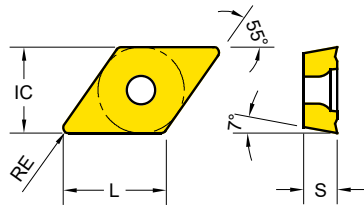





# Turning Inserts - Positive

## DCMT / DCGT (55° Positive)



Series	L	IC	S
DC** 0702	7.5	6.35	2.38
DC** 11T3	11.2	9.53	3.97

EDP 2200.. ●: Stock item ○: Order made item

DCGT DCMT	Designation	RE	Fn (mm/rev.)	Ap (mm)	P05	P10	P20	P30	P20	M15	M30	M40	N20	N20
					K10	K20	M20	S10	S20	S30				
-AL  Aluminum	DCGT 11T302 - AL	0.2	0.02~0.08	0.5~1									●	●
	DCGT 11T304 - AL	0.4	0.05~0.25	0.5~2									○	○
	DCGT 11T308 - AL	0.8	0.1~0.3	1~2.5									○	○
-UF  Finishing	DCMT 070204 - UF	0.4	0.05~0.2	0.5~1.5		●	●							
	DCMT 11T304 - UF	0.4	0.05~0.25	0.5~2		●	●							
	DCMT 11T308 - UF	0.8	0.05~0.25	1~2.5		●	●							
-UG  General	DCMT 070204 - UG	0.4	0.1~0.25	0.5~1.5		●	●		●					
	DCMT 070208 - UG	0.8	0.1~0.25	0.8~1.5		●	●							
	DCMT 11T304 - UG	0.4	0.15~0.3	0.5~2	●	●	●		●					
	DCMT 11T308 - UG	0.8	0.15~0.3	0.8~2.5	●	●	●	●	●					

Cutting Speed			Vc (m/min.)																			
ISO	VDI	Sub Group	YG1001		YG3010		YG3020		YG3030		YG801		YG211		YG213		YG214		YG100		YG10	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
P	1~5	Non-Alloyed Steel	220	480	170	450	180	380	150	350	120	200	-	-	-	-	-	-	-	-	-	-
	6~9	Low-Alloyed Steel	220	420	180	380	110	350	90	300	70	200	-	-	-	-	-	-	-	-	-	-
	10~11	High-Alloyed Steel	-	-	100	330	60	300	70	250	-	-	-	-	-	-	-	-	-	-	-	-
M	12~13	Ferritic & Martensitic	-	-	-	-	-	-	120	230	-	-	130	230	110	180	80	150	-	-	-	-
	14	Austenitic Stainless Steel	-	-	-	-	-	-	80	200	-	-	100	200	40	130	30	120	-	-	-	-
K	15~16	Grey Cast Iron	170	420	120	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	17~18	Nodular Cast Iron	120	410	120	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350	1200	250	800	-
S	31~37	Superalloys & Titanium	-	-	-	-	-	-	35	80	-	-	30	90	20	40	20	40	-	-	-	-
H	38~41	Hard Materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TURNING

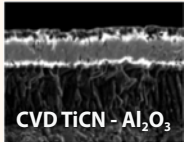
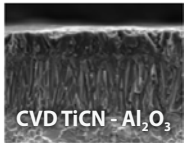
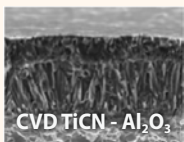
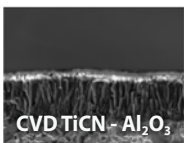
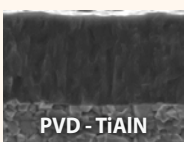
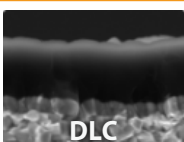

PARTING &amp; GROOVING

MILLING

DRILLING

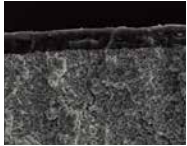
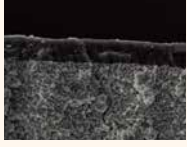
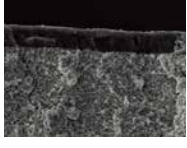
TECHNICAL INFORMATION

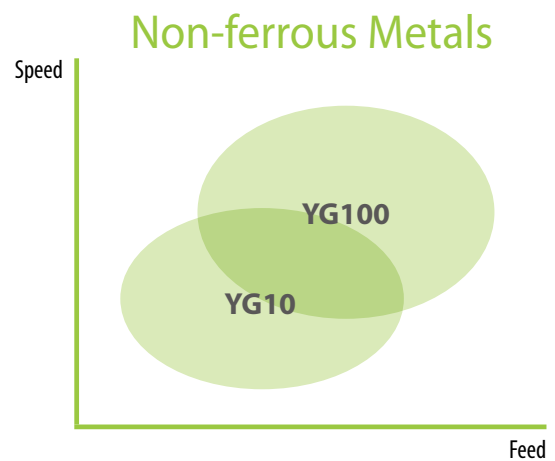
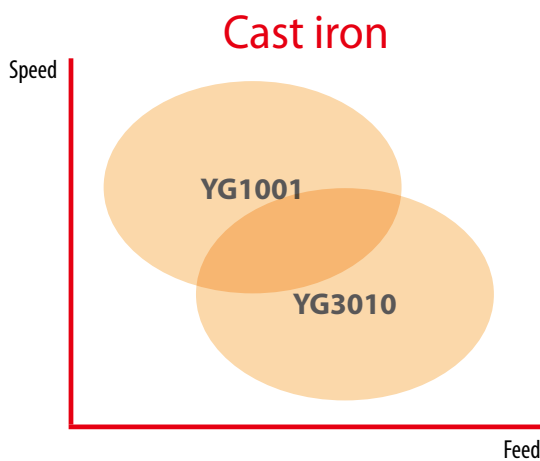
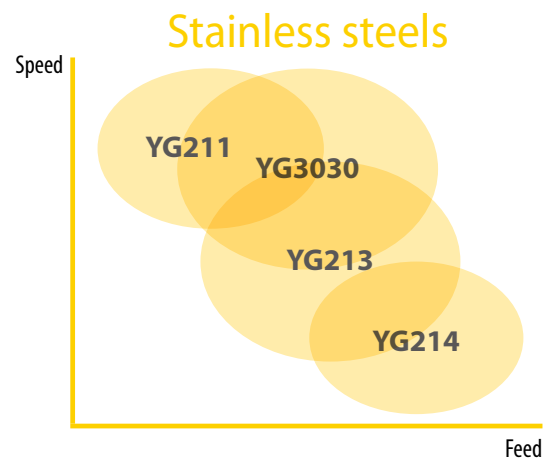
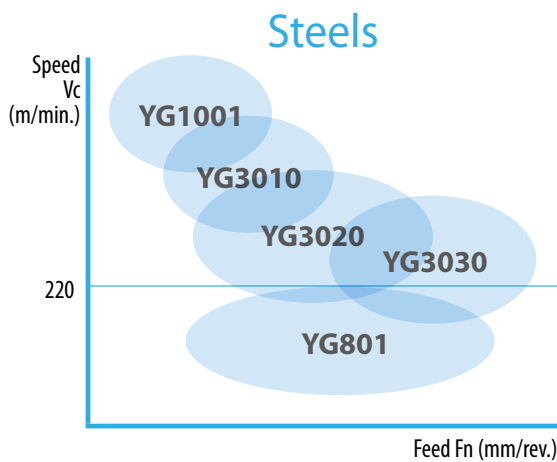
Turning Grades	P Steel				M Stainless steel			K Cast iron			N Non-ferrous		S Superalloys	
	P10	P20	P30	P40	M10	M20	M30	K10	K20	K30	N10	N20	S10	S20
CVD	YG1001	1001							1001					
	YG3010		3010							3010				
	YG3020			3020										
	YG3030				3030									
PVD	YG801	801												
	YG211					211							211	
	YG213						213							213
	YG214							214						214
DLC	YG100										100			
-	YG10										10			

<b>YG1001</b> <span style="background-color: #0070C0; color: white; padding: 2px;">P01 - P10</span> <span style="background-color: #C00000; color: white; padding: 2px;">K10 - K25</span>	 <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p>	<b>First choice for stable machining of Cast iron</b> <ul style="list-style-type: none"> <li>• Substrate especially designed for high wear resistance</li> <li>• Thick Al<sub>2</sub>O<sub>3</sub> layer ensures good wear resistance at high cutting speeds including dry machining</li> </ul>
<b>YG3010</b> <span style="background-color: #0070C0; color: white; padding: 2px;">P05 - P20</span> <span style="background-color: #C00000; color: white; padding: 2px;">K15 - K35</span>	 <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p>	<b>First choice for Finishing Steels, and Ductile Cast iron</b> <ul style="list-style-type: none"> <li>• Finishing and light machining of steel under in stable condition</li> <li>• New Al<sub>2</sub>O<sub>3</sub> coating technology and excellent surface smoothness increase wear resistance and chipping resistance</li> </ul>
<b>YG3020</b> <span style="background-color: #0070C0; color: white; padding: 2px;">P15 - P30</span>	 <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p>	<b>First Choice grade for general Steel application</b> <ul style="list-style-type: none"> <li>• Substrate especially designed for good toughness</li> <li>• Excellent surface smoothness increases wear resistance and reliability</li> </ul>
<b>YG3030</b> <span style="background-color: #0070C0; color: white; padding: 2px;">P20 - P35</span> <span style="background-color: #FFD700; color: black; padding: 2px;">M10 - M30</span>	 <p>CVD TiCN - Al<sub>2</sub>O<sub>3</sub></p>	<b>Interrupted cut of Steel and Stainless steel</b> <ul style="list-style-type: none"> <li>• Heavy interrupted cut for Steel</li> <li>• High cutting speed for Stainless steel</li> </ul>
<b>YG801</b> <span style="background-color: #0070C0; color: white; padding: 2px;">P10 - P30</span>	 <p>PVD - TiAlN</p>	<b>for Carbon Steel with Low cutting speed</b> <ul style="list-style-type: none"> <li>• Recommended for mild steel and boring application</li> <li>• Substrate and special PVD coating for excellent wear resistance</li> </ul>
<b>YG100</b> <span style="background-color: #70AD47; color: white; padding: 2px;">N05 - N25</span>	 <p>DLC</p>	<b>First Choice grade for aluminum with DLC coating</b> <ul style="list-style-type: none"> <li>• Submicron carbide for high wear resistance</li> <li>• DLC coating minimizes Built Up Edge tendency.</li> <li>• Improve tool life in sticky non-ferrous alloy</li> </ul>
<b>YG10</b> <span style="background-color: #70AD47; color: white; padding: 2px;">N05 - N25</span>	 <p>Uncoated</p>	<b>Uncoated Grade for General Aluminum</b> <ul style="list-style-type: none"> <li>• Substrate consisted of submicron carbide for high wear resistance</li> <li>• Shining surface to prevent built up edge</li> </ul>

Product Overview

# Turning Grade Map

<p><b>YG211</b></p> <p>M05 - M25</p> <p>S05 - S20</p>		<p><b>High wear resistance grade for Super alloys and Stainless steel</b></p> <ul style="list-style-type: none"> <li>• Finishing Stainless steel</li> <li>• Finishing Super alloys and Titanium</li> </ul>
<p><b>YG213</b></p> <p>M20 - M35</p> <p>S15 - S25</p>		<p><b>First Choice Grade on low cutting speed of Stainless steel</b></p> <ul style="list-style-type: none"> <li>• First choice on Stainless steel for Low cutting speed</li> <li>• For Medium to low cutting speed</li> </ul>
<p><b>YG214</b></p> <p>M30 - M40</p> <p>S25 - S30</p>		<p><b>Heavy Interrupted cut for Stainless steel</b></p> <ul style="list-style-type: none"> <li>• For Heavy Interrupted cut on Stainless steel</li> <li>• Minimize risk of Mechanical fracture or Chipping</li> </ul>



### Turning Chipbreakers - Positive

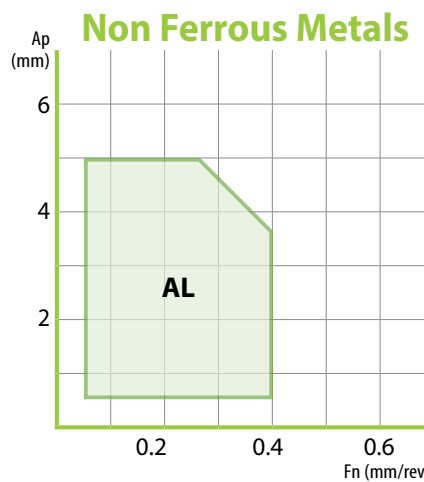
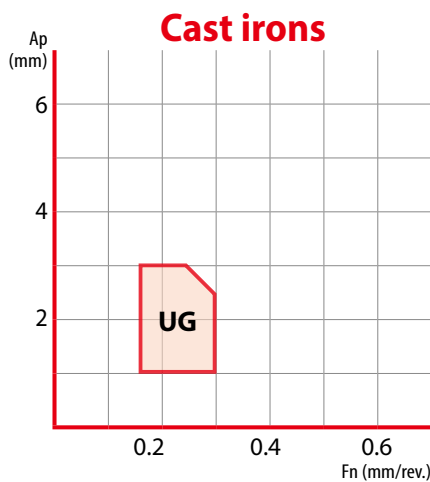
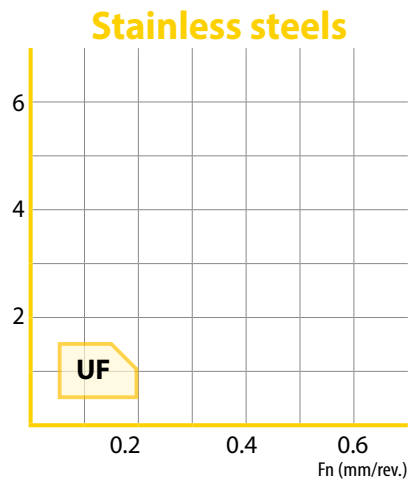
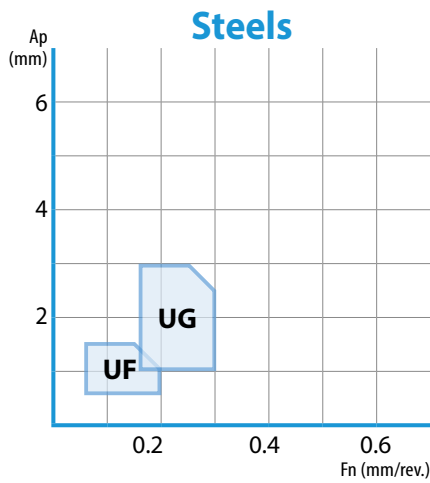
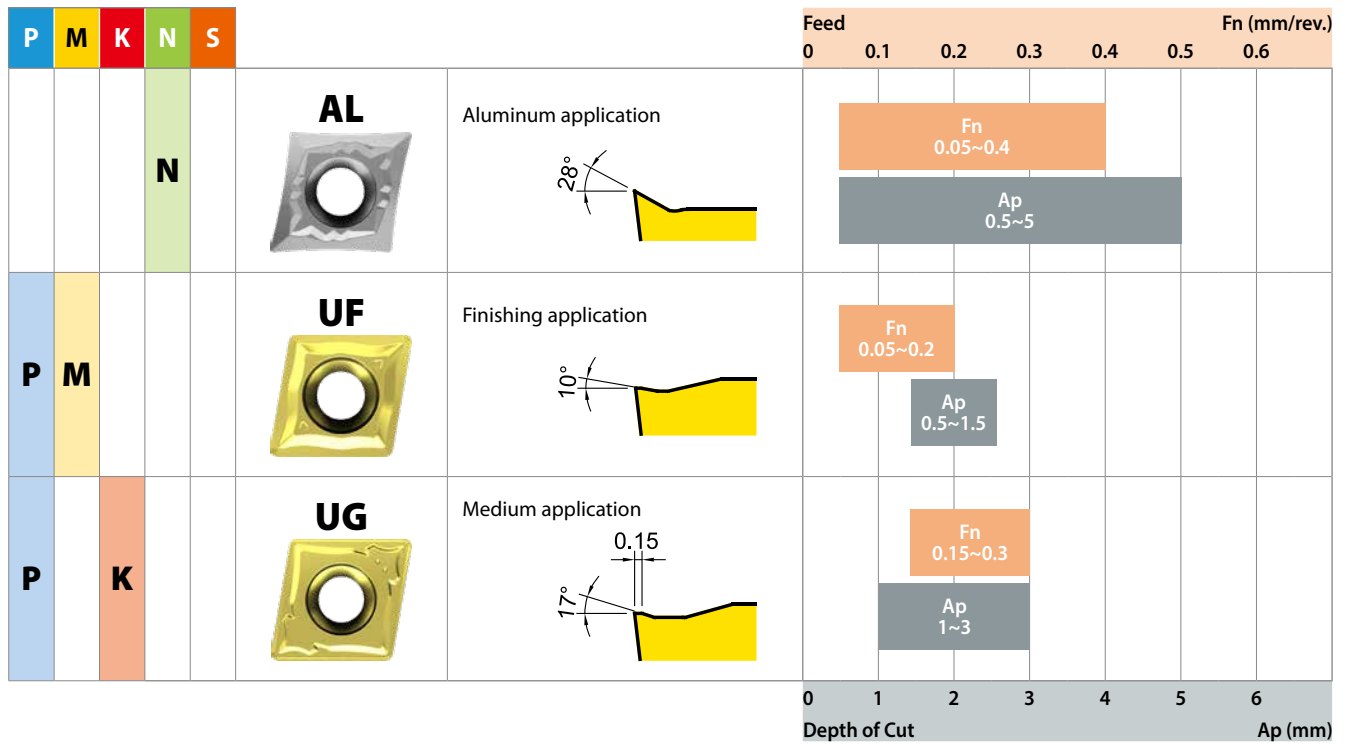
TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



## Insert ISO Code System













\*Metric : According to ISO 1832

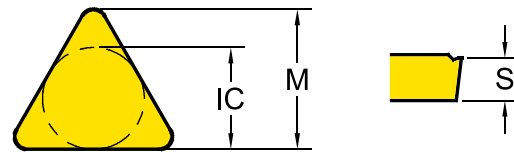
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<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>C</b>	<b>N</b>	<b>M</b>	<b>G</b>	<b>12</b>	<b>04</b>	<b>08</b>	<b>-UG</b>	<b>YG3020</b>
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

### 1 - Shape

Symbol	Shape	
<b>H</b>	Hexagonal	
<b>O</b>	Octagonal	
<b>P</b>	Pentagonal	
<b>S</b>	Square	
<b>T</b>	Triangular	
<b>C</b>	Rhombic 80°	
<b>D</b>	Rhombic 55°	
<b>V</b>	Rhombic 35°	
<b>W</b>	Trigon	
<b>L</b>	Rectangular	
<b>K</b>	Parallelogram 55°	
<b>R</b>	Round	







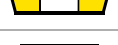



### 3 - Tolerance Class



Symbol	Inner Circle IC (mm)	Nose Height M (mm)	Thickness S (mm)
<b>C</b>	± 0.025	± 0.013	± 0.025
<b>E</b>	± 0.025	± 0.025	± 0.025
<b>G</b>	± 0.025	± 0.025	± 0.13
<b>H</b>	± 0.013	± 0.013	± 0.025
<b>K*</b>	± 0.05~0.15*	± 0.013	± 0.025
<b>M*</b>	± 0.05~0.15*	± 0.08~0.2*	± 0.13
<b>U*</b>	± 0.08~0.25*	± 0.13~0.38*	± 0.13

\*Tolerance is different by insert IC size. Please see ISO 1832

### 4 - Clamping & Chipbreaker

Symbol	Clamping	Chipbreaker	Figure
<b>N</b>	No clamping hole	X	
<b>R</b>		One Face	
<b>A</b>	Cylindrical Clamping hole	X	
<b>M</b>		One Face	
<b>G</b>		Both Faces	
<b>W</b>	Screw Hole	X	
<b>T</b>		One Face	
<b>U</b>		Both Faces	
<b>X</b>		Special	

### 2 - Relief Angle (AN)

Symbol	Relief Angle (AN)	
<b>N</b>	No Relief Angle	
<b>B</b>	Relief 5°	
<b>C</b>	Relief 7°	
<b>P</b>	Relief 11°	
<b>D</b>	Relief 15°	
<b>E</b>	Relief 20°	
<b>F</b>	Relief 25°	
<b>O</b>	Special	

# Insert ISO Code System

\*Inch

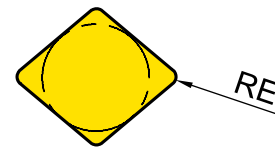
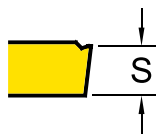
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<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>C</b>	<b>N</b>	<b>M</b>	<b>G</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>-UG</b>	<b>YG3020</b>
Shape	Clearance	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness	Corner Radius	Chipbreaker Geometry	Grade

## 5 - Insert Size

Metric							Inner Circle IC (mm)	Inch
S	T	C	D	V	W	R		
06	11	06	07	11			6.35	2
07							7.94	2.5
09	16	09	11	16	06	09 (00)	9.525	3
12	22	12	15	22	08	12 (00)	12.7	4
15		16					15.875	5
19		19					19.05	6
25		25					25.4	8
						06 (M0)	6	
						08 (M0)	8	
						10 (M0)	10	
						12 (M0)	12	
						16 (M0)	16	



## 6 - Insert Thickness (S)

Metric	Thickness - S (mm)	Inch
<b>T1</b>	1.98	<b>1.2</b>
<b>02</b>	2.38	<b>1.5</b>
<b>03</b>	3.18	<b>2</b>
<b>T3</b>	3.97	<b>2.5</b>
<b>04</b>	4.76	<b>3</b>
<b>05</b>	5.56	<b>3.5</b>
<b>06</b>	6.35	<b>4</b>
<b>07</b>	7.94	<b>5</b>
<b>09</b>	9.525	<b>6</b>

## 7 - Corner Radius (RE)

Metric	Corner Radius - RE (mm)	Inch
<b>01</b>	0.1	<b>0</b>
<b>02</b>	0.2	<b>0.5</b>
<b>04</b>	0.4	<b>1</b>
<b>08</b>	0.8	<b>2</b>
<b>12</b>	1.2	<b>3</b>
<b>16</b>	1.6	<b>4</b>
<b>20</b>	2.0	<b>5</b>
<b>24</b>	2.4	<b>6</b>