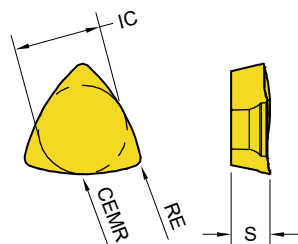


### RBEX50 - Profiling / Highfeed (3 Corner)



Series	IC	S
RBEX50	12.7	5.55

#### EDP 1200..

P25	P30	P20
M30		
K30	K30	
S20		

● : Stock item

○ : Order made item

RBEX50	Designation	RE (mm)	Fz (mm/tooth)	CEMR (mm)	YG602	YG622	YG712
	RBEX 50	1.2		25	● 0277	● 0443	

**RBEX50**  
General



Cutting Speed			Vc (m/min.)					
ISO	VDI	Sub Group	YG602		YG622		YG712	
			Min	Max	Min	Max	Min	Max
P	1~5	Non-Alloyed Steel	140	380	140	400	170	300
	6~9	Low-Alloyed Steel	120	300	120	320	180	250
	10~11	High-Alloyed Steel	70	150	70	170	100	140
M	12~13	Ferritic & Martensitic	120	200	-	-	-	-
	14	Austenitic Stainless Steel	130	250	-	-	-	-
K	15~16	Grey Cast Iron	120	250	120	270	-	-
	17~18	Nodular Cast Iron	130	220	130	240	-	-
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-
S	31~37	Superalloys & Titanium	25	45	-	-	-	-
H	38~41	Hard Materials	40	80	40	100	-	-

# Insert ISO Code System

TURNING

PARTING & GROOVING










MILLING

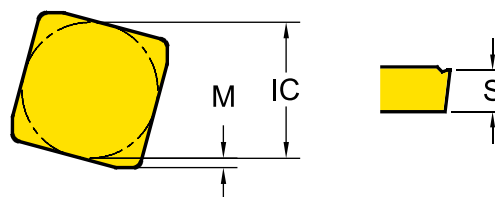
DRILLING

TECHNICAL INFORMATION

<b>1</b> <b>A</b> Shape	<b>2</b> <b>P</b> Relief Angle (AN)	<b>3</b> <b>K</b> Tolerance	<b>4</b> <b>T</b> Clamping & Chipbreaker	<b>5</b> <b>16</b> Insert Size	<b>6</b> <b>04</b> Insert Thickness (S)	<b>7</b> <b>08</b> Corner Radius
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## 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>W</b>	Trigon	
<b>L</b>	Rectangular	
<b>A</b>	Parallelogram 80°	
<b>R</b>	Round	

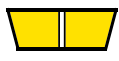



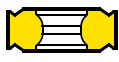


## 3 - Tolerance Class



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>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	

## 5 - Insert Size

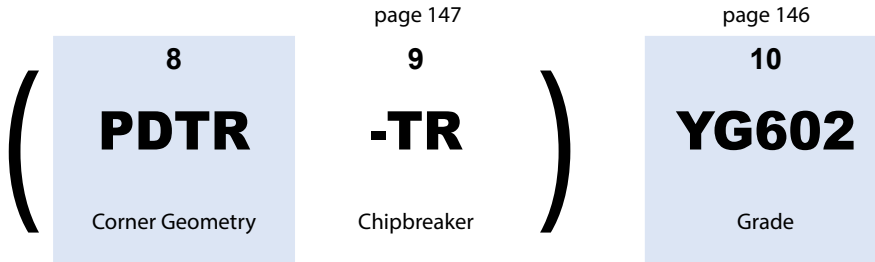
\* No Standard for milling insert size

## 6 - Insert Thickness

\* No Standard for milling insert thickness

# Milling - Code System

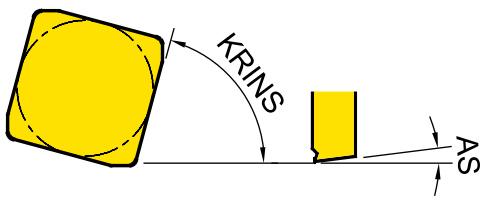
## Insert ISO Code System



### 7 - Corner Radius (RE)

Symbol	Corner Radius - RE(mm)	Symbol	Corner Radius - RE(mm)
<b>04</b>	0.4	<b>16</b>	1.6
<b>08</b>	0.8	<b>20</b>	2.0
<b>12</b>	1.2	<b>24</b>	2.4

### 8 - Corner Geometry



8-1	8-2	8-3	8-4
<b>P</b>	<b>D</b>	<b>T</b>	<b>R</b>
Cutting Edge Angle (KRINS)	Wiper Edge Clearance (AS)	Edge Condition	Feed Direction

\*Refer to page. 147 for -AL, -ST, -TR... types

#### 8-1 - Cutting Edge Angle (KRINS)

Symbol	Cutting Edge Angle (KRINS)
<b>P</b>	90°
<b>A</b>	45°
<b>D</b>	60°
<b>E</b>	75°
<b>F</b>	85°
<b>Z</b>	Special

#### 8-3 - Edge Condition

Symbol	Edge Condition
<b>F</b>	Sharp
<b>E</b>	Round
<b>T</b>	Chamfer
<b>S</b>	Chamfer and Round

#### 8-2 - Wiper Edge Clearance (AS)

Symbol	Wiper Edge Clearance (AS)
<b>N</b>	0°
<b>P</b>	11°
<b>D</b>	15°
<b>E</b>	20°
<b>F</b>	25°
<b>Z</b>	Special

#### 8-4 - Feed Direction

Symbol	Feed Direction
<b>R</b>	Right-hand Insert
<b>N</b>	Neutral Insert
<b>L</b>	Left-hand Insert

# Milling Grades and Chipbreakers

## Milling Grades

Milling Grades	P Steel					M Stainless steel				K Cast iron				N Non-ferrous				S Super alloys				H Hardened Steel			
	P05	P15	P25	P35	P45	M05	M15	M25	M35	K05	K15	K25	K35	N05	N15	N25	N35	S05	S15	S25	S35	H05	H15	H25	H35
PVD	YG012	012																	012						
	YG712	712																							
	YG713	713																							
	YG612	612					612												612						
	YG622	622									622														
	YG602	602					602				602								602						
	YG613	613					613																		
	YG501										501														
CVD	YG5020										5020														
Uncoated	YG50														50										

TECHNICAL INFORMATION	<p><b>NEW</b></p> <p><b>YG012</b></p> <p>H10 - H30</p> <p>P10 - P30</p>	<p>PVD - TiAlN</p>	<p><b>Optimized Milling Grade for Pre-Hardened &amp; Hardened steel</b></p> <ul style="list-style-type: none"> <li>Applied Extreme Oxidation PVD layer and Crack-free Substrate</li> <li>Excellent Cutting performance for Die &amp; Mold application</li> </ul>
	<p><b>YG712</b></p> <p>P10 - P30</p>	<p>PVD - TiAlCrN</p>	<p><b>Milling Grade for Medium of Steel Application</b></p> <ul style="list-style-type: none"> <li>Superior wear resistance and excellent toughness in high speed machining</li> <li>Coating layer with high hardness and oxidation resistance</li> </ul>
	<p><b>YG713</b></p> <p>P15 - P25</p>	<p>PVD - TiAlN</p>	<p><b>Milling Grade for General Steel Application</b></p> <ul style="list-style-type: none"> <li>Multi-layer TiAlN structure realizes stronger crater and flank wear resistance</li> <li>Fine-grained carbide and balanced substrate</li> </ul>
	<p><b>YG622</b></p> <p>P20 - P35</p> <p>K20 - K40</p>	<p>PVD - AlCrN</p>	<p><b>Optimized Grade for High Alloyed or Prehardened Steel</b></p> <p>Excellent for High Temperature Hardness and Oxidation Resistance at High Speed</p>
	<p><b>NEW</b></p> <p><b>YG612</b></p> <p>P20 - P40</p> <p>M20 - M40</p> <p>S20 - S40</p>	<p>PVD - TiAlN</p>	<p><b>Specialized Multi-Nano Coated Grade with high wear resistance and chipping resistance</b></p> <ul style="list-style-type: none"> <li>Special Multi-Nano coating prevent crack and providing predictable tool life</li> <li>Special universal Grade can achieve stable tool life in any workpiece</li> </ul>

# Milling Grades and Chipbreakers

## Milling Grades

<p><b>YG602</b></p> <p>P20 - P35   M20 - M40</p> <p>K20 - K40   S15 - S25</p>		<p><b>Universal grade for General Milling Application</b></p> <ul style="list-style-type: none"> <li>• Ultra Dense PVD Coating with optimal thermal resistance &amp; strength</li> <li>• Sub-Micron substrate designed for demanding application</li> </ul>
<p><b>YG613</b></p> <p>P30 - P50</p> <p>M30 - M40</p>		<p><b>Milling Grade for Stainless Steel Application</b></p> <ul style="list-style-type: none"> <li>• New coating layer with lubrication preventing built-up edge on ultra fine grain substrate with high toughness.</li> <li>• The toughest substrate provides excellent cutting performance in stainless steel</li> </ul>
<p><b>YG501</b></p> <p>K05 - K25</p>		<p><b>Hard Milling grade for Cast Iron</b></p> <ul style="list-style-type: none"> <li>• Substrate especially designed for high wear resistance</li> <li>• Excellent wear resistance in cast iron milling application</li> </ul>
<p><b>YG5020</b></p> <p>K01 - K30</p>		<p><b>CVD Milling grade for Cast Iron</b></p> <ul style="list-style-type: none"> <li>• CVD coating for Excellent wear resistance</li> <li>• Improved Toughness for chipping resistance</li> </ul>
<p><b>YG50</b></p> <p>N05 - N20</p>		<p><b>Uncoated Milling Grade for Aluminium</b></p> <ul style="list-style-type: none"> <li>• Submicron carbide substrate for high wear resistance</li> <li>• Preventing built up edge with shining surface</li> </ul>

## Milling Chipbreakers

<p><b>-AL</b></p>		<ul style="list-style-type: none"> <li>• For Aluminum</li> <li>• Very Sharp Geometry</li> </ul>
<p><b>-ST</b></p>		<ul style="list-style-type: none"> <li>• For Stainless Steel, Super Alloy</li> <li>• Sharp Geometry</li> </ul>
<p><b>-GN</b> (General Type)</p>		<ul style="list-style-type: none"> <li>• First Choice for General Application</li> </ul>
<p><b>-TR</b></p>		<ul style="list-style-type: none"> <li>• For Hardened Steels</li> <li>• Reinforced Geometry</li> </ul>
<p><b>...W / ...N</b></p>		<ul style="list-style-type: none"> <li>• For Hardened Material and Cast Irons</li> </ul>