtained by contacting
WIDIA's Customer Application Support Team.
Go to www.widia.com for your country's phone number.

Step 1 • Select the insert geometry

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Negative Inserts

-RH -UR

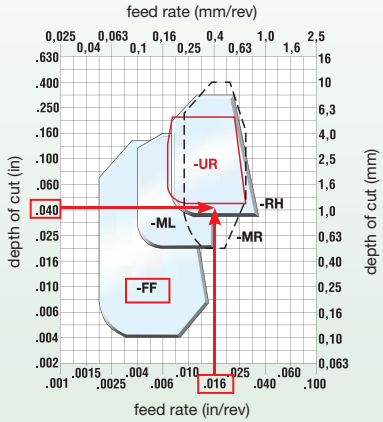
Roughing

-ML -MR

Medium Machining

-FF

Finishing



Step 2 • Select the grade

cutting condition		Negative Insert Geometry -FF	-ML	-MR	-UR	-RH	Positive Insert Geometry -FP	-MU	-MP
heavily interrupted cut		WP15CT	WP25CT	WP35CT/ WP25CT	WP35CT	WP35CT	WP25CT/ WS25PT	WP35CT	WM35CT
lightly interrupted cut		WP15CT	WP25CT	WP25CT	WP35CT	WP35CT	WP25CT	WP25CT	WP25CT
varying depth of cut, casting, or forging skin		WP15CT	WP15CT	WP15CT	WP25CT	WP25CT	WP15CT	WP15CT	WP15CT
smooth cut, pre-turned surface		WP15CT	WP15CT	WP15CT	WP25CT	WP25CT	WP15CT	WP15CT	WP15CT

Step 3 • Selecting the cutting speed

Low-Carbon (<0.3% C) and Free-Machining Steel — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	135 (450)	180 (600)	225 (800)	275 (900)	320 (1050)	360 (1200)	410 (1350)	455 (1500)	495 (1650)	m/min	SFM
P0/P1	WP15CT							◁▷			395	1320
	WP25CT				◁▷						275	925
	WP35CT			◆							210	700
	WS10PT			◁▷							280	925

WIDIA Material Group Selection Guide:

To optimize speed recommendations, material subgroups have been added to each of the six workpiece material groups.

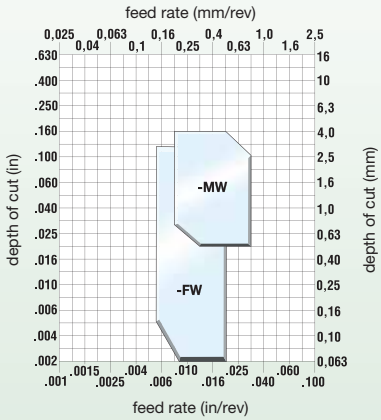
material	material group ISO code	number of material subgroups
steel	P	1–6
stainless steel	M	1–3
cast iron	K	1–3
non-ferrous materials	N	1–8
high-temp alloys	S	1–4
hardened materials	H	1

Step 1 • Select the insert geometry

Negative Wiper Inserts

-MW
Medium Wiper

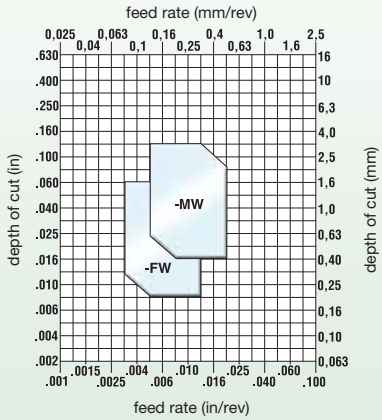
-FW
Finishing Wiper



Positive Wiper Inserts

-MW
Medium Wiper

-FW
Finishing Wiper



Step 2 • Select the grade

cutting condition		Negative Insert Geometry -FW	Negative Insert Geometry -MW	Positive Insert Geometry -FW	Positive Insert Geometry -MW
heavily interrupted cut		–	–	–	WP25CT
lightly interrupted cutw		WP15CT	WP25CT	WP15CT	WP25CT
varying depth of cut, casting, or forging skin		WP15CT	WP15CT	WP15CT	WP15CT
smooth cut, pre-turned surface		WP15CT	WP15CT	WP15CT	–

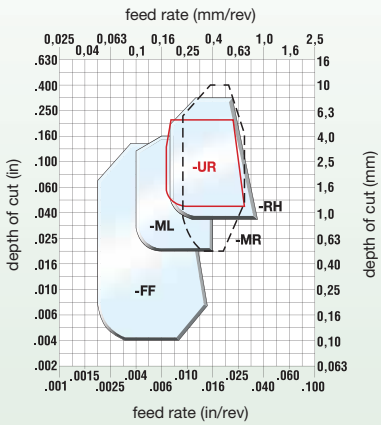
Step 1 • Select the insert geometry

Negative Inserts

-RH -UR
Roughing

-ML -MR
Medium Machining

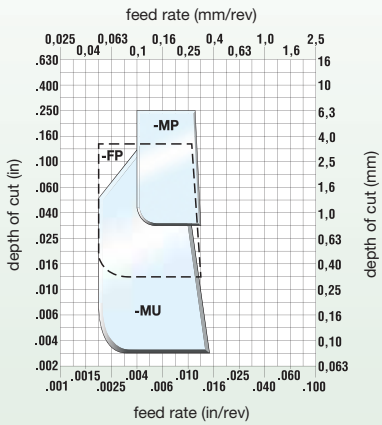
-FF
Finishing



Positive Inserts

-MP -MU
Medium Machining

-FP
Finishing



(continued)

Step 2 • Select the grade *(continued)*

cutting condition		Negative Insert Geometry -FF	-ML	-MR	-UR	-RH	Positive Insert Geometry -FP	-MU	-MP
heavily interrupted cut		WP15CT	WP25CT	WP35CT/ WP25CT	WP35CT	WP35CT	WP25CT/ WS25PT	WP35CT	WM35CT
lightly interrupted cut		WP15CT	WP25CT	WP25CT	WP35CT	WP35CT	WP25CT	WP25CT	WP25CT
varying depth of cut, casting, or forging skin		WP15CT	WP15CT	WP15CT	WP25CT	WP25CT	WP15CT	WP15CT	WP15CT
smooth cut, pre-turned surface		WP15CT	WP15CT	WP15CT	WP25CT	WP25CT	WP15CT	WP15CT	WP15CT

Step 3 • Select the cutting speed

Low-Carbon (<0.3% C) and Free-Machining Steel — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	135 (450)	180 (600)	225 (800)	275 (900)	320 (1050)	360 (1200)	410 (1350)	455 (1500)	495 (1650)	m/min	SFM
P0/P1	WP15CT							◁▷			395	1320
	WP25CT				◁▷						275	925
	WP35CT		◁▷								210	700
	WS10PT			◁▷							280	925

Medium- and High-Carbon Steels (>0.3% C) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	135 (450)	180 (600)	225 (800)	275 (900)	320 (1050)	360 (1200)	410 (1350)	455 (1500)	495 (1650)	m/min	SFM
P2	WP15CT			◁▷							265	880
	WP25CT		◁▷								195	650
	WP35CT	◁▷									150	500
	WS10PT		◁▷								200	650

Alloy Steels and Tool Steels (≤330 HB) (≤35 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	135 (450)	180 (600)	225 (800)	275 (900)	320 (1050)	360 (1200)	410 (1350)	455 (1500)	495 (1650)	m/min	SFM
P3	WP15CT		◁▷								190	630
	WP25CT		◁▷								155	510
	WP35CT	◁▷									120	400
	WS10PT		◁▷								155	510

Alloy Steels and Tool Steels (340–450 HB) (36–48 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	60 (200)	90 (300)	120 (400)	150 (500)	180 (600)	210 (700)	240 (800)	270 (900)	300 (1000)	m/min	SFM
P4	WP15CT				◁▷						145	480
	WP25CT			◁▷							105	360
	WP35CT			◁▷							95	325
	WS10PT			◁▷							110	360

Ferritic, Martensitic, and PH Stainless Steels (≤330 HB) (≤35 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	120 (400)	150 (500)	180 (600)	210 (700)	240 (800)	270 (900)	300 (1000)	330 (1100)	360 (1200)	m/min	SFM
P5	WP15CT				◁▷						215	720
	WP25CT				◁▷						195	650
	WP35CT		◁▷								135	450
	WS10PT				◁▷						200	660

Ferritic, Martensitic, and PH Stainless Steels (340–450 HB) (36–48 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

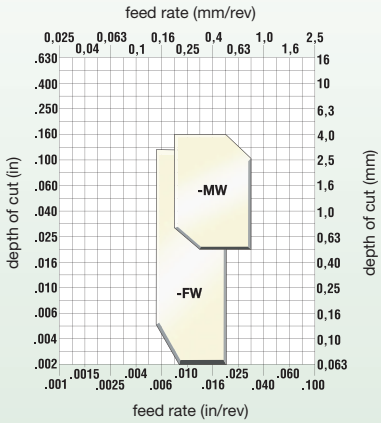
material group	grade	105 (350)	135 (450)	165 (550)	195 (650)	225 (750)	255 (850)	285 (950)	315 (1050)	345 (1150)	m/min	SFM
P6	WP15CT			◁▷							180	600
	WP25CT			◁▷							150	500
	WP35CT	◁▷									105	350
	WS10PT			◁▷							150	500

Step 1 • Select the insert geometry

Negative Wiper Inserts

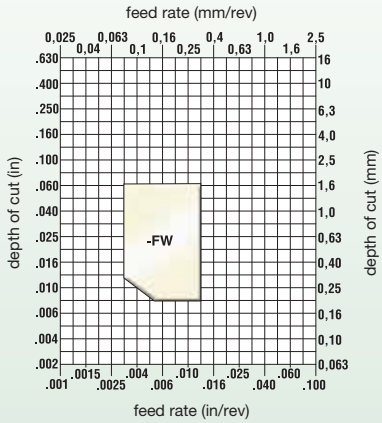
-MW
Medium Wiper

-FW
Finishing Wiper



Positive Wiper Inserts

-FW
Finishing Wiper



Step 2 • Select the grade

cutting condition		Negative Insert Geometry -FW	Negative Insert Geometry -MW	Positive Insert Geometry -FW
heavily interrupted cut		–	–	–
lightly interrupted cut		WM15CT	WM25CT	WM15CT
varying depth of cut, casting, or forging skin		WM15CT	WM25CT	WM15CT
smooth cut, pre-turned surface		WM15CT	WM25CT	WM15CT

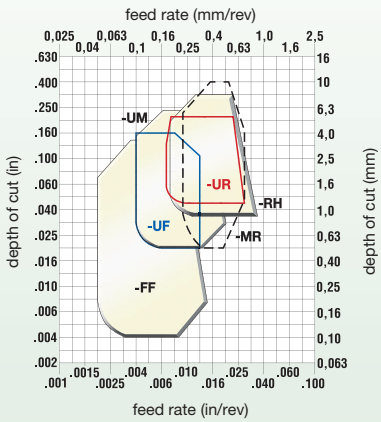
Step 1 • Select the insert geometry

Negative Inserts

-RH -UR
Roughing

-MR -UM
Medium Machining

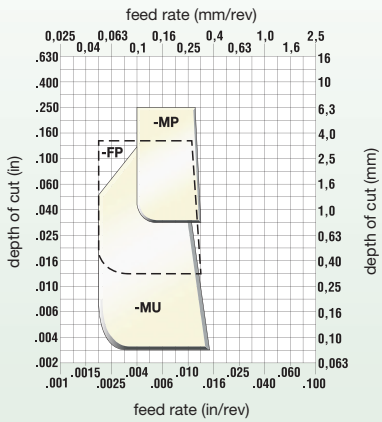
-UF -FF
Finishing



Positive Inserts

-MP -MU
Medium Machining

-FP
Finishing



(continued)

Step 2 • Select the grade *(continued)*

cutting condition	Negative Insert Geometry -FF	-UF	-MR	-UM	-RH	-UR
heavily interrupted cut	WS10PT	WM15CT	WM35CT	WM35CT	–	WM35CT
lightly interrupted cut	WS10PT	WM15CT	WM25CT	WM25CT	WM35CT	WM35CT/ WM25CT
varying depth of cut, casting, or forging skin	WM15CT	WM15CT/ WS10PT	WM15CT	WM15CT	WM35CT	WM25CT
smooth cut, pre-turned surface	WM15CT	WM15CT	WM15CT	WM15CT	–	WM15CT

cutting condition	Positive Insert Geometry -FP	-MU	-MP
heavily interrupted cut	WM25CT	WM35CT/ WS25PT	WM25CT
lightly interrupted cut	WM25CT	WM25CT/ WS10PT	WM25CT
varying depth of cut, casting, or forging skin	WM25CT/ WM15CT	WM25CT	WM25CT/ WM15CT
smooth cut, pre-turned surface	WM15CT	WM25CT	WM15CT

Step 3 • Select the cutting speed

Austenitic Stainless Steel — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	90 (300)	135 (450)	180 (600)	225 (800)	270 (900)	315 (1050)	200 (650)	360 (1200)	405 (1350)	450 (1500)	m/min	SFM
M1	WM15CT			◁▷								180	600
	WM25CT			◁▷								150	500
	WM35CT		◁▷									120	400
	WS10PT				◁▷							215	700
	WS25PT			◁▷								180	550

Austenitic Stainless Steel — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	90 (300)	135 (450)	180 (600)	225 (800)	270 (900)	315 (1050)	200 (650)	360 (1200)	405 (1350)	450 (1500)	m/min	SFM
M2	WM15CT			◁▷								165	550
	WM25CT		◁▷									140	450
	WM35CT											105	350
	WS10PT			◁▷								200	650
	WS25PT			◁▷								165	500

Austenitic Stainless Steel: Duplex (Ferritic and Austenitic Mixture) — speed — m/min (SFM) — Starting Conditions ◁▷

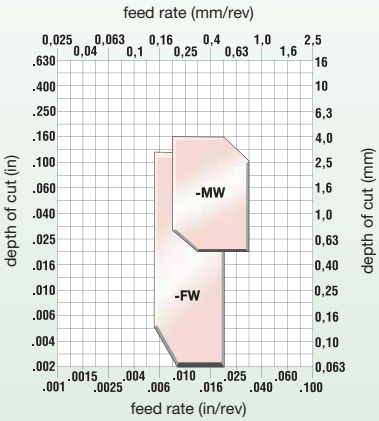
material group	grade	90 (300)	135 (450)	180 (600)	225 (800)	270 (900)	315 (1050)	200 (650)	360 (1200)	405 (1350)	450 (1500)	m/min	SFM
M3	WM15CT		◁▷									150	500
	WM25CT		◁▷									120	400
	WM35CT	◁▷										90	300
	WS10PT			◁▷								185	600
	WS25PT		◁▷									150	450

Step 1 • Select the insert geometry

Negative Wiper Inserts

-MW
Medium Wiper

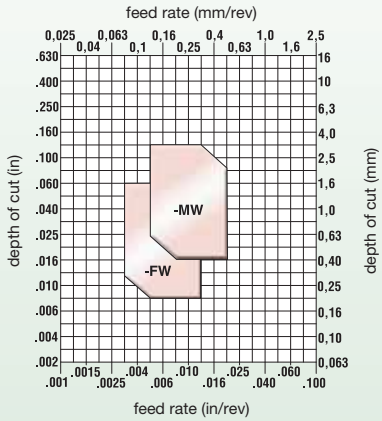
-FW
Finishing Wiper



Positive Wiper Inserts

-MW
Medium Wiper

-FW
Finishing Wiper



Step 2 • Select the grade

cutting condition	Negative Insert Geometry -FW	Negative Insert Geometry -MW	Positive Insert Geometry -FW	Positive Insert Geometry -MW
heavily interrupted cut	–	–	–	–
lightly interrupted cut	WK05CT	WK05CT	WK05CT	WK05CT
varying depth of cut, casting, or forging skin	WK05CT	WK05CT	WK05CT	WK05CT
smooth cut, pre-turned surface	WK05CT	WK05CT	WK05CT	WK05CT

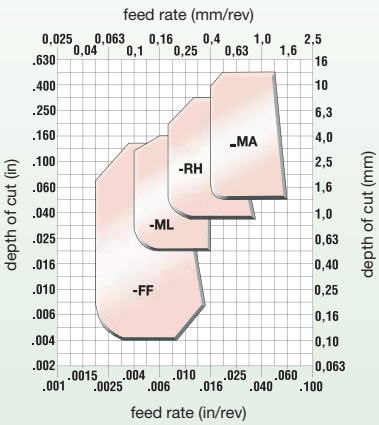
Step 1 • Select the insert geometry

Negative Inserts

-RH ..MA
Roughing

-ML
Medium Machining

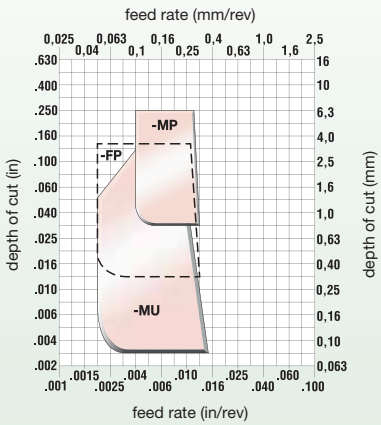
-FF
Finishing



Positive Inserts

-MP -MU
Medium Machining

-FP
Finishing



(continued)

Step 2 • Select the grade *(continued)*

cutting condition		Negative Insert Geometry -FF	-ML	-UR	-MA	Positive Insert Geometry -FP	-MU	-MP
heavily interrupted cut		WK20CT	WK20CT	WK20CT	WK20CT	WK20CT	WK20CT	WK20CT
lightly interrupted cut		WK20CT	WK20CT	WK20CT	WK20CT	WK20CT	WK20CT	WK20CT
varying depth of cut, casting, or forging skin		WK20CT	WK05CT	WK20CT	WK05CT	WK20CT	WK20CT	WK20CT
smooth cut, pre-turned surface		WK20CT	WK05CT	–	WK05CT	WK20CT	WK20CT/ WK05CT	WK20CT

Step 3 • Select the cutting speed

Gray Cast Iron — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	60 (200)	180 (600)	305 (1000)	430 (1400)	550 (1800)	675 (2200)	800 (2600)	920 (3000)	1040 (3400)	1160 (3800)	m/min	SFM
K1	WK05CT				◁▷							450	1500
	WK20CT			◁▷								300	1000

Ductile, Compacted Graphite, and Malleable Cast Irons (<600 MPa tensile strength) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	90 (300)	135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	460 (1500)	500 (1650)	m/min	SFM
K2	WS10PT				◁▷							200	650
	WK05CT						◁▷					360	1200
	WK20CT				◁▷							240	800

Ductile, Malleable, and Austempered Cast Irons (>600 MPa tensile strength) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	90 (300)	135 (450)	180 (600)	225 (750)	275 (900)	320 (1050)	360 (1200)	410 (1350)	460 (1500)	500 (1650)	m/min	SFM
K3	WS10PT			◁▷								150	500
	WK05CT				◁▷							240	800
	WK20CT			◁▷								210	700

Step 1 • Select the insert geometry

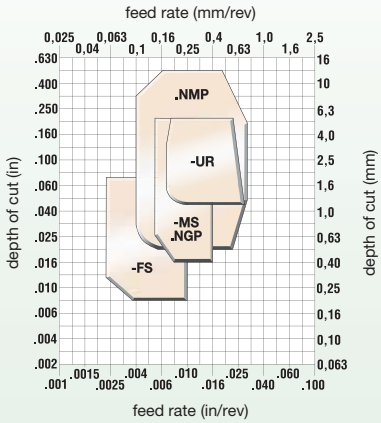
Negative Inserts

-UR
Roughing

-MS .NMP

.NGP
Medium Machining

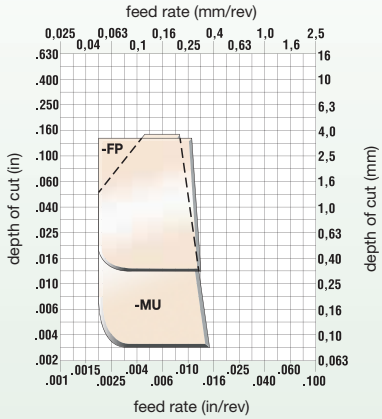
-FS
Finishing



Positive Inserts

-MP
Medium Machining

-FP
Finishing



NOTE: -MS geometry available early 2015.

Step 2 • Select the grade

		Negative Insert Geometry				Positive Insert Geometry	
cutting condition		**-FS**	**-NGP/-NMP**	**-MS**	**-UR**	**-FP**	**-MU**
heavily interrupted cut		**WS25PT**	**WS25PT**	**WS25PT**	**WS25PT/ WM35CT**	**WS25PT**	**WS25PT**
lightly interrupted cut		**WS10PT**	**WS10PT**	**WS25PT**	**WS25PT/ WM25CT**	**WS25PT**	**WS25PT**
varying depth of cut, casting, or forging skin		**WS10PT**	**WS10PT**	**WS10PT**	**WS25PT**	**WS10PT**	**WS10PT**
smooth cut, pre-turned surface		**WS10PT/ WU10HT**	**WS10PT/ WU10HT**	**WS10PT**	**WS10PT**	**WS10PT**	**WS10PT**

Step 3 • Select the cutting speed

Iron-Based, Heat-Resistant Alloys (135–320 HB) (≤34 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	15 (50)	45 (150)	75 (250)	105 (350)	140 (450)	170 (550)	200 (650)	230 (750)	290 (950)	310 (1050)	m/min	SFM
S1	WU10HT		◁▷									30	100
	WS10PT			◁▷								55	180
	WS25PT		◁▷									40	125
	WM15CT			◁▷								55	180
	WM25CT/WM35CT		◁▷									40	125

Cobalt-Based, Heat-Resistant Alloys (150–425 HB) (≤45 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	15 (50)	45 (150)	75 (250)	105 (350)	140 (450)	170 (550)	200 (650)	230 (750)	290 (950)	310 (1050)	m/min	SFM
S2	WU10HT		◁▷									35	110
	WS10PT			◁▷								60	195
	WS25PT		◁▷									30	100
	WM15CT			◁▷								60	195
	WM25CT/WM35CT		◁▷									30	100

Nickel-Based, Heat-Resistant Alloys (140–475 HB) (≤48 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

material group	grade	15 (50)	45 (150)	75 (250)	105 (350)	140 (450)	170 (550)	200 (650)	230 (750)	290 (950)	310 (1050)	m/min	SFM
S3	WU10HT		◁▷									40	125
	WS10PT			◁▷								70	225
	WS25PT		◁▷									40	125
	WM15CT			◁▷								70	225
	WM25CT/WM35CT		◁▷									40	125

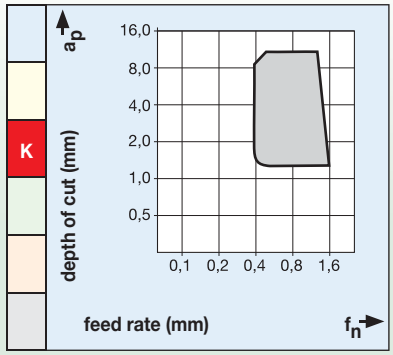
Titanium and Titanium Alloys (110–450 HB) (≤48 HRC) — speed — m/min (SFM) — Starting Conditions ◁▷

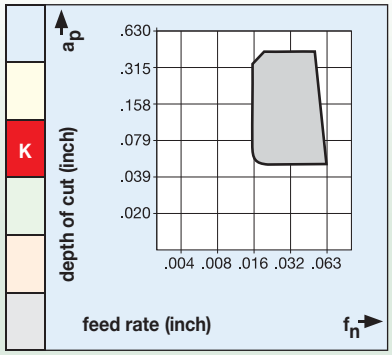
material group	grade	15 (50)	45 (150)	75 (250)	105 (350)	140 (450)	170 (550)	200 (650)	230 (750)	290 (950)	310 (1050)	m/min	SFM
S4	WU10HT		◁▷									45	150
	WM15CT			◁▷								70	225
	WM25CT/WM35CT		◁▷									55	175

Negative Inserts

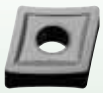
..MA

Flat top geometry for machining cast iron. For finishing to roughing applications.

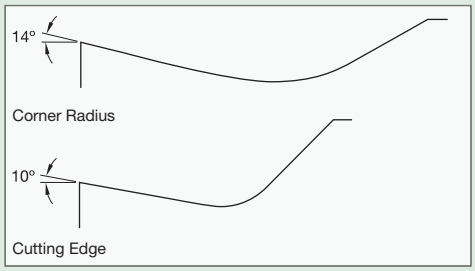


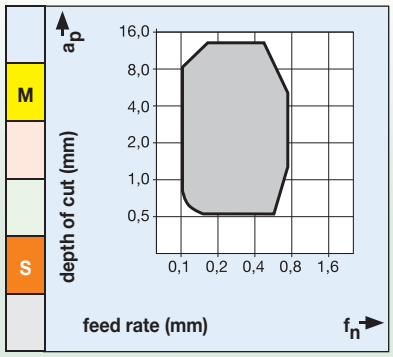


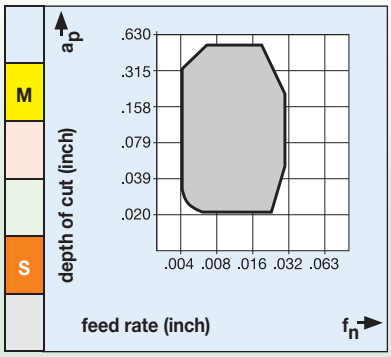
.NMP



For medium-duty machining of tough work materials, such as chrome- and nickel-based alloys. Minimizes tendency for materials to adhere to insert.

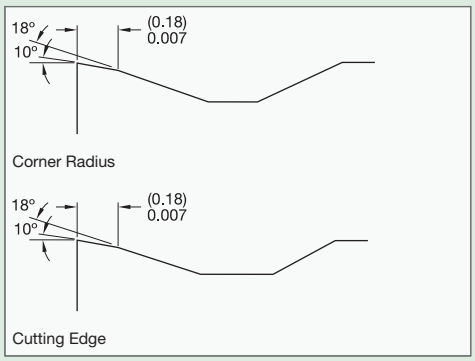


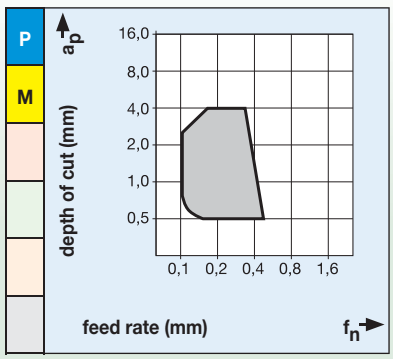


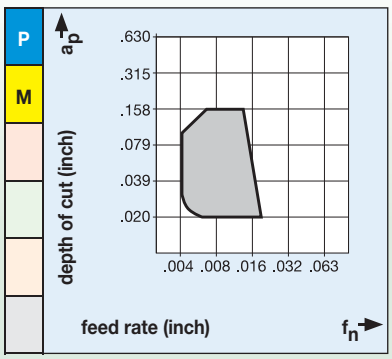


4

Semi-finishing geometry for light- to medium-duty steel machining. Reduced back forces result from adjusted inclination angle. Well-suited for positive, vibration-prone parts.





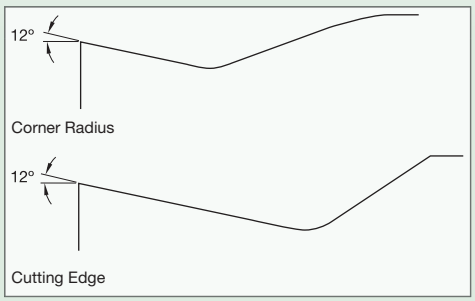


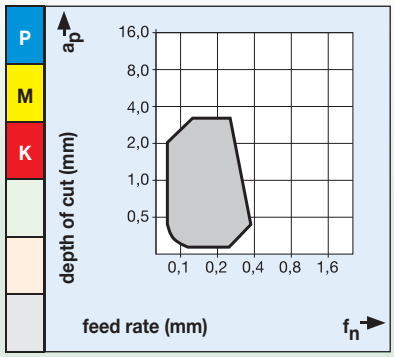
(continued)

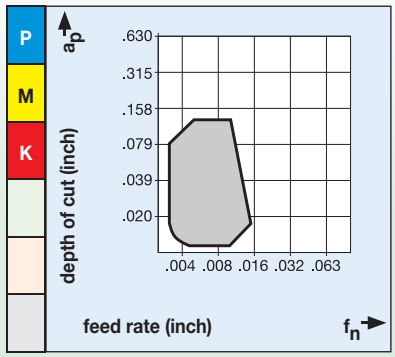
Negative Inserts *(continued)*

22

For finish turning, producing smooth, accurate surfaces. Very good chip control, especially at low depths of cut.

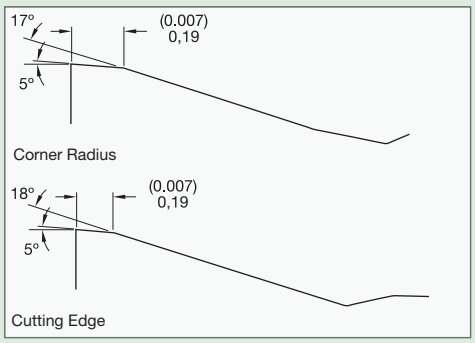


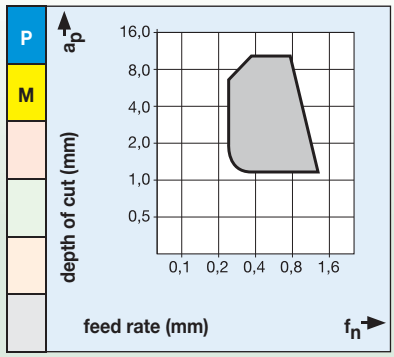


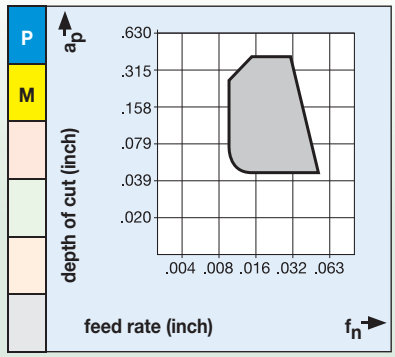


65

Rough-turning geometry with chip control extending to the medium-duty range. Positive rake angle lowers cutting forces, reducing power requirements. Used on low-tensile and stainless steels.

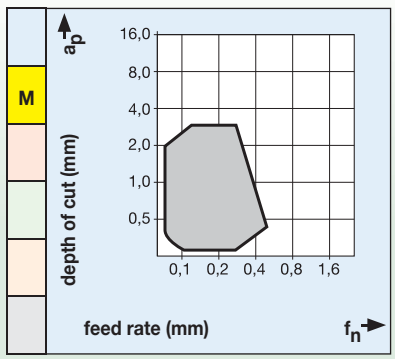


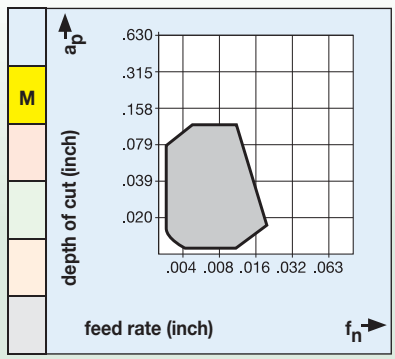




CT

Designed for outward copy turning. Where other geometries produce long chips, the unique distribution of the cut results in good chip control.



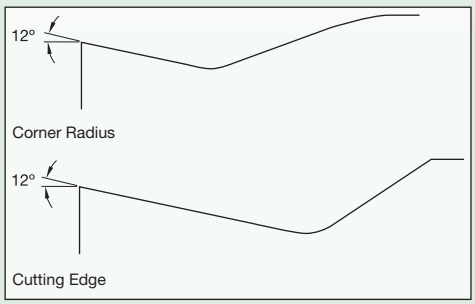


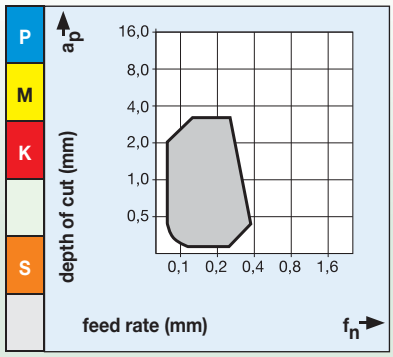
(continued)

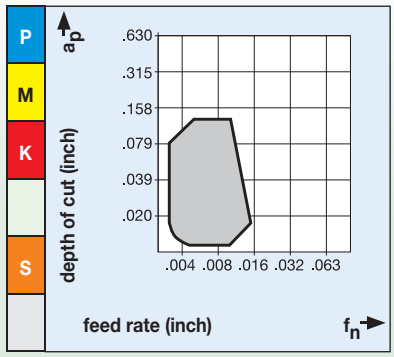
Negative Inserts *(continued)*

FF

For finish turning, producing smooth, accurate surfaces. Very good chip control, especially at low depths of cut.

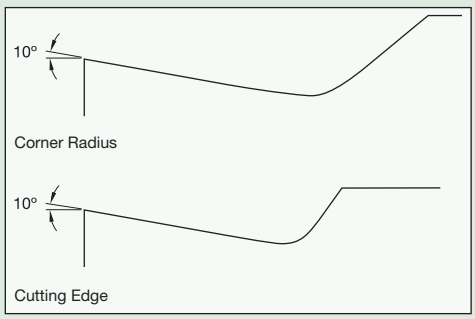


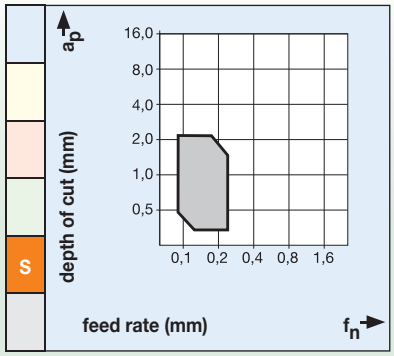


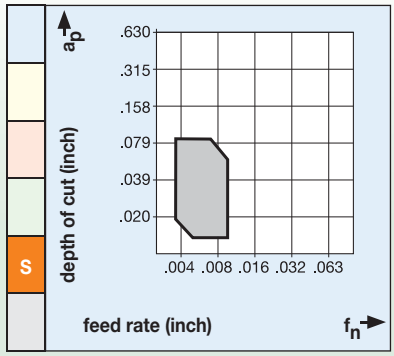


FS

For finishing applications. Ground periphery with positive cutting edge ideally suited for high-temp alloys. Micro finished edge on the ground periphery adds just a slight hone for improved edge integrity and reliability.

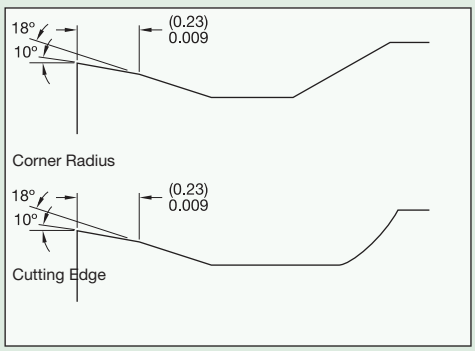


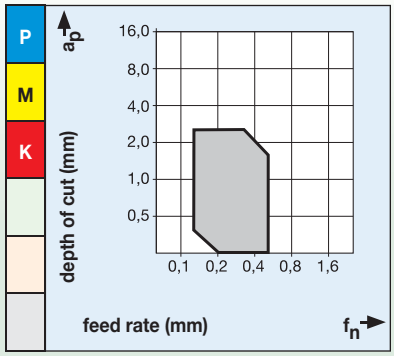


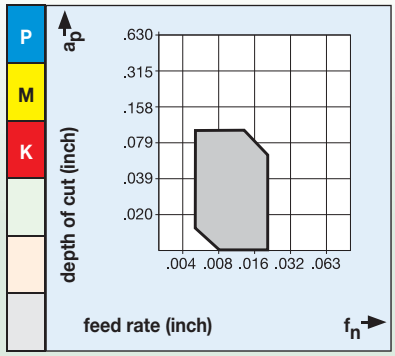


FW

Wiper geometry for finishing when good surface finish is needed using high feed rates. First choice for high-performance finishing.



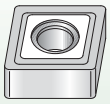




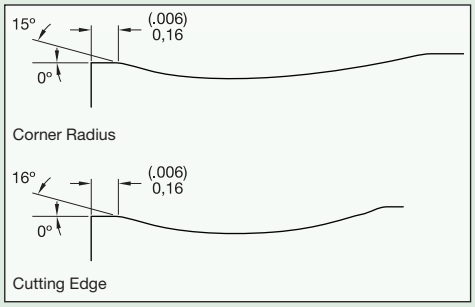
(continued)

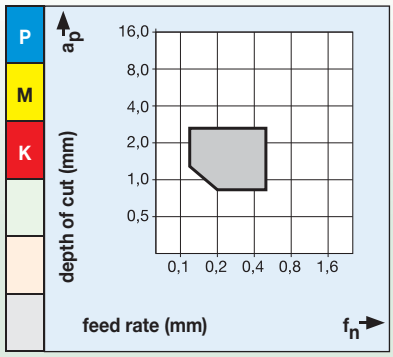
Negative Inserts *(continued)*

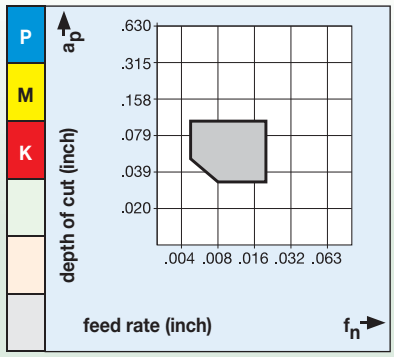
MG



For light machining to light roughing.

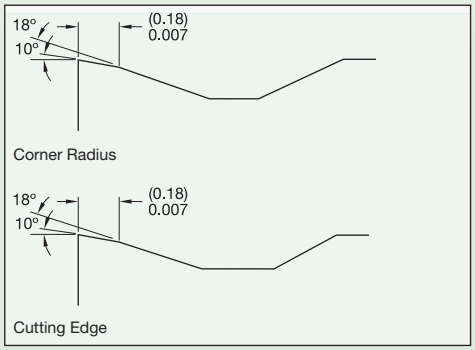


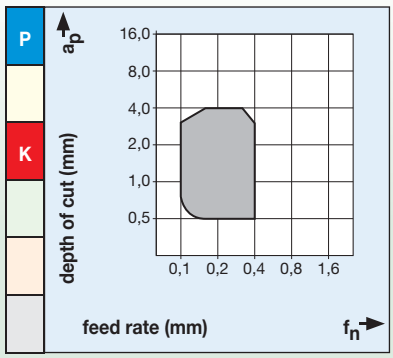


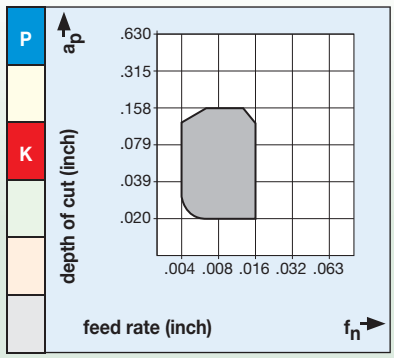


ML

For finishing to medium machining with a negative, stable cutting edge.

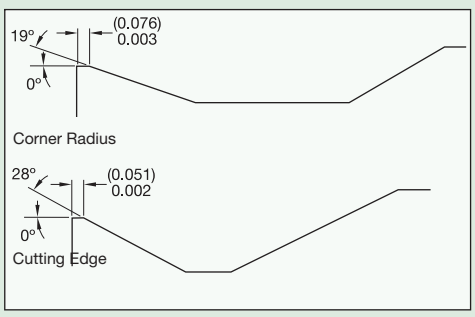


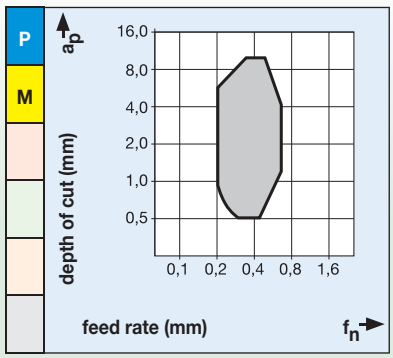


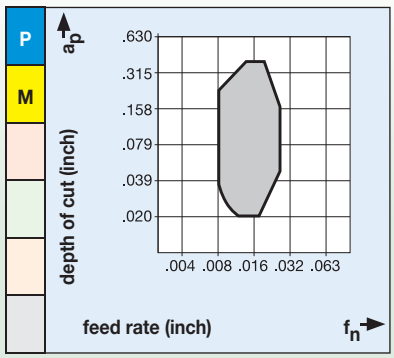


MR

For medium to light roughing of steels, difficult-to-machine high-alloy titanium, and aluminum materials. High strength to deal with heavy chip deformation.



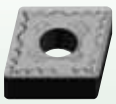




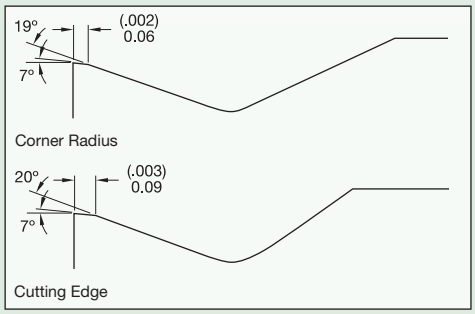
(continued)

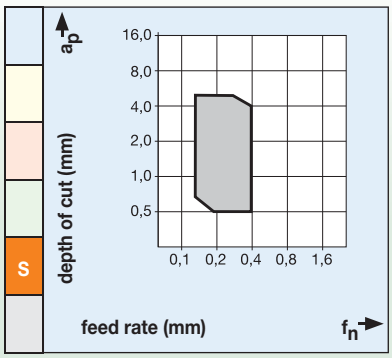
Negative Inserts *(continued)*

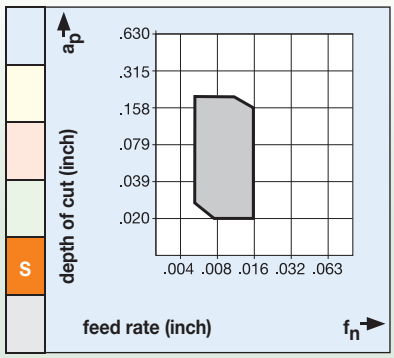
MS



For medium machining in high-temp materials. Utilizes a micro-finished edge preparation to increase edge toughness.

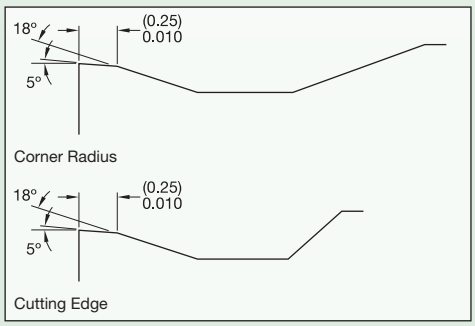


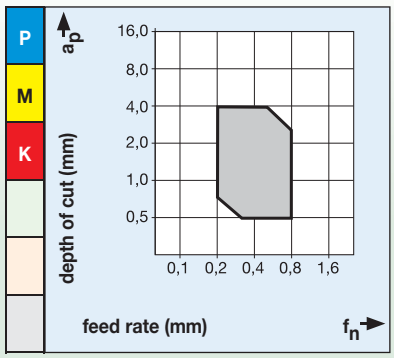


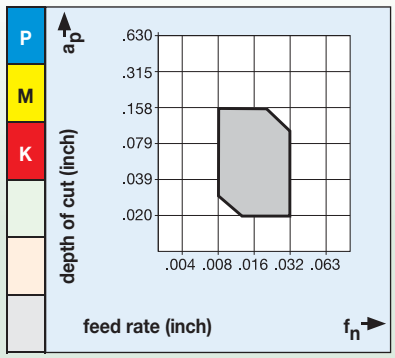


MW

Wiper geometry for light to medium turning with high feed rates. Feed twice as high as with edges with full corner radii to produce same surface finish.

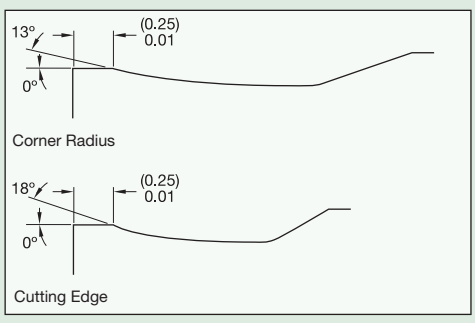


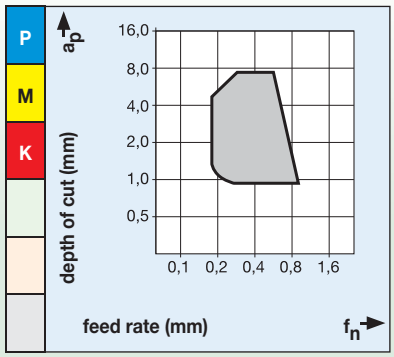


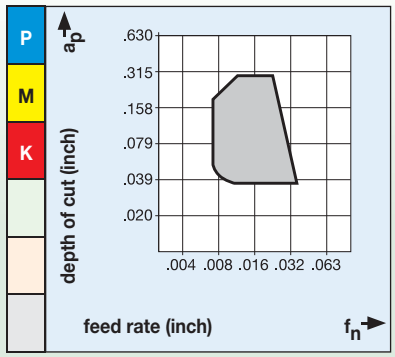


RH

For medium-duty to roughing. Outstanding chip control. High edge strength for interrupted cuts, forging skin, or scale. Preferred for all cast iron, such as gray, malleable, and nodular.





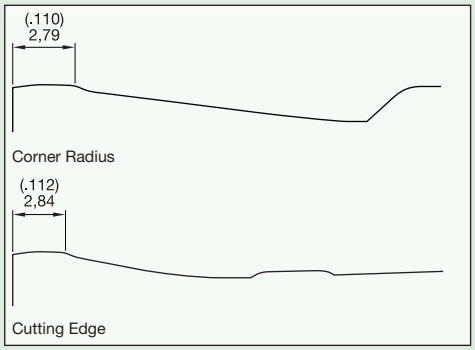


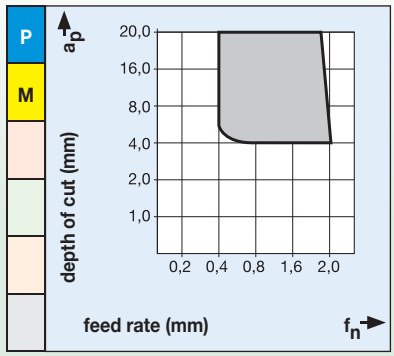
(continued)

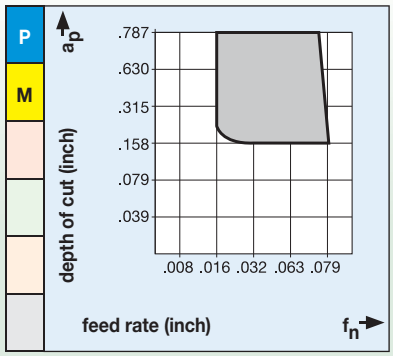
Negative Inserts *(continued)*

SR

A Super Roughing geometry. The SR has a strong cutting edge to support high cutting loads in roughing applications. Can produce high metal removal rates.

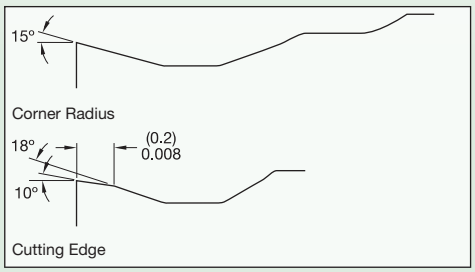


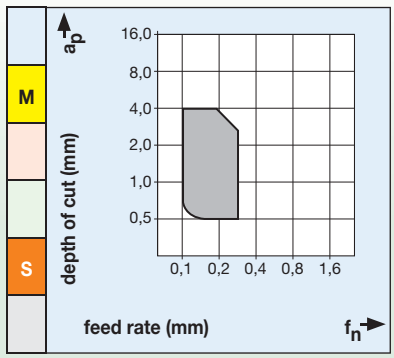


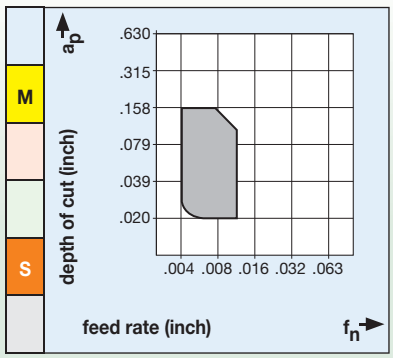


UF

For finishing with a positive cutting edge for reduced cutting forces and superior surface quality.

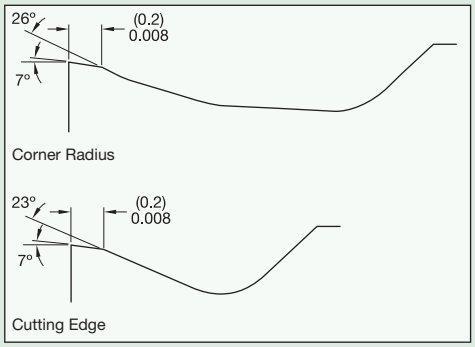


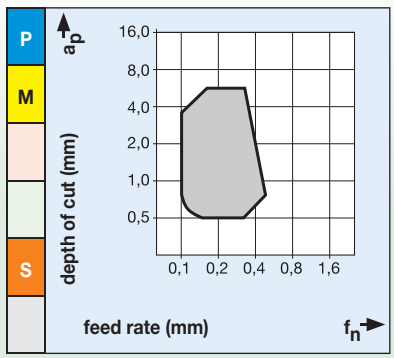


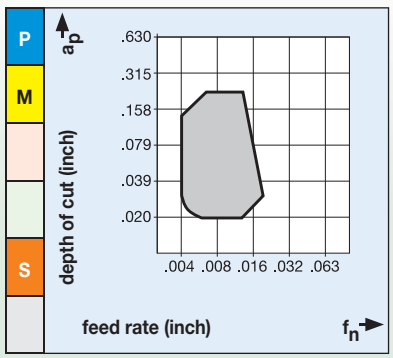


UM

For medium-duty turning operations. Soft-cutting chipbreaker. Used in applications producing varying chip sections, such as profile or copy turning. Good dimensional accuracy. For soft steel materials and stainless steels.





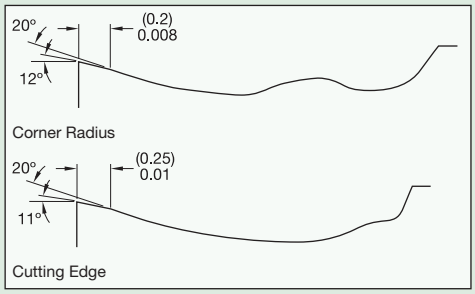


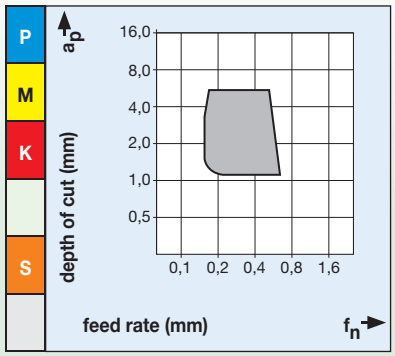
(continued)

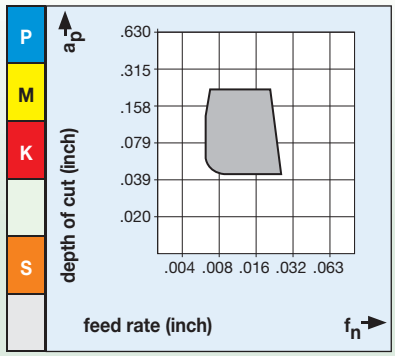
Negative Inserts *(continued)*

UR

Roughing geometry with smooth chip forming and improved coolant flow for increased tool life. Positive geometry reduces cutting forces and improves depth-of-cut notching resistance. Ideally suitable for stainless steel applications and for smooth machining of steel.



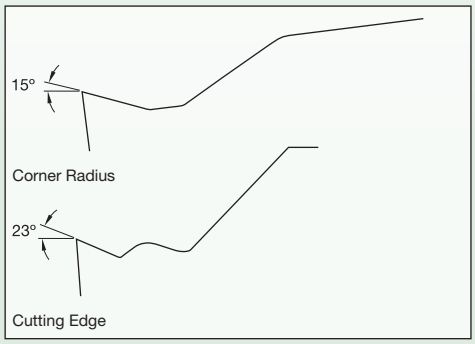


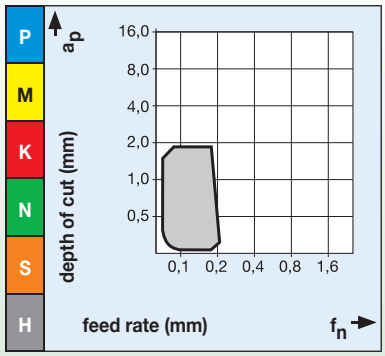


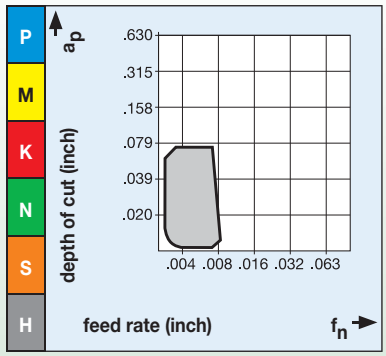
Positive Inserts

2

Sharp edge for finish machining. Good chip control with very small chip sections. High dimensional accuracy and smooth surface finishes. Inserts with .008" corner radius precision-ground on all sides.

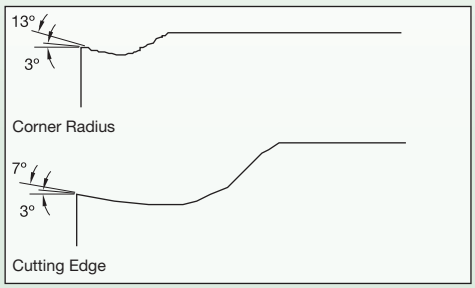


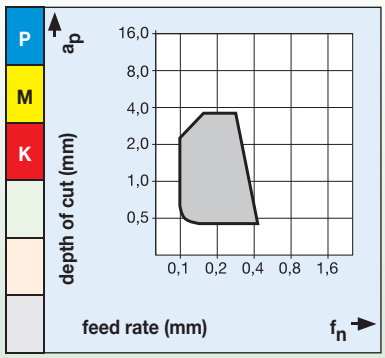


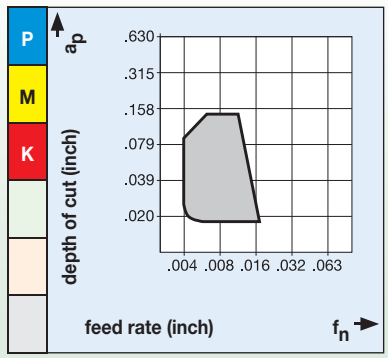


41

Preferred for light- to medium-duty machining. Low cutting forces and reduced power requirements due to positive rake angle. Good chip control over a wide range. Also used on short-chipping cast iron.





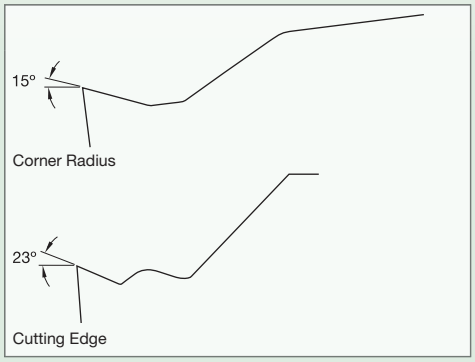


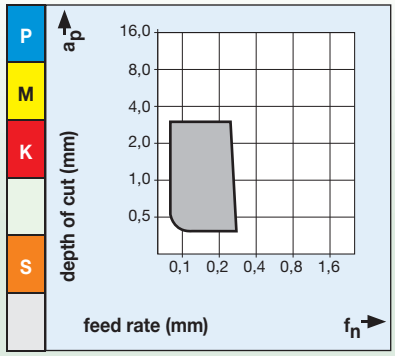
(continued)

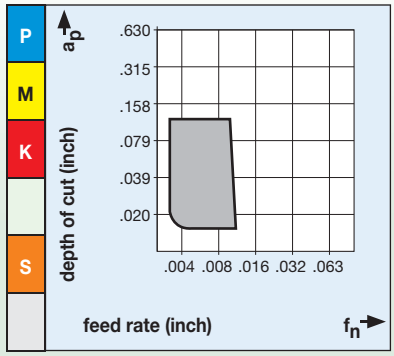
Positive Inserts *(continued)*

FP

For finishing to medium turning operations with optimal chip control over a wide range of cutting conditions and workpiece materials.

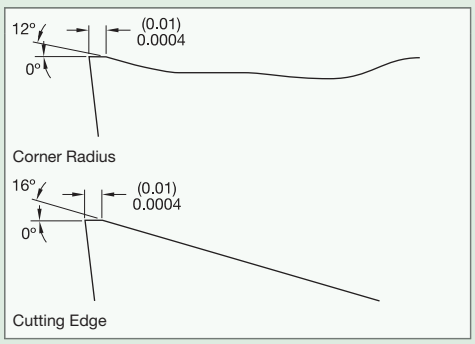


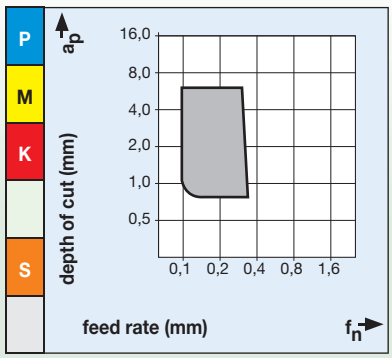


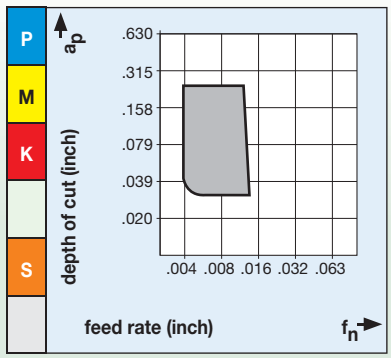


MP

For medium to rough turning with reduced cutting forces and improved chip control for high feed rates. Suitable for high metal removal rates and spindling applications.

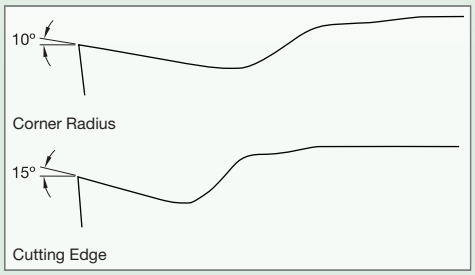


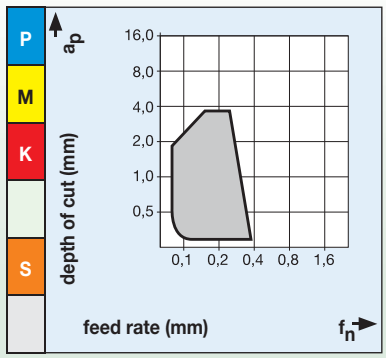


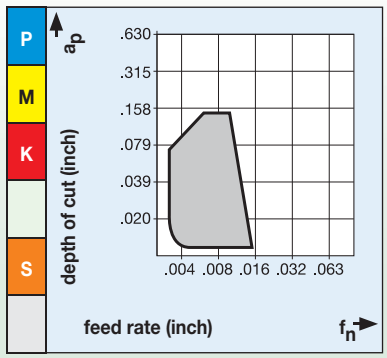


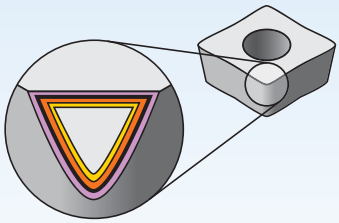
MU

A Medium Universal geometry with a soft cutting action due to its positive geometry. Has a versatile application range and is suited for turning unstable components and for boring applications.





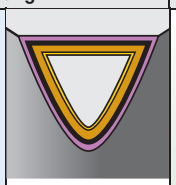
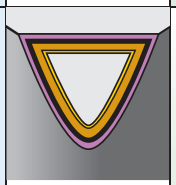
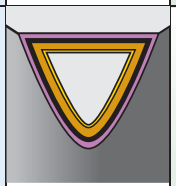
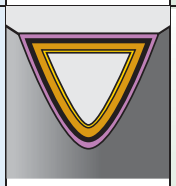
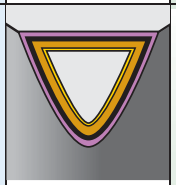
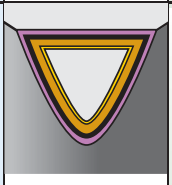


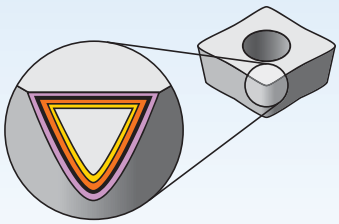


Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Grade

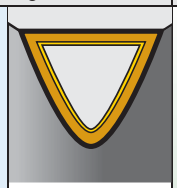
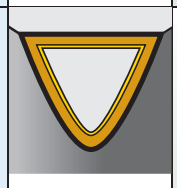
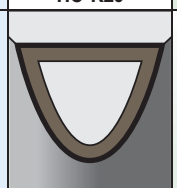
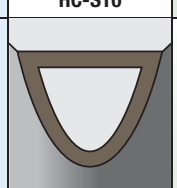
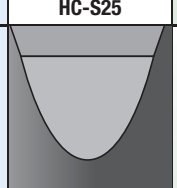
Coating		Grade Description	wear resistance ← → toughness: 05	10	15	20	25	30	35	40	45
WP15CT	 HC-P15	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3-ZrCN. Good balance of wear resistance and toughness properties. Light and medium machining. For steels.	P								
WP25CT	 HC-P25	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3-ZrCN. Good toughness properties.	P								
WP35CT	 HC-P35	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3-ZrCN. Proven on all roughing and heavy roughing operations, wet or dry, on interrupted and uninterrupted cuts.	P								
WM15CT	 HC-M15	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3-ZrCN. High degree of wear resistance and good resistance to depth-of-cut notching for long tool life in finishing to medium turning applications.	M								
WM25CT	 HC-M25	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3-ZrCN. Good balance of wear resistance and toughness properties. Light and medium machining. For austenitic stainless steel AISI series.	M								
WM35CT	 HC-M35	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3-ZrCN. Good toughness and wear resistance balance. For medium to roughing operations with light and heavily interrupted cuts.	M								

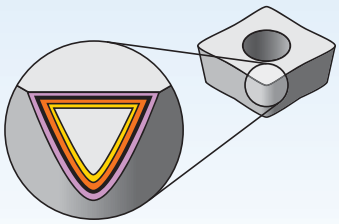


Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Grade

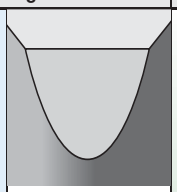
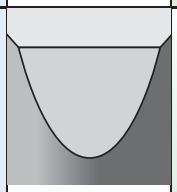
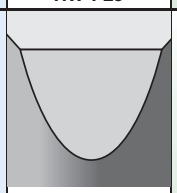
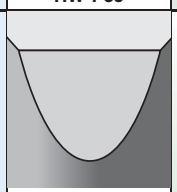
Coating		Grade Description	wear resistance ← → toughness									
			05	10	15	20	25	30	35	40	45
WK05CT	 HC-K05	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3. Increased wear resistance for long tool life at high cutting speeds. Enhanced edge strength against depth-of-cut notching in interrupted cuts.									
WK20CT	 HC-K20	Coated carbide. MT-CVD/CVD — TiN-TiCN-Al_2O_3. Light and medium machining. For cast irons.									
WS10PT	 HC-S10	An advanced multilayer PVD coating over a very deformation-resistant unalloyed carbide substrate. The new and improved coating improves edge stability with wide range speed and feed capabilities. WS10PT is ideal for finishing to general machining of most workpiece materials at a wide range of speed and feed capabilities. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and super alloys with improved edge toughness and higher cutting speed/feed capability.									
WS25PT	 HC-S25	An advanced PVD grade with hard AlTiN coating and fine-grain unalloyed substrate. The new and improved coating improves edge stability with wide range speed and feed capabilities. WS25PT is ideal for general machining of most steels, stainless steels, high-temp alloys, titanium, irons, and non-ferrous materials in a wide range of speeds and feeds with improved edge toughness for interrupted cut and high feed rates.									
WU10HT	 C3-C4	A hard, low-binder content, unalloyed WC/Co fine-grain grade. WU10HT offers exceptional edge wear and superior thermal deformation and depth-of-cut notch resistance. The grain structure is well controlled for minimal pits and flaws, which contributes to long, reliable service.									



Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Grade

Coating		Grade Description	wear resistance ← → toughness									
				05	10	15	20	25	30	35	40	45
THM	 HW-K15	Uncoated carbide. Extraordinarily good balance of hardness, wear resistance, edge stability, and toughness. Light and medium machining. For cast iron, all non-ferrous metals, and non-metals. Useful in unfavorable conditions.	K		■	■	■					
			N		■	■	■					
			S		■	■	■					
			H		■	■	■					
TTM	 HW-P25	Uncoated carbide. Medium machining. For steels and nodular cast iron.	P				■	■	■			
			M				■	■	■			
TTR	 HW-P35	Uncoated carbide. Light and medium machining. For steels and nodular cast iron. To be used at low cutting speeds. Effective in unfavorable conditions.	P						■	■	■	
			M						■	■	■	
TTI15	 HT-P15	Cermet. Light machining. Extremely good wear resistance at higher cutting speeds. For steels and nodular cast iron. Recommended for high cutting speeds under favorable conditions.	P	■	■	■						
			M	■	■	■						

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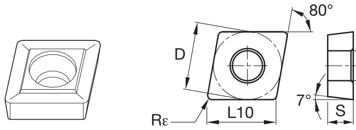
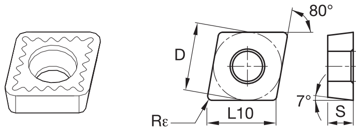
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

● first choice
○ alternate choice



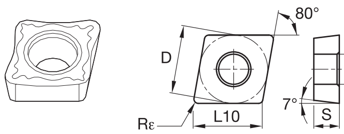
■ CCMT

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT060202	CCMT21505	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CCMT060204	CCMT2151	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	●	–	●	●
CCMT090304	CCMT321	9,53	3/8	9,67	.381	3,18	1/8	0,4	1/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
CCMT090308	CCMT322	9,53	3/8	9,67	.381	3,18	1/8	0,8	1/32	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
CCMT09T304	CCMT3251	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CCMT09T308	CCMT3252	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CCMT09T312	CCMT3253	9,53	3/8	9,67	.381	3,97	5/32	1,2	3/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	–	–	●	–
CCMT120408	CCMT432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–



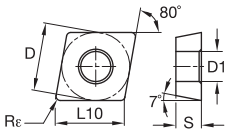
■ CCMT-2

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT0602042	CCMT21512	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●



■ CCMT-41

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT12040441	CCMT43141	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CCMT12040841	CCMT43241	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–

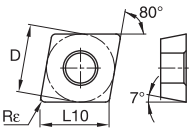


● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

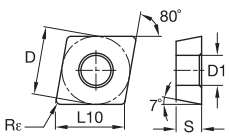
■ CCMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT060202FP	CCMT21505FP	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CCMT060204FP	CCMT2151FP	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	●	●	–	●	●	–	–	●	●	●	–	–	–	–	–
CCMT060208FP	CCMT2152FP	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110	●	●	–	●	●	–	–	●	●	●	–	–	–	–	–
CCMT09T302FP	CCMT32505FP	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CCMT09T304FP	CCMT3251FP	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	●	●	–	–	●	●	●	–	–	–	–	–
CCMT09T308FP	CCMT3252FP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	●	–	–	–	–	–
CCMT120404FP	CCMT431FP	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
CCMT120408FP	CCMT432FP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
CCMT120412FP	CCMT433FP	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,50	.217	●	●	–	–	●	–	–	●	–	–	–	–	–	–	–



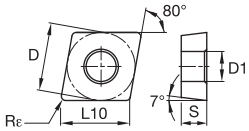
■ CCMT-FW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT060202FW	CCMT21505FW	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CCMT060204FW	CCMT2151FW	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	●	–	–	●	–	–	–	–	–	–	–	–	–	–	–
CCMT060208FW	CCMT2152FW	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110	●	–	–	●	–	–	–	–	–	–	–	–	–	–	–
CCMT09T304FW	CCMT3251FW	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	●	–	–	●	–	–	–	–	–	–	–	–	–	–	–
CCMT09T308FW	CCMT3252FW	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–



■ CCMT-MP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT060204MP	CCMT2151MP	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	●	●	–	●	●	–	–	●	●	–	–	–	–	–	–
CCMT09T304MP	CCMT3251MP	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	●	●	–	–	●	●	–	–	–	–	–	–
CCMT09T308MP	CCMT3252MP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	●	–	–	–	–	–	–
CCMT09T312MP	CCMT3253MP	9,53	3/8	9,67	.381	3,97	5/32	1,2	3/64	4,40	.173	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CCMT120408MP	CCMT432MP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	●	●	–	–	●	●	–	–	–	–	–	–
CCMT120412MP	CCMT433MP	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,50	.217	–	●	–	●	●	–	–	●	–	–	–	–	–	–	–

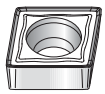


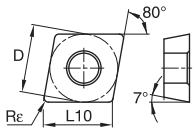
● first choice
○ alternate choice

P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ CCMT-MU

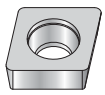
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT060208MU	CCMT2152MU	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110	–	–	–	–	●	–	–	●	–	–	–	–	–	–	–
CCMT090304MU	CCMT321MU	9,53	3/8	9,67	.381	3,18	1/8	0,4	1/64	4,40	.173	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CCMT090308MU	CCMT322MU	9,53	3/8	9,67	.381	3,18	1/8	0,8	1/32	4,40	.173	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CCMT09T304MU	CCMT3251MU	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	–	●	–	●	●	●	●	–	–	–	–	–
CCMT09T308MU	CCMT3252MU	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	●	●	●	–	●	–	–	●	●	●	–	–	–	–	–
CCMT120408MU	CCMT432MU	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	–	●	–	–	●	–	●	–	–	–	–	–

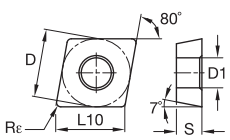




■ CCMT-MW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMT09T304MW	CCMT3251MW	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
CCMT09T308MW	CCMT3252MW	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
CCMT120404MW	CCMT431MW	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
CCMT120408MW	CCMT432MW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–



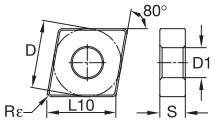


■ CCMW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CCMW060202	CCMW21505	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CCMW060204	CCMW2151	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
CCMW090302	CCMW3205	9,53	3/8	9,67	.381	3,18	1/8	0,2	.00787	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CCMW090304	CCMW321	9,53	3/8	9,67	.381	3,18	1/8	0,4	1/64	4,40	.173	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
CCMW090308	CCMW322	9,53	3/8	9,67	.381	3,18	1/8	0,8	1/32	4,40	.173	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CCMW09T304	CCMW3251	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
CCMW09T308	CCMW3252	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
CCMW120404	CCMW431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,50	.217	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
CCMW120408	CCMW432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–

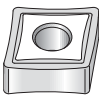
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

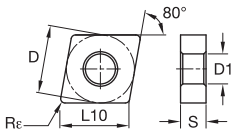
● first choice
○ alternate choice



CNGG-FS

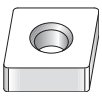
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNGG120402FS	CNGG4305FS	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
CNGG120401FS	CNGG430FS	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
CNGG120404FS	CNGG431FS	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
CNGG120408FS	CNGG432FS	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
CNGG120412FS	CNGG433FS	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–

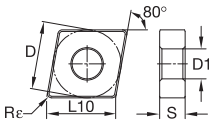




CNGP

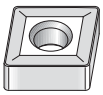
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNGP120402	CNGP4305	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
CNGP120401	CNGP430	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
CNGP120404	CNGP431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
CNGP120408	CNGP432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–

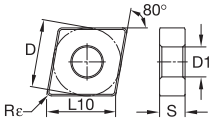




CNMA

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMA120404	CNMA431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA120408	CNMA432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA120412	CNMA433	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA120416	CNMA434	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA160608	CNMA542	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
CNMA160612	CNMA543	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA160616	CNMA544	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA190608	CNMA642	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA190612	CNMA643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMA190616	CNMA644	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–



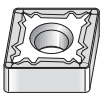


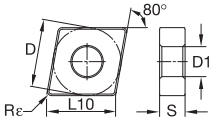
● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ CNMG

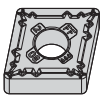
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404	CNMG431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CNMG120408	CNMG432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
CNMG190612	CNMG643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–

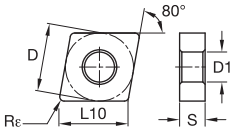




■ CNMG-22

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG12040422	CNMG43122	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●



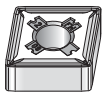


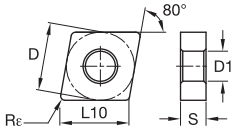
■ CNMG-FF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404FF	CNMG431FF	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
CNMG120408FF	CNMG432FF	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
CNMG120412FF	CNMG433FF	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

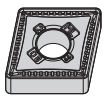
● first choice
○ alternate choice

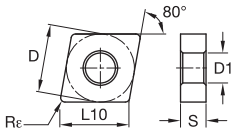




CNMG-FW

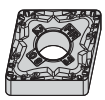
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404FW	CNMG431FW	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	–	●	–	–	–	–	–	–	–	–
CNMG120408FW	CNMG432FW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–
CNMG120412FW	CNMG433FW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–

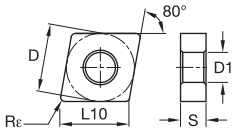




CNMG-ML

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404ML	CNMG431ML	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMG120408ML	CNMG432ML	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMG120412ML	CNMG433ML	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
CNMG120416ML	CNMG434ML	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203	–	●	–	–	–	–	–	●	–	–	–	–	–	–	–



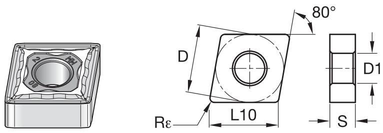


CNMG-MR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404MR	CNMG431MR	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
CNMG120408MR	CNMG432MR	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
CNMG120412MR	CNMG433MR	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
CNMG120416MR	CNMG434MR	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203	●	●	–	–	●	●	–	–	–	–	–	–	–	–	–
CNMG160608MR	CNMG542MR	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250	●	●	–	–	●	●	–	–	–	–	–	–	–	–	–
CNMG160612MR	CNMG543MR	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
CNMG160616MR	CNMG544MR	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
CNMG190612MR	CNMG643MR	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
CNMG190616MR	CNMG644MR	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–

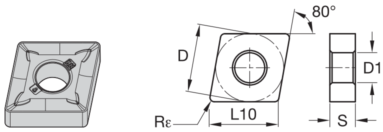
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

● first choice
○ alternate choice



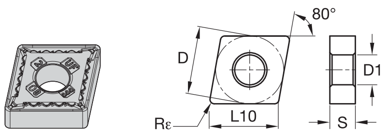
■ CNMG-MW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120408MW	CNMG432MW	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	●	–	●	–	–	–	–	–	–	–	–
CNMG120412MW	CNMG433MW	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	●	–	●	–	–	–	–	–	–	–	–



■ CNMG-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120408RH	CNMG432RH	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG120412RH	CNMG433RH	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG120416RH	CNMG434RH	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG160608RH	CNMG542RH	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG160612RH	CNMG543RH	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG160616RH	CNMG544RH	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG190608RH	CNMG642RH	19,05	3/4	19,34	.762	6,35	1/4	0,8	1/32	7,93	.313	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG190612RH	CNMG643RH	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG190616RH	CNMG644RH	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
CNMG190624RH	CNMG646RH	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313	●	●	●	–	●	–	–	–	–	–	–	–	–	–	–

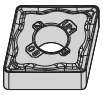


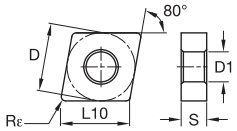
■ CNMG-UF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404UF	CNMG431UF	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	●	●	–	–	–	●	–	–	–	–	–	–
CNMG120408UF	CNMG432UF	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
CNMG120412UF	CNMG433UF	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–

● first choice
○ alternate choice

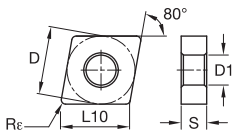
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●						
M				○	●	●	●			●	●	●		●		●						
K		○	○					●	●	○	○		●									
N										○	○	○	●									
S						○				●	●	●	●									
H													●									





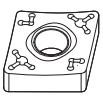
■ CNMG-UM

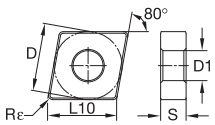
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404UM	CNMG431UM	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
CNMG120408UM	CNMG432UM	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	●	●	●	–	–	–	–	–	–	–	–	–
CNMG120412UM	CNMG433UM	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–



■ CNMG-UR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMG120404UR	CNMG431UR	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	●	●	–	●	●	●	–	–	●	●	–	–	–	–	–
CNMG120408UR	CNMG432UR	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	●	●	●	●	●	●	●	–	–	–	–	–
CNMG120412UR	CNMG433UR	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	●	●	●	●	●	●	●	–	–	–	–	–
CNMG120416UR	CNMG434UR	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203	●	●	–	●	●	●	–	●	●	●	–	–	–	–	–
CNMG160608UR	CNMG542UR	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250	●	●	–	●	●	●	–	●	●	●	–	–	–	–	–
CNMG160612UR	CNMG543UR	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250	●	●	●	●	●	●	–	●	●	–	–	–	–	–	–
CNMG160616UR	CNMG544UR	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250	●	●	●	–	●	●	–	●	●	●	–	–	–	–	–
CNMG190612UR	CNMG643UR	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	●	●	●	●	●	●	●	●	●	●	–	–	–	–	–
CNMG190616UR	CNMG644UR	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313	●	●	●	●	●	●	–	●	●	●	–	–	–	–	–



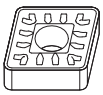


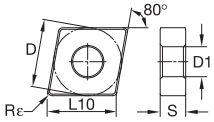
■ CNMM-65

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMM12040865	CNMM43265	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	–	–	–	–	–	–	–	–	–	–
CNMM12041265	CNMM43365	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CNMM12041665	CNMM43465	12,70	1/2	12,90	.508	4,76	3/16	1,6	1/16	5,16	.203	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CNMM16060865	CNMM54265	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250	–	●	●	–	–	–	–	–	–	–	–	–	–	–	–
CNMM16061265	CNMM54365	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250	●	●	●	–	●	–	–	–	–	–	–	–	–	–	–
CNMM16061665	CNMM54465	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
CNMM19061265	CNMM64365	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	–	–	●	–	●	–	–	–	–	–	–	–	–	–	–
CNMM19061665	CNMM64465	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313	●	–	–	–	●	–	–	–	–	–	–	–	–	–	–
CNMM19062465	CNMM64665	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–

● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

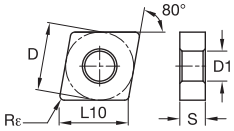




■ CNMM-SR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMM190616SR	CNMM644SR	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313
CNMM190624SR	CNMM646SR	19,05	3/4	19,34	.762	6,35	1/4	2,4	3/32	7,93	.313
CNMM250924SR	CNMM866SR	25,40	1	25,79	1.015	9,53	3/8	2,4	3/32	9,12	.359

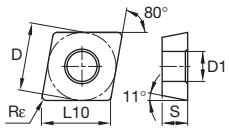
ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMM190616SR	●	–	–	–	●	–	–	–	–	–	–	–	–	–	–
CNMM190624SR	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–
CNMM250924SR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–



■ CNMP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CNMP120404	CNMP431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203
CNMP120408	CNMP432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203
CNMP120412	CNMP433	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203
CNMP160608	CNMP542	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250
CNMP160612	CNMP543	15,88	5/8	16,12	.635	6,35	1/4	1,2	3/64	6,35	.250
CNMP190612	CNMP643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313
CNMP190616	CNMP644	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313

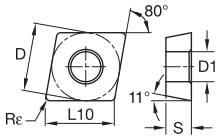
ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CNMP120404	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
CNMP120408	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
CNMP120412	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
CNMP160608	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
CNMP160612	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
CNMP190612	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
CNMP190616	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–



■ CPGT-3

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
CPGT04T1043	CPGT151213	4,76	3/16	4,83	.190	1,98	5/64	0,4	.016	2,15	.085

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CPGT04T1043	–	–	–	–	–	–	–	–	–	–	–	–	–	●	–

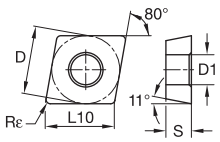


● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

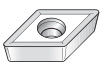
■ CPMT-FP

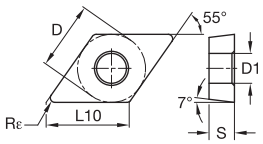
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CPMT060202FP	CPMT21505FP	6,35	1/4	6,45	.254	2,38	3/32	0,2	.008	2,80	.110	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–
CPMT060204FP	CPMT2151FP	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
CPMT060208FP	CPMT2152FP	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
CPMT09T302FP	CPMT32505FP	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
CPMT09T304FP	CPMT3251FP	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
CPMT09T308FP	CPMT3252FP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–



■ CPMT-MP

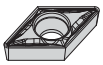
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
CPMT060208MP	CPMT2152MP	6,35	1/4	6,45	.254	2,38	3/32	0,8	1/32	2,80	.110	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
CPMT09T308MP	CPMT3252MP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
CPMT09T312MP	CPMT3253MP	9,53	3/8	9,67	.381	3,97	5/32	1,2	3/64	4,40	.173	–	●	–	●	–	–	–	●	–	–	–	–	–	–	–

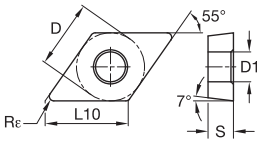




■ DCMT

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMT070204	DCMT2151	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
DCMT11T304	DCMT3251	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	●	●
DCMT11T308	DCMT3252	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
DCMT11T312	DCMT3253	9,53	3/8	11,63	.458	3,97	5/32	1,2	3/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
DCMT150404	DCMT431	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
DCMT150408	DCMT432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
DCMT150412	DCMT433	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
DCMT150416	DCMT434	12,70	1/2	15,50	.610	4,76	3/16	1,6	—	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–



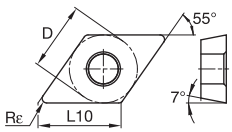


● first choice
○ alternate choice

P	●	●	●	○	○	○	○	○	○	○	○		●	●	●
M			○	●	●	●			●	●	●		●		●
K	○	○					●	●	○	○		●			
N									○	○	○	●			
S					○				●	●	●	●			
H												●			

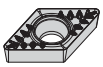
■ DCMT-FP

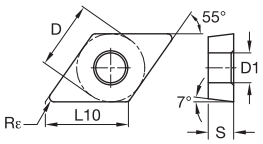
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMT070202FP	DCMT21505FP	6,35	1/4	7,75	.305	2,38	3/32	0,2	.008	2,80	.110	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
DCMT070204FP	DCMT2151FP	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
DCMT070208FP	DCMT2152FP	6,35	1/4	7,75	.305	2,38	3/32	0,8	1/32	2,80	.110	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
DCMT11T302FP	DCMT32505FP	9,53	3/8	11,63	.458	3,97	5/32	0,2	.008	4,40	.173	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–
DCMT11T304FP	DCMT3251FP	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
DCMT11T308FP	DCMT3252FP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
DCMT11T312FP	DCMT3253FP	9,53	3/8	11,63	.458	3,97	5/32	1,2	3/64	4,40	.173	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
DCMT150404FP	DCMT431FP	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,50	.217	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–
DCMT150408FP	DCMT432FP	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	–	●	–	–	●	–	–	–	–	–	–	–



■ DCMT-FW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMT11T304FW	DCMT3251FW	9,53	3/8	11,63	.458	3,97	5/32	0,2	.007	4,40	.173	●	–	–	●	–	–	–	–	–	–	–	–	–	–	–
DCMT11T308FW	DCMT3252FW	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	●	–	–	●	–	–	–	–	–	–	–	–	–	–	–



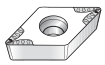


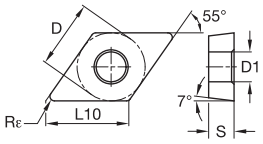
■ DCMT-MP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMT11T304MP	DCMT3251MP	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	–	–	–	–	●	–	–	–	–	–	–	–
DCMT11T308MP	DCMT3252MP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
DCMT11T312MP	DCMT3253MP	9,53	3/8	11,63	.458	3,97	5/32	1,2	3/64	4,40	.173	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–

P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

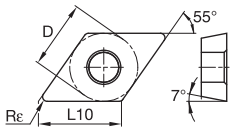
● first choice
○ alternate choice





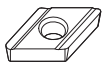
DCMT-MU

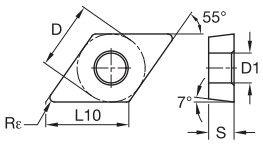
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMT11T304MU	DCMT3251MU	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	–	●	–	●	●	●	●	–	–	–	–	–
DCMT11T308MU	DCMT3252MU	9,52	3/8	11,63	.458	3,97	.156	0,8	.0315	4,40	.173	●	–	–	–	●	–	●	●	●	●	–	–	–	–	–
DCMT150408MU	DCMT432MU	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	–	●	–	●	●	●	●	–	–	–	–	–
DCMT150412MU	DCMT433MU	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,50	.217	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–



DCMT-MW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMT11T304MW	DCMT3251MW	9,52	3/8	11,63	.458	3,97	5/32	0,2	.007	4,40	.173	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
DCMT11T308MW	DCMT3252MW	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–



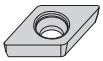


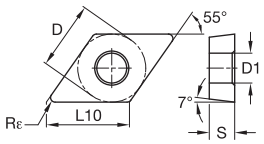
DCMX-18

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMX11T302R18	DCMX32505R18	9,53	3/8	11,63	.458	3,97	5/32	0,2	.008	4,30	.169	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–

P	●	●	●	○	○	○	○	○	○	○	○		●	●	●
M			○	●	●	●			●	●	●		●		●
K	○	○					●	●	○	○		●			
N									○	○	○	●			
S					○				●	●	●	●			
H												●			

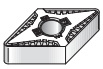
● first choice
○ alternate choice

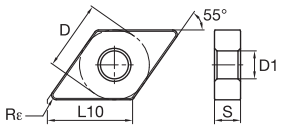




DCMW

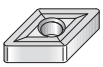
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DCMW070204	DCMW2151	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
DCMW11T304	DCMW3251	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
DCMW150408	DCMW432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–

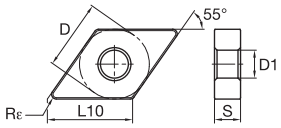




DNGG-FS

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNGG110402FS	DNGG3305FS	9,52	3/8	11,63	.458	4,76	3/16	0,2	.008	3,81	.150	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
DNGG110404FS	DNGG331FS	9,52	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
DNGG110408FS	DNGG332FS	9,52	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
DNGG150402FS	DNGG4305FS	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
DNGG150401FS	DNGG430FS	12,70	1/2	15,50	.610	4,76	3/16	0,1	.004	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
DNGG150404FS	DNGG431FS	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
DNGG150408FS	DNGG432FS	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
DNGG150412FS	DNGG433FS	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
DNGG150604FS	DNGG441FS	12,70	1/2	15,50	.610	6,35	1/2	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
DNGG150608FS	DNGG442FS	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–



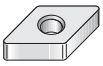


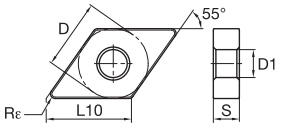
DNGP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNGP150402	DNGP4305	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
DNGP150401	DNGP430	12,70	1/2	15,50	.610	4,76	3/16	0,1	.004	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
DNGP150404	DNGP431	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
DNGP150408	DNGP432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–

P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

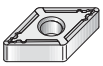
● first choice
○ alternate choice

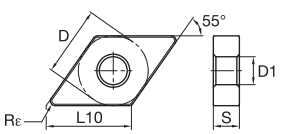




■ DNMA

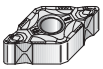
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMA110408	**DNMA332**	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMA110412	**DNMA333**	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
DNMA150408	**DNMA432**	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMA150412	**DNMA433**	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMA150416	**DNMA434**	12,70	1/2	15,50	.610	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
DNMA150608	**DNMA442**	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMA150612	**DNMA443**	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMA150616	**DNMA444**	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–

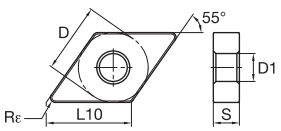




■ DNMG-22

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG11040822	**DNMG33222**	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●



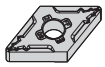


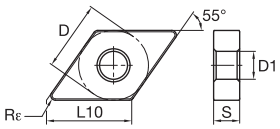
■ DNMG-CT

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG150604CT	**DNMG441CT**	12,70	1/2	15,50	.610	6,35	1/4	0,3	.013	5,16	.203	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–
DNMG150608CT	**DNMG442CT**	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–
DNMG150612CT	**DNMG443CT**	12,70	1/2	15,50	.610	6,35	1/4	1,1	.045	5,16	.203	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

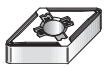
● first choice
○ alternate choice

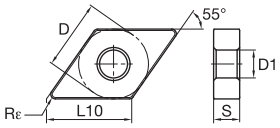




■ DNMG-FF

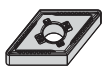
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG110404FF	DNMG331FF	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
DNMG110408FF	DNMG332FF	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
DNMG110412FF	DNMG333FF	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
DNMG150404FF	DNMG431FF	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	–	●	–	–	–	●	–	–	–	–	–	–
DNMG150408FF	DNMG432FF	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
DNMG150412FF	DNMG433FF	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
DNMG150604FF	DNMG441FF	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
DNMG150608FF	DNMG442FF	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
DNMG150612FF	DNMG443FF	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–

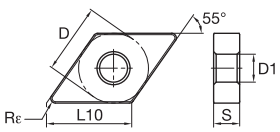




■ DNMG-FW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG110404FW	DNMG331FW	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DNMG110408FW	DNMG332FW	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DNMG150404FW	DNMG431FW	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–
DNMG150408FW	DNMG432FW	12,70	1/2	15,50	.610	4,76	3/16	0,4	.016	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–
DNMG150604FW	DNMG441FW	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–
DNMG150608FW	DNMG442FW	12,70	1/2	15,50	.610	6,35	1/4	0,4	.016	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–



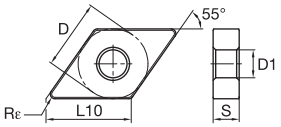


■ DNMG-ML

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG110404ML	DNMG331ML	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMG110408ML	DNMG332ML	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMG110412ML	DNMG333ML	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DNMG150404ML	DNMG431ML	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMG150408ML	DNMG432ML	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMG150412ML	DNMG433ML	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	●	–	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMG150604ML	DNMG441ML	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMG150608ML	DNMG442ML	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
DNMG150612ML	DNMG443ML	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–

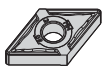
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●			
M				○	●	●	●			●	●	●		●		●			
K		○	○					●	●	○	○		●						
N										○	○	○	●						
S						○				●	●	●	●						
H													●						

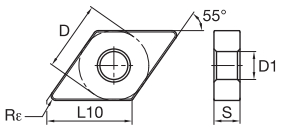
● first choice
○ alternate choice



■ DNMG-MR

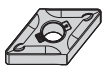
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG110408MR	DNMG332MR	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
DNMG150404MR	DNMG431MR	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
DNMG150408MR	DNMG432MR	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
DNMG150412MR	DNMG433MR	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
DNMG150604MR	DNMG441MR	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
DNMG150608MR	DNMG442MR	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
DNMG150612MR	DNMG443MR	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–

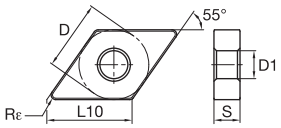




■ DNMG-MW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG150408MW	DNMG432MW	12,70	1/2	15,50	.610	4,76	3/16	0,4	—	5,16	.203	●	●	–	–	●	–	●	–	–	–	–	–	–	–	–
DNMG150412MW	DNMG433MW	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	●	–	●	–	–	–	–	–	–	–	–
DNMG150608MW	DNMG442MW	12,70	1/2	15,50	.610	6,35	1/4	0,4	—	5,16	.203	●	●	–	–	●	–	●	–	–	–	–	–	–	–	–
DNMG150612MW	DNMG443MW	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	–	–	–	–	●	–	●	–	–	–	–	–	–	–	–



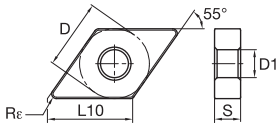


■ DNMG-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG150408RH	DNMG432RH	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
DNMG150412RH	DNMG433RH	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	–	–	–	●	–	–	–	–	–	–	–
DNMG150608RH	DNMG442RH	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
DNMG150612RH	DNMG443RH	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
DNMG150616RH	DNMG444RH	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
DNMG190612RH	DNMG543RH	15,88	5/8	19,38	.763	6,35	1/4	1,2	3/64	6,35	.250	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–

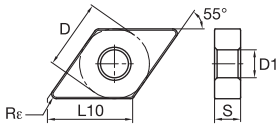
P	●	●	●	○	○	○	○	○	○	○	○		●	●	●
M			○	●	●	●			●	●	●		●		●
K	○	○					●	●	○	○		●			
N									○	○	○	●			
S					○				●	●	●	●			
H												●			

● first choice
○ alternate choice



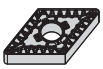
■ DNMG-UF

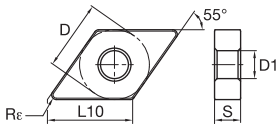
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG110404UF	DNMG331UF	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
DNMG110408UF	DNMG332UF	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
DNMG150404UF	DNMG431UF	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
DNMG150408UF	DNMG432UF	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	●	●	–	–	–	●	–	–	–	–	–	–
DNMG150412UF	DNMG433UF	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–
DNMG150604UF	DNMG441UF	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
DNMG150608UF	DNMG442UF	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	–	●	–	●	●	–	–	–	●	–	–	–	–	–	–
DNMG150612UF	DNMG443UF	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–



■ DNMG-UM

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG110404UM	DNMG331UM	9,53	3/8	11,63	.458	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
DNMG110408UM	DNMG332UM	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMG110412UM	DNMG333UM	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
DNMG150404UM	DNMG431UM	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMG150408UM	DNMG432UM	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMG150412UM	DNMG433UM	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMG150604UM	DNMG441UM	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMG150608UM	DNMG442UM	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	–	●	–	●	●	●	–	–	●	●	–	–	–	–	–
DNMG150612UM	DNMG443UM	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
DNMG150616UM	DNMG444UM	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–



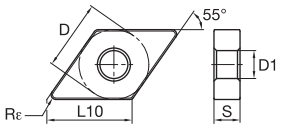


■ DNMG-UR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMG110408UR	DNMG332UR	9,53	3/8	11,63	.458	4,76	3/16	0,8	1/32	3,81	.150	●	●	●	●	●	●	–	●	–	–	–	–	–	–	–
DNMG110412UR	DNMG333UR	9,53	3/8	11,63	.458	4,76	3/16	1,2	3/64	3,81	.150	●	●	–	●	–	–	–	●	–	–	–	–	–	–	–
DNMG150408UR	DNMG432UR	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	●	●	●	–	●	–	●	–	–	–	–	–
DNMG150412UR	DNMG433UR	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	●	●	–	●	–	●	–	–	–	–	–
DNMG150416UR	DNMG434UR	12,70	1/2	15,50	.610	–	–	–	–	–	–	–	–	–	–	–	●	–	●	●	–	–	–	–	–	–
DNMG150608UR	DNMG442UR	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	●	●	●	●	●	●	–	●	–	●	–	–	–	–	–
DNMG150612UR	DNMG443UR	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	●	●	●	●	●	●	●	●	–	–	–	–	–	–	–
DNMG150616UR	DNMG444UR	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203	●	●	●	–	–	●	–	●	–	–	–	–	–	–	–

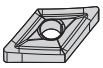
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

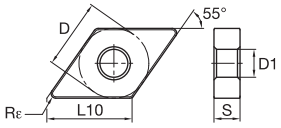
● first choice
○ alternate choice



DNMM-65

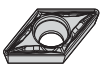
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMM15060865	DNMM44265	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	●	●	●	–	●	–	–	–	–	–	–	–	–	–	–
DNMM15061265	DNMM44365	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	●	–	–	–	●	–	–	–	–	–	–	–	–	–	–
DNMM15061665	DNMM44465	12,70	1/2	15,50	.610	6,35	1/4	1,6	1/16	5,16	.203	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–

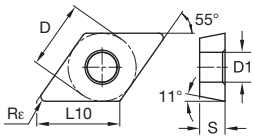




DNMP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DNMP150404	DNMP431	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMP150408	DNMP432	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMP150412	DNMP433	12,70	1/2	15,50	.610	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
DNMP150604	DNMP441	12,70	1/2	15,50	.610	6,35	1/4	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
DNMP150608	DNMP442	12,70	1/2	15,50	.610	6,35	1/4	0,8	1/32	5,16	.203	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
DNMP150612	DNMP443	12,70	1/2	15,50	.610	6,35	1/4	1,2	3/64	5,16	.203	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–



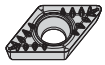


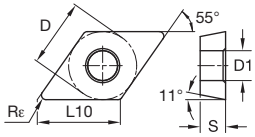
DPMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
DPMT070204FP	DPMT2151FP	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110	●	●	–	●	●	–	–	–	–	–	–	–	–	–	–
DPMT11T304FP	DPMT3251FP	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	●	●	–	–	–	–	–	–	–	–	–	–
DPMT11T308FP	DPMT3252FP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	–	●	–	–	●	–	–	–	–	–	–	–

● first choice
○ alternate choice

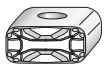
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

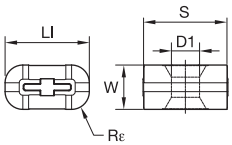




■ DPMT-MP

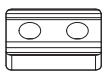
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
DPMT11T308MP	DPMT3252MP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173

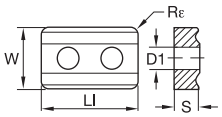




■ LNUX-13

ISO catalog number	ANSI catalog number	W mm	W in	LI mm	LI in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
LNUX19194013	LNUX19194013	10,00	.394	19,05	.750	19,05	3/4	4,0	.158	6,35	.250
LNUX30194013	LNUX30194013	12,00	.472	30,00	1.181	19,05	3/4	4,0	.158	6,35	.250



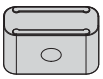


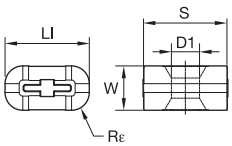
■ LNUX-EN95

ISO catalog number	ANSI catalog number	W mm	W in	LI mm	LI in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
LNUX400924EN95	LNUX400924EN95	25,40	1.000	40,00	1.575	9,53	3/8	2,4	.094	9,12	.359

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

● first choice
○ alternate choice

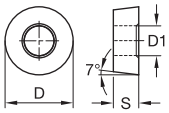




■ LNUX-T

ISO catalog number	ANSI catalog number	W mm	W in	LI mm	LI in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
LNUX191940T	LNUX191940T	10,00	.394	19,05	.750	19,05	3/4	4,0	.158	6,35	.250
LNUX301940T	LNUX301940T	12,00	.472	30,00	1.181	19,05	3/4	4,0	.158	6,35	.250

WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
–	–	–	–	–	–	–	●	–	–	–	–	–	–	–



■ RCMT

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
RCMT0602M0	RCMT0602M0	6,00	.236	–	–	2,38	3/32	–	–	2,80	.110
RCMT0803M0	RCMT0803M0	8,00	.315	–	–	3,18	1/8	–	–	3,40	.134
RCMT10T3M0	RCMT10T3M0	10,00	.394	–	–	3,97	5/32	–	–	4,40	.173
RCMT1204M0	RCMT1204M0	12,00	.472	–	–	4,76	3/16	–	–	4,40	.173
RCMT1606M0	RCMT1606M0	16,00	.630	–	–	6,35	1/4	–	–	5,50	.217

WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
●	●	–	–	–	–	–	●	–	–	–	●	–	–	–
●	●	–	–	–	–	–	●	–	–	–	●	–	–	–
●	●	●	–	–	–	–	●	–	–	–	●	–	●	–
●	●	●	–	–	–	–	●	–	–	–	●	–	–	–
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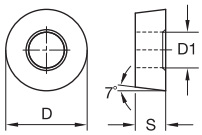


■ RCMT-43

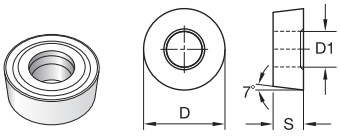
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
RCMT1606M043	RCMT1606M043	16,00	.630	–	–	6,35	1/4	–	–	5,50	.217

WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
–	–	–	–	–	–	–	–	–	–	–	●	–	–	–

● first choice
○ alternate choice

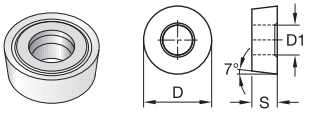
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ RCMT-T



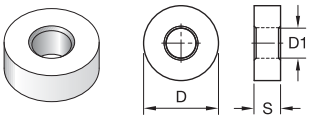
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
RCMT1606M0T	RCMT1606M0T	16,00	.630	–	–	6,35	1/4	–	–	5,50	.217	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–

■ RCMX



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
RCMX2006M0T	RCMX2006M0T	20,00	.7874	–	–	6,35	1/4	–	–	6,50	.256	●	●	●	–	–	–	–	●	–	–	–	–	–	–	–
RCMX2507M0T	RCMX2507M0T	25,00	63/64	–	–	7,94	5/16	–	–	7,40	.291	●	●	●	–	–	–	–	●	–	–	–	–	–	●	–
RCMX3209M0T	RCMX3209M0T	32,00	1.2598	–	–	9,53	3/8	–	–	9,50	.374	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–

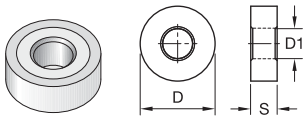
■ RNMA



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
RNMA120400	RNMA43	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–

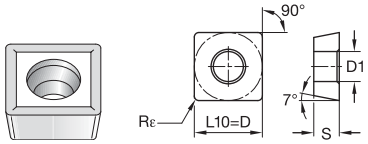
● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			



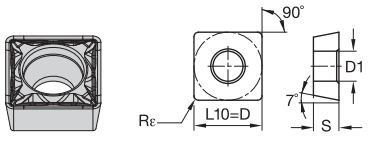
RNMG-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
RNMG090300RH	RNMG32RH	9,53	3/8	–	–	3,18	1/8	–	–	3,81	.150	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
RNMG120400RH	RNMG43RH	12,70	1/2	–	–	4,76	3/16	–	–	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
RNMG190600RH	RNMG64RH	19,05	3/4	–	–	6,35	1/4	–	–	7,93	.313	●	●	●	–	–	–	–	●	–	–	–	–	–	–	–



SCMT

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SCMT090304	SCMT321	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	–	–	●	–
SCMT09T304	SCMT3251	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
SCMT09T308	SCMT3252	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
SCMT120408	SCMT432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
SCMT120412	SCMT433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	–	●
SCMT150512	SCMT5353	15,88	5/8	15,88	.625	5,56	7/32	1,2	3/64	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–

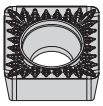


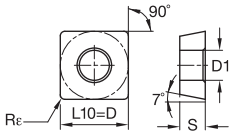
SCMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SCMT09T304FP	SCMT3251FP	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
SCMT09T308FP	SCMT3252FP	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
SCMT120404FP	SCMT431FP	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,50	.217	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
SCMT120408FP	SCMT432FP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
SCMT120412FP	SCMT433FP	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,50	.217	●	●	–	–	●	–	–	●	–	–	–	–	–	–	–

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

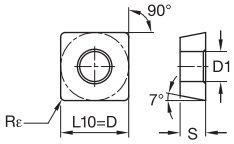
● first choice
○ alternate choice





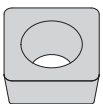
■ SCMT-MP

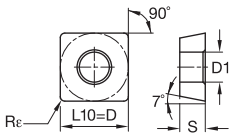
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SCMT09T304MP	SCMT3251MP	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173	–	●	–	●	●	–	–	●	–	–	–	–	–	–	–
SCMT09T308MP	SCMT3252MP	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
SCMT120404MP	SCMT431MP	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,50	.217	–	●	–	●	●	–	–	●	–	–	–	–	–	–	–
SCMT120408MP	SCMT432MP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
SCMT120412MP	SCMT433MP	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,50	.217	–	●	–	●	●	–	–	●	–	–	–	–	–	–	–



■ SCMT-MU

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SCMT090308MU	SCMT322MU	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	4,40	.173	●	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SCMT09T304MU	SCMT3251MU	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
SCMT09T308MU	SCMT3252MU	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173	●	●	●	–	●	–	–	●	●	–	–	–	–	–	–



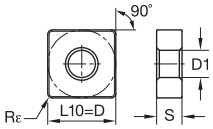


■ SCMW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SCMW090304	SCMW321	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64	4,40	.173	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
SCMW09T308	SCMW3252	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SCMW120408	SCMW432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–

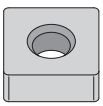
● first choice
○ alternate choice

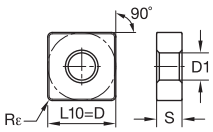
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			



■ SNGG-FS

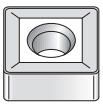
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNGG120408FS	SNGG432FS	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–

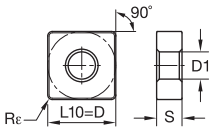




■ SNMA

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMA120408	SNMA432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
SNMA120412	SNMA433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMA120416	SNMA434	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMA150608	SNMA542	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SNMA150612	SNMA543	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMA150616	SNMA544	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMA190612	SNMA643	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMA190616	SNMA644	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–



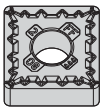
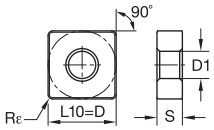


■ SNMG

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG250924	SNMG866	25,40	1	25,40	1.000	9,53	3/8	2,4	3/32	9,12	.359	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–

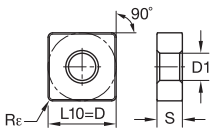
P	●	●	●	○	○	○	○	○	○	○	○		●	●	●
M			○	●	●	●			●	●	●		●		●
K	○	○					●	●	○	○		●			
N									○	○	○	●			
S					○				●	●	●	●			
H												●			

● first choice
○ alternate choice

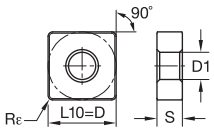
SNMG-FF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG090304FF	SNMG321FF	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64	3,81	.150	●	–	–	–	–	–	–	●	●	–	–	–	–	–	–
SNMG090308FF	SNMG322FF	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
SNMG120404FF	SNMG431FF	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
SNMG120408FF	SNMG432FF	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	●	–	–	–	●	–	–	●	●	–	–	–	–	–	–
SNMG120412FF	SNMG433FF	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
SNMG120416FF	SNMG434FF	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–

SNMG-ML

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG090304ML	SNMG321ML	9,53	3/8	9,53	.375	3,18	1/8	0,4	1/64	3,81	.150	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SNMG090308ML	SNMG322ML	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMG120404ML	SNMG431ML	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SNMG120408ML	SNMG432ML	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMG120412ML	SNMG433ML	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
SNMG120416ML	SNMG434ML	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–

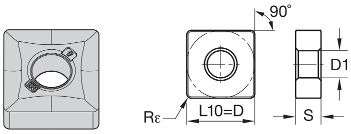



SNMG-MR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG120408MR	SNMG432MR	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
SNMG120412MR	SNMG433MR	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	●	●	–	–	●	●	–	–	–	–	–	–	–	–	–
SNMG120416MR	SNMG434MR	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–
SNMG150608MR	SNMG542MR	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–
SNMG150612MR	SNMG543MR	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250	●	–	–	–	●	●	–	–	–	–	–	–	–	–	–
SNMG150616MR	SNMG544MR	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–
SNMG190612MR	SNMG643MR	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
SNMG190616MR	SNMG644MR	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313	●	–	–	–	●	●	–	–	–	–	–	–	–	–	–

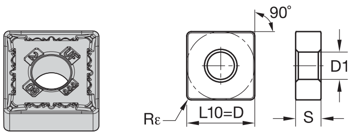
	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P	●	●	●	○	○	○	○	○	○	○	○		●	●	●
M			○	●	●	●			●	●	●		●		●
K	○	○					●	●	○	○		●			
N									○	○	○	●			
S					○				●	●	●	●			
H												●			

● first choice
○ alternate choice



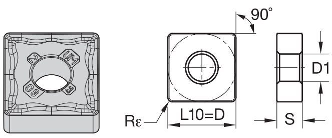
■ SNMG-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG120408RH	SNMG432RH	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG120412RH	SNMG433RH	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG120416RH	SNMG434RH	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG150608RH	SNMG542RH	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG150612RH	SNMG543RH	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG150616RH	SNMG544RH	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG190608RH	SNMG642RH	19,05	3/4	19,05	.750	6,35	1/4	0,8	1/32	7,93	.313	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG190612RH	SNMG643RH	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
SNMG190616RH	SNMG644RH	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–



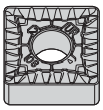
■ SNMG-UF

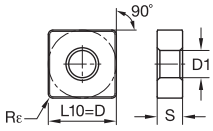
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG120404UF	SNMG431UF	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
SNMG120408UF	SNMG432UF	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
SNMG120412UF	SNMG433UF	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–



■ SNMG-UM

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG120404UM	SNMG431UM	12,70	1/2	12,70	.500	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
SNMG120408UM	SNMG432UM	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
SNMG120412UM	SNMG433UM	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–



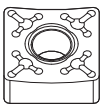


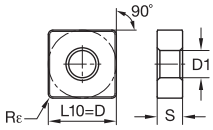
● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ SNMG-UR

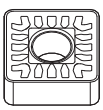
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMG120408UR	SNMG432UR	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	●	●	●	–	●	–	–	–	–	–	–	–
SNMG120412UR	SNMG433UR	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	●	●	●	–	●	–	●	–	–	–	–	–
SNMG120416UR	SNMG434UR	12,70	1/2	12,70	.500	4,76	3/16	1,6	1/16	5,16	.203	●	–	–	–	●	●	–	●	●	●	–	–	–	–	–
SNMG150612UR	SNMG543UR	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250	●	●	●	●	●	●	–	●	–	●	–	–	–	–	–
SNMG150616UR	SNMG544UR	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250	●	●	●	●	●	●	–	●	–	–	–	–	–	–	–
SNMG190612UR	SNMG643UR	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313	●	●	●	–	●	●	–	●	–	●	–	–	–	–	–
SNMG190616UR	SNMG643UR	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–
SNMG190616UR	SNMG644UR	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313	●	●	●	–	●	●	–	●	–	●	–	–	–	–	–

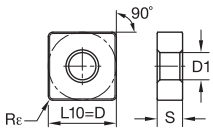




■ SNMM-65

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMM12040865	SNMM43265	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203	–	●	●	–	●	–	–	–	–	–	–	–	–	–	–
SNMM12041265	SNMM43365	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
SNMM15061665	SNMM54465	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
SNMM19061265	SNMM64365	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313	●	●	●	–	●	–	–	–	–	–	–	–	–	–	–
SNMM19061665	SNMM64465	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313	●	–	–	–	●	–	–	–	–	–	–	–	–	–	–
SNMM19062465	SNMM64665	19,05	3/4	19,05	.750	6,35	1/4	2,4	3/32	7,93	.313	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–



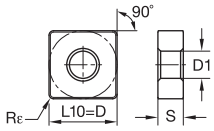


■ SNMM-SR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMM190616SR	SNMM644SR	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
SNMM190624SR	SNMM646SR	19,05	3/4	19,05	.750	6,35	1/4	2,4	3/32	7,93	.313	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

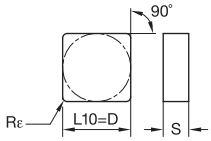
● first choice
○ alternate choice



SNMP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
SNMP120408	SNMP432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,16	.203
SNMP120412	SNMP433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203
SNMP150608	SNMP542	15,88	5/8	15,88	.625	6,35	1/4	0,8	1/32	6,35	.250
SNMP150612	SNMP543	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250
SNMP150616	SNMP544	15,88	5/8	15,88	.625	6,35	1/4	1,6	1/16	6,35	.250
SNMP190616	SNMP644	19,05	3/4	19,05	.750	6,35	1/4	1,6	1/16	7,93	.313

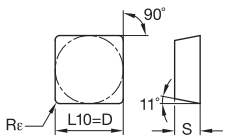
ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNMP120408	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
SNMP120412	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
SNMP150608	–	–	–	●	●	●	–	–	–	●	–	–	–	–	–
SNMP150612	–	–	–	●	●	●	–	–	–	●	–	–	–	–	–
SNMP150616	–	–	–	●	●	●	–	–	–	●	–	–	–	–	–
SNMP190616	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–



SNU

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
SNUN120408	SNU432	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32
SNUN120412	SNU433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64

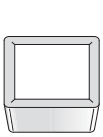
ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SNUN120408	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SNUN120412	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–

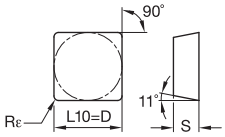


SPG

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in
SPGN090308	SPG322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32
SPGN120308	SPG422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32
SPGN120312	SPG423	12,70	1/2	12,70	.500	3,18	1/8	1,2	3/64

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SPGN090308	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SPGN120308	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SPGN120312	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–



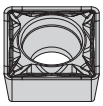


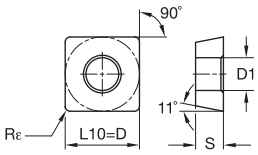
● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ SPMR

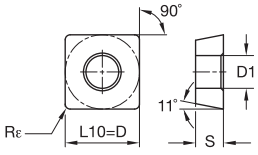
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SPMR090308	SPMR322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	–	–	●	–	–	–	–	●	–	–	–	–	–	–	–
SPMR120304	SPMR421	12,70	1/2	12,70	.500	3,18	1/8	0,4	1/64	●	–	●	–	–	–	–	●	–	–	–	–	–	–	–
SPMR120308	SPMR422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32	●	–	●	–	–	–	–	●	–	–	–	–	–	–	–
SPMR120312	SPMR423	12,70	1/2	12,70	.500	3,18	1/8	1,2	3/64	–	–	●	–	–	–	–	●	–	–	–	–	–	–	–





■ SPMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SPMT09T304FP	SPMT3251FP	9,53	3/8	9,53	.375	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	–	●	–	–	●	–	–	–	–	–	–	–
SPMT09T308FP	SPMT3252FP	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	–	●	–	–	●	–	–	–	–	–	–	–

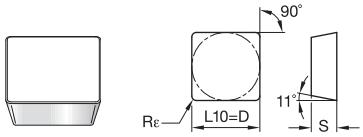


■ SPMT-MP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SPMT09T308MP	SPMT3252MP	9,53	3/8	9,53	.375	3,97	5/32	0,8	1/32	4,40	.173	–	●	–	●	–	–	–	●	–	–	–	–	–	–	–
SPMT120408MP	SPMT432MP	12,70	1/2	12,70	.500	4,76	3/16	0,8	1/32	5,50	.217	–	●	–	–	–	–	–	●	–	–	–	–	–	–	–

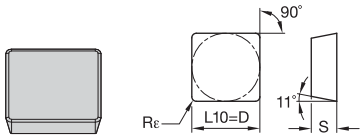
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

● first choice
○ alternate choice



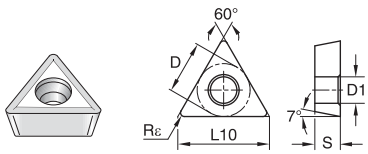
SPU

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SPUN090308	SPU322	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
SPUN120304	SPU421	12,70	1/2	12,70	.500	3,18	1/8	0,4	1/64	●	–	–	–	–	–	–	–	–	–	–	●	–	–	–
SPUN120308	SPU422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32	●	–	–	–	–	–	–	●	–	–	–	–	–	–	–
SPUN120312	SPU423	12,70	1/2	12,70	.500	3,18	1/8	1,2	3/64	–	–	–	–	–	–	–	●	–	–	–	●	–	–	–
SPUN190416	SPUN190416	—	—	—	—	—	—	—	—	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
SPUN120308	SPUN422	12,70	1/2	12,70	.500	3,18	1/8	0,8	1/32	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
SPUN120412	SPUN433	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
SPUN150412	SPUN533	15,88	5/8	15,88	.625	4,76	3/16	1,2	3/64	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
SPUN190412	SPUN633	19,05	3/4	19,05	.750	4,76	3/16	1,2	3/64	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–



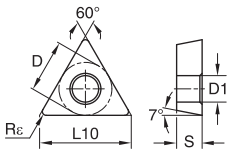
SPU-T

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
SPUN250620T	SPU845T	25,40	1	25,40	1.000	6,35	1/4	2,0	5/64	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–



TCMT

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TCMT110202	TCMT21505	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
TCMT110204	TCMT2151	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
TCMT16T304	TCMT3251	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
TCMT16T308	TCMT3252	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
TCMT220408	TCMT432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,50	.217	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–

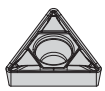


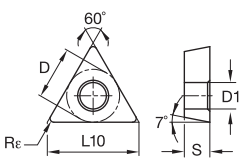
● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ TCMT-2

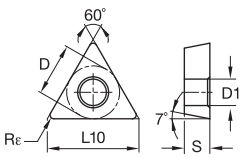
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TCMT1102042	TCMT21512	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●





■ TCMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TCMT110202FP	TCMT21505FP	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,90	.114	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
TCMT110204FP	TCMT2151FP	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
TCMT110208FP	TCMT2152FP	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
TCMT16T304FP	TCMT3251FP	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
TCMT16T308FP	TCMT3252FP	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
TCMT16T312FP	TCMT3253FP	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
TCMT220408FP	TCMT432FP	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,50	.217	●	●	–	–	●	–	–	●	–	–	–	–	–	–	–



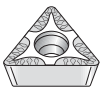
■ TCMT-MP

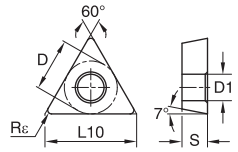
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TCMT110208MP	TCMT2152MP	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110	–	●	–	–	–	–	–	●	–	–	–	–	–	–	–
TCMT16T304MP	TCMT3251MP	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173	–	●	–	●	●	–	–	●	–	–	–	–	–	–	–
TCMT16T308MP	TCMT3252MP	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
TCMT16T312MP	TCMT3253MP	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173	–	●	–	–	●	–	–	●	–	–	–	–	–	–	–

● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

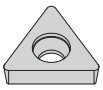
■ TCMT-MU

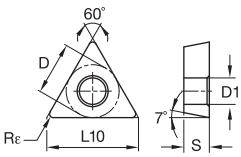




ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TCMT16T304MU	TCMT3251MU	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173	●	●	–	–	●	–	–	●	–	●	–	–	–	–	–
TCMT16T308MU	TCMT3252MU	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	–	●	–	–	●	●	–	–	–	–	–	–

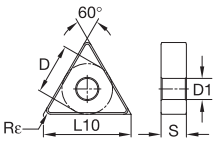
■ TCMW





ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TCMW110204	TCMW2151	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–
TCMW16T304	TCMW3251	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173	–	–	–	–	–	–	●	●	–	–	–	●	–	–	–

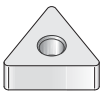
■ TNGG-FS

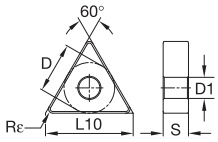


ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNGG160404FS	TNGG331FS	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
TNGG220408FS	TNGG432FS	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

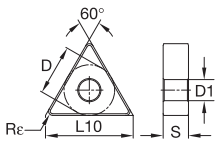
● first choice
○ alternate choice





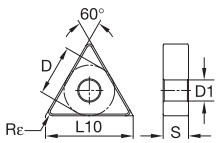
TNMA

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNMA160408	TNMA332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMA160412	TNMA333	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMA160416	TNMA334	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
TNMA220408	TNMA432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMA220412	TNMA433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMA220416	TNMA434	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMA270616	TNMA544	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–



TNMG-FF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNMG110304FF	TNMG221FF	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64	2,26	.089	–	–	–	–	–	–	–	●	●	–	–	–	–	–	–
TNMG110308FF	TNMG222FF	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32	2,26	.089	–	–	–	–	–	–	–	●	●	–	–	–	–	–	–
TNMG160404FF	TNMG331FF	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
TNMG160408FF	TNMG332FF	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
TNMG160412FF	TNMG333FF	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–

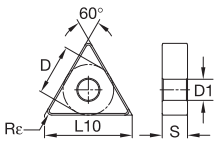


TNMG-ML

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNMG110304ML	TNMG221ML	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64	2,26	.089	–	●	–	–	–	–	–	●	–	–	–	–	–	–	–
TNMG110308ML	TNMG222ML	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32	2,26	.089	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
TNMG160404ML	TNMG331ML	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMG160408ML	TNMG332ML	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMG160412ML	TNMG333ML	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
TNMG220404ML	TNMG431ML	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	–	–	–	–	●	–	–	–	–	–	–	–
TNMG220408ML	TNMG432ML	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–

● first choice
○ alternate choice

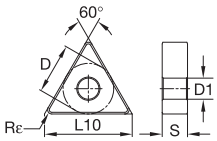
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

TNMG-MR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMG160404MR	TNMG331MR	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408MR	TNMG332MR	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412MR	TNMG333MR	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220404MR	TNMG431MR	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMG220408MR	TNMG432MR	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412MR	TNMG433MR	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416MR	TNMG434MR	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203

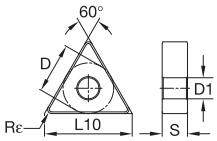
TNMG160404MR	TNMG331MR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG160408MR	TNMG332MR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG160412MR	TNMG333MR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG220404MR	TNMG431MR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG220408MR	TNMG432MR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG220412MR	TNMG433MR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG220416MR	TNMG434MR	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–

TNMG-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMG160408RH	TNMG332RH	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412RH	TNMG333RH	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220408RH	TNMG432RH	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMG220412RH	TNMG433RH	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203
TNMG220416RH	TNMG434RH	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203
TNMG270612RH	TNMG543RH	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250
TNMG270616RH	TNMG544RH	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250
TNMG330924RH	TNMG666RH	19,05	3/4	33,00	1.299	9,53	3/8	2,4	3/32	7,93	.313

TNMG160408RH	TNMG332RH	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
TNMG160412RH	TNMG333RH	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
TNMG220408RH	TNMG432RH	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
TNMG220412RH	TNMG433RH	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
TNMG220416RH	TNMG434RH	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
TNMG270612RH	TNMG543RH	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG270616RH	TNMG544RH	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMG330924RH	TNMG666RH	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–

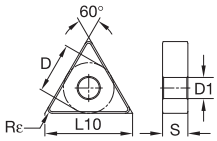
TNMG-UF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMG160404UF	TNMG331UF	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMG160408UF	TNMG332UF	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMG160412UF	TNMG333UF	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMG220404UF	TNMG431UF	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMG220408UF	TNMG432UF	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203

TNMG160404UF	TNMG331UF	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
TNMG160408UF	TNMG332UF	●	–	–	●	●	–	–	–	●	–	–	–	–	–	–
TNMG160412UF	TNMG333UF	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
TNMG220404UF	TNMG431UF	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
TNMG220408UF	TNMG432UF	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–

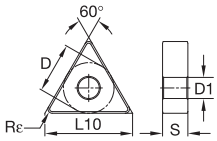
P	●	●	●	○	○	○	○	○	○	○	○		●	●	●
M			○	●	●	●			●	●	●		●		●
K	○	○					●	●	○	○		●			
N									○	○	○	●			
S					○				●	●	●	●			
H												●			

● first choice
○ alternate choice



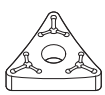
TNMG-UM

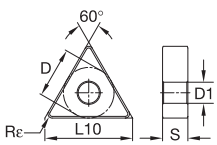
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNMG160404UM	TNMG331UM	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
TNMG160408UM	TNMG332UM	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
TNMG160412UM	TNMG333UM	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
TNMG160416UM	TNMG334UM	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–
TNMG220404UM	TNMG431UM	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
TNMG220408UM	TNMG432UM	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	●	–	–	●	●	●	–	–	●	–	–	–	–	–	–
TNMG220412UM	TNMG433UM	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–



TNMG-UR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNMG160408UR	TNMG332UR	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150	●	●	●	●	●	–	–	●	–	●	–	–	–	–	–
TNMG160412UR	TNMG333UR	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150	●	●	–	–	●	●	–	●	–	●	–	–	–	–	–
TNMG160416UR	TNMG334UR	9,53	3/8	16,50	.650	4,76	3/16	1,6	1/16	3,81	.150	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
TNMG220408UR	TNMG432UR	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	●	●	●	–	●	–	●	–	–	–	–	–
TNMG220412UR	TNMG433UR	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	●	●	●	–	●	–	●	–	–	–	–	–
TNMG220416UR	TNMG434UR	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203	●	●	–	–	●	●	–	●	–	–	–	–	–	–	–
TNMG270612UR	TNMG543UR	15,88	5/8	27,50	1.083	6,35	1/4	1,2	3/64	6,35	.250	●	●	–	●	●	●	–	●	–	●	–	–	–	–	–
TNMG270616UR	TNMG544UR	15,88	5/8	27,50	1.083	6,35	1/4	1,6	1/16	6,35	.250	●	●	–	●	●	●	–	●	–	–	–	–	–	–	–



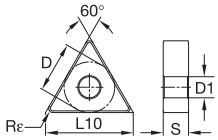


TNMM-65

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNMM16040865	TNMM33265	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150	–	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMM16041265	TNMM33365	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMM22040865	TNMM43265	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TNMM22041265	TNMM43365	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203	–	●	●	–	●	–	–	–	–	–	–	–	–	–	–
TNMM22041665	TNMM43465	12,70	1/2	22,00	.866	4,76	3/16	1,6	1/16	5,16	.203	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

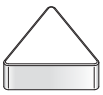
● first choice
○ alternate choice

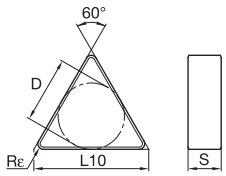


TNMP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNMP160404	TNMP331	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150
TNMP160408	TNMP332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150
TNMP160412	TNMP333	9,53	3/8	16,50	.650	4,76	3/16	1,2	3/64	3,81	.150
TNMP220404	TNMP431	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203
TNMP220408	TNMP432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203
TNMP220412	TNMP433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNMP160404	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
TNMP160408	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
TNMP160412	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
TNMP220404	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
TNMP220408	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–
TNMP220412	–	–	–	●	●	●	–	–	●	●	–	–	–	–	–

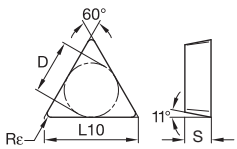




TNU

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TNUN160408	TNU332	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	—	—

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TNUN160408	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–



TPG

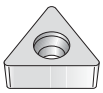
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPGN110308	TPG222	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32	—	—
TPGN160308	TPG322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32	—	—

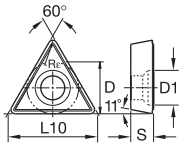
ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
TPGN110308	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
TPGN160308	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–

● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

TPGA

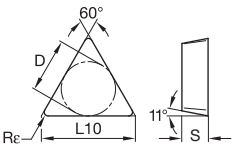




ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPGA110204	TPGA2151	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPGA110208	TPGA2152	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110

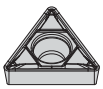
WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
–	–	–	–	–	–	–	–	–	–	–	●	–	–	–

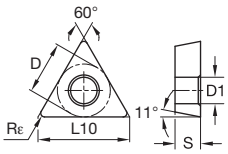
TPMR



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPMR110304	TPMR221	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64	—	—
TPMR110308	TPMR222	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32	—	—
TPMR160304	TPMR321	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64	—	—
TPMR160308	TPMR322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32	—	—
TPMR160312	TPMR323	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64	—	—

WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
●	–	●	–	–	–	–	–	–	–	–	–	–	–	–
●	–	●	–	–	–	–	●	–	–	–	–	–	–	–
●	–	●	–	–	–	–	●	–	–	–	–	–	–	–
●	–	●	–	–	–	–	●	–	–	–	–	–	–	–
●	–	●	–	–	–	–	●	–	–	–	–	–	–	–





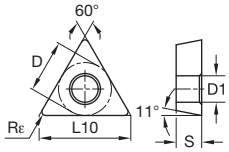
TPMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPMT090208FP	TPMT18152FP	5,56	7/32	9,63	.379	2,38	3/32	0,8	1/32	2,50	.098
TPMT110204FP	TPMT2151FP	6,35	1/4	11,00	.433	2,38	3/32	0,4	1/64	2,80	.110
TPMT110208FP	TPMT2152FP	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPMT16T304FP	TPMT3251FP	9,53	3/8	16,50	.650	3,97	5/32	0,4	1/64	4,40	.173
TPMT16T308FP	TPMT3252FP	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TPMT16T312FP	TPMT3253FP	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173
TPMT220408FP	TPMT432FP	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,50	.217

WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
●	●	–	–	●	–	–	●	–	–	–	–	–	–	–
●	●	–	–	●	–	–	●	–	–	–	–	–	–	–
●	●	–	–	●	–	–	●	–	–	–	–	–	–	–
–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
–	●	–	–	–	–	–	–	–	–	–	–	–	–	–

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

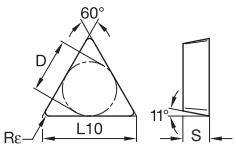
● first choice
○ alternate choice



TPMT-MP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPMT110208MP	TPMT2152MP	6,35	1/4	11,00	.433	2,38	3/32	0,8	1/32	2,80	.110
TPMT16T308MP	TPMT3252MP	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173
TPMT16T312MP	TPMT3253MP	9,53	3/8	16,50	.650	3,97	5/32	1,2	3/64	4,40	.173

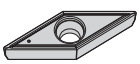
TPMT110208MP	TPMT2152MP	–	●	–	–	–	–	–	●	–	–	–	–	–	–	–
TPMT16T308MP	TPMT3252MP	–	●	–	–	–	–	–	●	–	–	–	–	–	–	–
TPMT16T312MP	TPMT3253MP	–	●	–	–	–	–	–	●	–	–	–	–	–	–	–

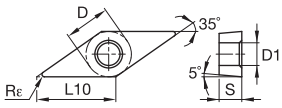


TPU

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
TPUN110304	TPU221	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64	–	–
TPUN110308	TPU222	6,35	1/4	11,00	.433	3,18	1/8	0,8	1/32	–	–
TPUN160304	TPU321	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64	–	–
TPUN160308	TPU322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32	–	–
TPUN160312	TPU323	9,53	3/8	16,50	.650	3,18	1/8	1,2	3/64	–	–
TPUN220408	TPU432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	–	–
TPUN220412	TPU433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	–	–
TPUN110304	TPUN221	6,35	1/4	11,00	.433	3,18	1/8	0,4	1/64	–	–
TPUN160308	TPUN322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32	–	–
TPUN220412	TPUN433	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	–	–

TPUN110304	TPU221	●	–	●	–	–	–	–	–	–	–	–	–	–	–	–
TPUN110308	TPU222	●	–	–	–	–	–	–	–	–	–	–	●	–	–	–
TPUN160304	TPU321	●	●	–	–	–	–	–	●	–	–	–	●	–	–	–
TPUN160308	TPU322	●	●	–	–	–	–	–	●	–	–	–	–	–	–	–
TPUN160312	TPU323	–	●	–	–	–	–	–	●	–	–	–	●	–	–	–
TPUN220408	TPU432	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
TPUN220412	TPU433	–	●	●	–	–	–	–	●	–	–	–	–	–	–	–
TPUN110304	TPUN221	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–
TPUN160308	TPUN322	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–
TPUN220412	TPUN433	–	–	–	–	–	–	–	–	–	–	–	●	–	●	–





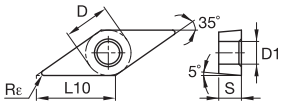
VBMT

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBMT160404	VBMT331	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBMT160408	VBMT332	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173
VBMT160412	VBMT333	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	4,40	.173

VBMT160404	VBMT331	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
VBMT160408	VBMT332	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
VBMT160412	VBMT333	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–

● first choice
○ alternate choice

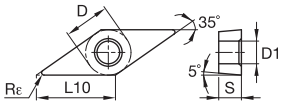
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			



VBMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBMT110302FP	VBMT2205FP	6,35	1/4	11,07	.436	3,18	1/8	0,2	.008	2,80	.110
VBMT110304FP	VBMT221FP	6,35	1/4	11,07	.436	3,18	1/8	0,4	1/64	2,80	.110
VBMT110308FP	VBMT222FP	6,35	1/4	11,07	.436	3,18	1/8	0,8	1/32	2,80	.110
VBMT160402FP	VBMT3305FP	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	4,40	.173
VBMT160404FP	VBMT331FP	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBMT160408FP	VBMT332FP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173
VBMT160412FP	VBMT333FP	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	4,40	.173

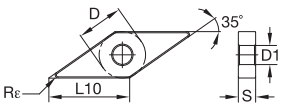
ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VBMT110302FP	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–
VBMT110304FP	●	●	–	●	●	–	–	–	–	–	–	–	–	–	–
VBMT110308FP	–	●	–	●	●	–	–	–	–	–	–	–	–	–	–
VBMT160402FP	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
VBMT160404FP	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
VBMT160408FP	●	●	–	●	●	–	–	●	–	–	–	–	–	–	–
VBMT160412FP	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–



VBMT-MP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VBMT160404MP	VBMT331MP	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173
VBMT160408MP	VBMT332MP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VBMT160404MP	–	●	–	–	●	–	–	●	–	–	–	–	–	–	–
VBMT160408MP	–	●	–	–	●	–	–	●	–	–	–	–	–	–	–



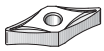
VNGG-FS

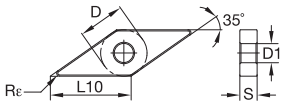
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNGG160402FS	VNGG3305FS	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150
VNGG160401FS	VNGG330FS	9,53	3/8	16,61	.654	4,76	3/16	0,1	.004	3,81	.150
VNGG160404FS	VNGG331FS	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNGG160408FS	VNGG332FS	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNGG160402FS	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
VNGG160401FS	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
VNGG160404FS	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
VNGG160408FS	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–

● first choice
○ alternate choice

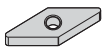
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

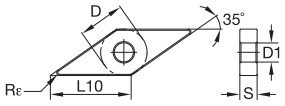




■ VNGP

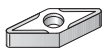
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNGP160402	VNGP3305	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
VNGP160401	VNGP330	9,53	3/8	16,61	.654	4,76	3/16	0,1	.004	3,81	.150	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–
VNGP220404	VNGP431	12,70	1/2	22,14	.872	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
VNGP220408	VNGP432	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	–	●	–	–	–	–

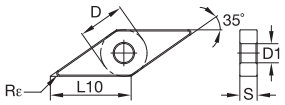




■ VNMA

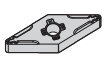
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMA160408	VNMA332	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–

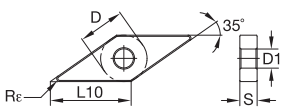




■ VNMG

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMG12T304	VNMG12T304	7,14	9/32	12,45	.490	3,97	5/32	0,4	1/64	3,60	.142	–	–	–	–	–	–	–	–	●	●	–	–	–	–	–
VNMG12T308	VNMG12T308	7,14	9/32	12,45	.490	3,97	5/32	0,8	1/32	3,65	.144	–	–	–	–	–	–	–	●	●	●	–	–	–	–	–



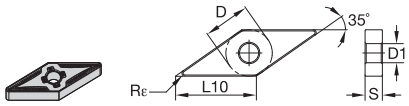


■ VNMG-FF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMG160404FF	VNMG331FF	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150	●	–	–	–	●	–	–	–	●	–	–	–	–	–	–
VNMG160408FF	VNMG332FF	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	●	–	–	–	●	–	–	–	●	–	–	–	–	–	–

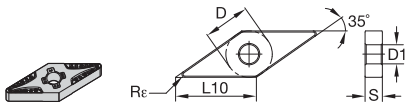
● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			



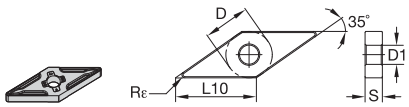
■ VNMG-ML

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMG160404ML	VNMG331ML	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
VNMG160408ML	VNMG332ML	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–



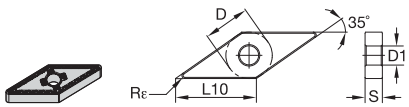
■ VNMG-MR

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMG160408MR	VNMG332MR	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–



■ VNMG-RH

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMG160408RH	VNMG332RH	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
VNMG220408RH	VNMG432RH	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
VNMG220412RH	VNMG433RH	12,70	1/2	22,14	.872	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–



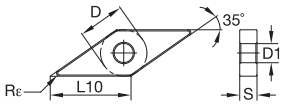
■ VNMG-UF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMG160404UF	VNMG331UF	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
VNMG160408UF	VNMG332UF	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	●	–	–	●	●	–	–	–	●	–	–	–	–	–	–

● first choice
○ alternate choice

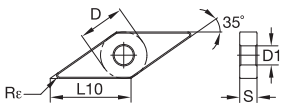
		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ VNMG-UR



ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMG160408UR	VNMG332UR	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150
VNMG160412UR	VNMG333UR	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150

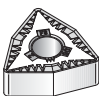
ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMG160408UR	●	●	●	●	●	●	–	●	–	●	–	–	–	–	–
VNMG160412UR	●	●	–	●	●	–	–	●	●	–	–	–	–	–	–

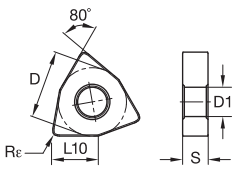


■ VNMP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
VNMP160404	VNMP331	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150
VNMP160408	VNMP332	9,52	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
VNMP160404	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
VNMP160408	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–

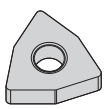


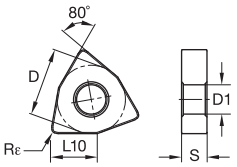


■ WNGG-FS

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in
WNGG080404FS	WNGG431FS	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203
WNGG080408FS	WNGG432FS	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203

ISO catalog number	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNGG080404FS	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–
WNGG080408FS	–	–	–	–	–	–	–	–	●	●	●	–	–	–	–



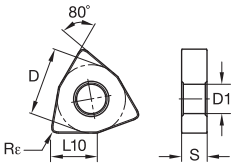


● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

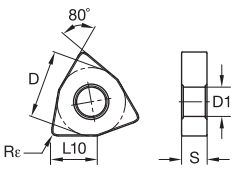
■ WNMA

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMA060408	WNMA332	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
WNMA060412	WNMA333	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–
WNMA080408	WNMA432	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
WNMA080412	WNMA433	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–
WNMA080416	WNMA434	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	–	–	●	●	–	–	–	–	–	–	–



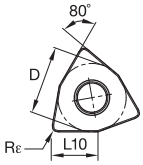
■ WNMG-FF

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060404FF	WNMG331FF	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–
WNMG060408FF	WNMG332FF	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	●	–	–	–	–	–	–	●	–	–	–	–	–	–	–
WNMG080404FF	WNMG431FF	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	–	●	–	–	–	●	–	–	–	–	–	–
WNMG080408FF	WNMG432FF	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	●	–	–	–	●	–	–	–	●	–	–	–	–	–	–



■ WNMG-FW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060404FW	WNMG331FW	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
WNMG060408FW	WNMG332FW	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
WNMG080404FW	WNMG431FW	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–
WNMG080408FW	WNMG432FW	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	●	–	–	●	●	–	●	–	–	–	–	–	–	–	–
WNMG080412FW	WNMG433FW	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	–	●	–	–	–	–	–	–	–	–

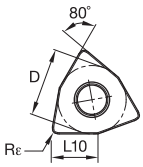


● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

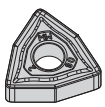
■ WNMG-ML

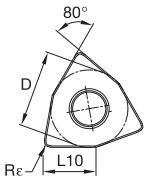
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060404ML	WNMG331ML	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150	●	–	–	–	–	–	●	●	–	–	–	–	–	–	–
WNMG060408ML	WNMG332ML	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
WNMG080404ML	WNMG431ML	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–
WNMG080408ML	WNMG432ML	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	–	–	–	●	●	–	–	–	–	–	–	–



■ WNMG-MR

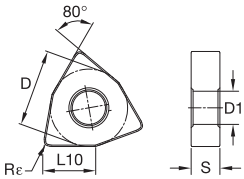
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG080408MR	WNMG432MR	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
WNMG080412MR	WNMG433MR	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	●	●	–	–	–	–	–	–	–	–	–
WNMG080416MR	WNMG434MR	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–





■ WNMG-MW

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060408MW	WNMG332MW	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–
WNMG080408MW	WNMG432MW	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	●	●	–	–	●	–	●	–	–	–	–	–	–	–	–
WNMG080412MW	WNMG433MW	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	●	–	●	–	–	–	–	–	–	–	–

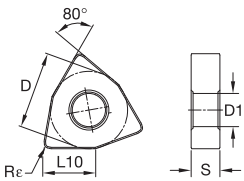


● first choice
○ alternate choice

P		●	●	●	○	○	○	○	○	○	○	○		●	●	●			
M				○	●	●	●			●	●	●		●		●			
K		○	○					●	●	○	○		●						
N										○	○	○	●						
S						○				●	●	●	●						
H													●						

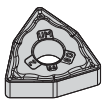
■ WNMG-RH

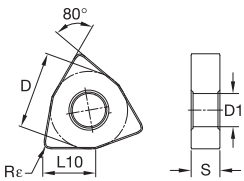
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060408RH	**WNMG332RH**	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	●	●	●	–	●	–	–	–	–	–	–	–	–	–	–
WNMG080408RH	**WNMG432RH**	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
WNMG080412RH	**WNMG433RH**	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–
WNMG080416RH	**WNMG434RH**	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203	●	●	●	–	●	–	–	●	–	–	–	–	–	–	–



■ WNMG-UF

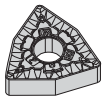
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060404UF	**WNMG331UF**	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
WNMG060408UF	**WNMG332UF**	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
WNMG080404UF	**WNMG431UF**	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
WNMG080408UF	**WNMG432UF**	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–
WNMG080412UF	**WNMG433UF**	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	●	●	–	–	–	●	–	–	–	–	–	–

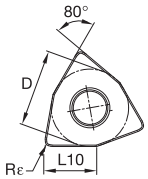




■ WNMG-UM

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060404UM	**WNMG331UM**	9,53	3/8	6,52	.257	4,76	3/16	0,4	1/64	3,81	.150	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
WNMG060408UM	**WNMG332UM**	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	–	–	–	●	●	●	–	–	●	–	–	–	–	–	–
WNMG060412UM	**WNMG333UM**	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–
WNMG080404UM	**WNMG431UM**	12,70	1/2	8,69	.342	4,76	3/16	0,4	1/64	5,16	.203	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–
WNMG080408UM	**WNMG432UM**	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	–	●	–	●	●	●	–	–	–	–	–	–	–	–	–
WNMG080412UM	**WNMG433UM**	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	●	–	–	●	●	●	–	–	●	–	–	–	–	–	–
WNMG080416UM	**WNMG434UM**	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–



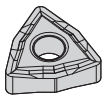


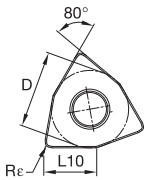
● first choice
○ alternate choice

		WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
P		●	●	●	○	○	○	○	○	○	○	○		●	●	●
M				○	●	●	●			●	●	●		●		●
K		○	○					●	●	○	○		●			
N										○	○	○	●			
S						○				●	●	●	●			
H													●			

■ WNMG-UR

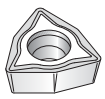
ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMG060408UR	WNMG332UR	9,53	3/8	6,52	.257	4,76	3/16	0,8	1/32	3,81	.150	●	●	●	●	●	–	–	●	●	●	–	–	–	–	–
WNMG060412UR	WNMG333UR	9,53	3/8	6,52	.257	4,76	3/16	1,2	3/64	3,81	.150	●	●	–	–	–	–	–	●	–	–	–	–	–	–	–
WNMG080408UR	WNMG432UR	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	●	●	●	●	●	●	●	●	–	–	–	–	–	–	–
WNMG080412UR	WNMG433UR	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	●	●	●	●	●	●	–	●	●	–	–	–	–	–	–
WNMG080416UR	WNMG434UR	12,70	1/2	8,69	.342	4,76	3/16	1,6	1/16	5,16	.203	●	●	●	–	●	●	–	●	–	–	–	–	–	–	–

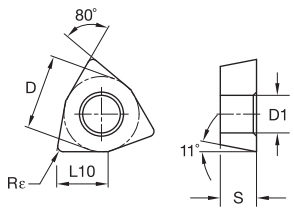




■ WNMP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WNMP080408	WNMP432	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
WNMP080412	WNMP433	12,70	1/2	8,69	.342	4,76	3/16	1,2	3/64	5,16	.203	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–





■ WPMT-FP

ISO catalog number	ANSI catalog number	D mm	D in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	D1 mm	D1 in	WP15CT	WP25CT	WP35CT	WM15CT	WM25CT	WM35CT	WK05CT	WK20CT	WS10PT	WS25PT	WU10HT	THM	TTM	TTR	TTI15
WPMTS3T104FP	WPMT15121FP	4,76	3/16	3,25	.128	1,98	5/64	0,4	1/64	2,15	.085	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–
WPMT040204FP	WPMT2151FP	6,35	1/4	4,34	.171	2,38	3/32	0,4	1/64	2,80	.110	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–
WPMT06T304FP	WPMT3251FP	9,53	3/8	6,52	.257	3,97	5/32	0,4	1/64	4,40	.173	●	–	–	●	●	–	–	–	–	–	–	–	–	–	–
WPMT06T308FP	WPMT3252FP	9,53	3/8	6,52	.257	3,97	5/32	0,8	1/32	4,40	.173	●	●	–	–	●	–	–	–	–	–	–	–	–	–	–