

# Grades

## Carbide grades

Grades	ISO	Characteristics & applications
<b>TT7005</b> CVD coated	<b>K05 – K15</b>	• High speed turning of gray cast iron in continuous conditions
<b>TT7015</b> CVD coated	<b>K10 – K25</b>	• General turning of gray and ductile cast iron in continuous and interrupted conditions
<b>TT7025</b> CVD coated	<b>K20 – K35</b>	• Interrupted turning of gray and ductile cast iron especially good in ductile cast iron
<b>TT8105B</b> CVD coated	<b>P05 – P15</b>	• High speed turning of steel in continuous conditions
<b>TT8115B</b> CVD coated	<b>P05 – P20</b>	• General turning of steel in high speed conditions
<b>TT3005</b> CVD coated	<b>S05 – S15</b>	• Finish turning of heat resistant super alloys in high speed and low depth of conditions
<b>TT9215</b> CVD coated	<b>M05 – M20</b> <b>S05 – S20</b>	• High speed turning of stainless steel and heat resistant super alloys in continuous conditions
<b>TT4410</b> PVD coated	<b>M05 – M25</b> <b>P05 – P25</b> <b>S05 – S25</b>	• High speed turning of small parts for stainless steel, steel and titanium alloys in continuous conditions
<b>TT3010</b> PVD coated	<b>S05 – S20</b>	• High speed turning of heat resistant super alloys in continuous conditions
<b>TT5080</b> PVD coated	<b>M05 – M25</b> <b>S05 – S25</b>	• Wide range of turning for stainless steel and heat resistant super alloy
<b>TT3020</b> PVD coated	<b>S10 – S30</b>	• General turning of heat resistant super alloy
<b>TT8125B</b> CVD coated	<b>P15 – P30</b>	• General turning of steel in wide range of conditions
<b>TT5100</b> CVD coated	<b>P20 – P35</b> <b>M20 – M35</b>	• Wide range of turning for mild steel, low carbon steel, low carbon alloy steel and stainless steel
<b>TT9225</b> CVD coated	<b>M15 – M30</b> <b>S15 – S30</b>	• General turning of stainless steel and heat resistant super alloy
<b>TT9020</b> PVD coated	<b>P20 – P40</b> <b>M20 – M40</b>	• General turning of small parts for steel and stainless steel

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Grades	ISO	Characteristics & applications
<b>TT4430</b> PVD coated	M20 – M40 P20 – P40 S20 – S40	<ul style="list-style-type: none"> <li>General turning of small parts for stainless steel, steel and titanium alloy</li> </ul>
<b>TT9080</b> PVD coated	M20 – M40 P20 – P40 S20 – S40	<ul style="list-style-type: none"> <li>General turning of stainless steel, steel and heat resistant super alloy</li> </ul>
<b>TT8135B</b> CVD coated	P25 – P40	<ul style="list-style-type: none"> <li>Interrupted turning of steel in low speed conditions</li> </ul>
<b>TT7100</b> CVD coated	P30 – P45	<ul style="list-style-type: none"> <li>Heavy interrupted turning of steel</li> </ul>
<b>TT9235</b> CVD coated	M25 – M40 S25 – S40	<ul style="list-style-type: none"> <li>Interrupted turning of stainless steel and heat resistant super alloy in low speed conditions</li> </ul>
<b>TT8080</b> PVD coated	M30 – M50 P30 – P50 S30 – S50	<ul style="list-style-type: none"> <li>Interrupted and rough turning of stainless steel and steel</li> <li>Interrupted turning of heat resistant super alloys in low speed conditions</li> </ul>
<b>TT8020</b> PVD coated	M30 – M50 P30 – P50 S30 – S50	<ul style="list-style-type: none"> <li>Low speed turning of stainless steel, heat resistant super alloys and low carbon steel</li> </ul>
<b>PV3010</b> Cermet PVD coated	P05 – P20 M05 – M20 K05 – K20	<ul style="list-style-type: none"> <li>Good surface finish turning of steel, stainless steel and cast iron in high speed conditions</li> </ul>
<b>CT3000</b> Cermet uncoated	P10 – P20 M10 – M20 K10 – K20	<ul style="list-style-type: none"> <li>Excellent surface finish turning of steel, stainless steel and cast iron</li> </ul>
<b>K10</b> Carbide	K05 – K15 N05 – N15 S05 – S15	<ul style="list-style-type: none"> <li>General turning of cast iron, non-ferrous materials of aluminum and titanium alloy</li> </ul>

# Grades

## CBN, PCD, Ceramic grades












Grades	ISO	Characteristics & applications
<b>TB610</b> CBN	H05 – H10	• High speed continuous turning of hardened steel
<b>TB2015</b> CBN	H10 – H20	• Light interrupted turning of hardened steel
<b>TB650</b> CBN	H10 – H20	• General turning of hardened steel
<b>TB670</b> CBN	H20 – H30	• Medium interrupted turning of hardened steel
<b>TB7015</b> CBN	H25 – H35 K10 – K20	• High speed turning of cast iron and general turning of carbide roll
<b>TB7020</b> Solid CBN	K10 – K25	• High speed and light interrupted turning of cast iron. Solid CBN insert
<b>TB730</b> CBN	K05 – K10 P10 – P20	• General turning of sintered or powder metals
<b>AW120</b> Ceramic, Al <sub>2</sub> O <sub>3</sub> +ZrO <sub>2</sub>	K05 – K15	• High speed continuous turning of white cast iron
<b>AB2010</b> Ceramic, PVD coated	H05 – H10	• High speed finish turning of hardened steel
<b>AB20</b> Ceramic, Al <sub>2</sub> O <sub>3</sub>	H05 – H15	• Continuous and finish turning of hardened steel
<b>AB30</b> Ceramic, Al <sub>2</sub> O <sub>3</sub>	H10 – H15 K05 – K15	• General turning of hardened steel under HRC 55 and cast iron
<b>TC430</b> Ceramic, Whisker	S05 – S15	• High speed turning of super alloys especially for Ni-based super alloy
<b>TC3020</b> Ceramic, SiAlON	S15 – S25	• General turning and milling of super alloy
<b>TC3030</b> Ceramic, SiAlON	S25 – S35	• Rough turning and milling of super alloy
<b>AS500</b> Ceramic, SiAlON	K15 – K25	• General and light interrupted turning of gray cast iron
<b>SC10</b> Ceramic, CVD coated	K25 – K35	• General turning of ductile cast iron
<b>AS10</b> Ceramic, Si <sub>3</sub> N <sub>4</sub>	K25 – K35	• Interrupted turning of gray cast iron
<b>TD1010</b> PCD	N05 – N15	• Bi-modal composition for high speed turning of non-ferrous materials, high Si aluminum alloy, ceramic and sintered tungsten carbide
<b>TD1020</b> PCD	N10 – N25	• General turning of non-ferrous materials and finish turning of carbide roll
<b>TD1030</b> PCD	N20 – N35	• Low Si aluminum alloys and composite plastics (CFRP, GFRP)

# Recommendations for Chip Breakers










## ISO Negative inserts








### For steel

	← Stable  Unstable →
Finishing	   
Medium	   
Roughing	 






### For stainless steel

	← Stable  Unstable →
Finishing	
Medium	   
Roughing	




### For super alloys

	← Stable  Unstable →
Finishing	
Medium	   
Roughing	

### For cast iron

	← Stable  Unstable →
Finishing	
Medium	 
Roughing	 

### For aluminum







	← Stable  Unstable →
Finishing	
Medium	 
Roughing	

# Recommendations for Chip Breakers







## ISO Positive inserts




### For steel

	← Stable  Unstable →
Finishing	  FA FG
Medium	   FM PC MT
Roughing	



### For stainless steel

	← Stable  Unstable →
Finishing	  FA FG
Medium	 PC
Roughing	



### For super alloys

	← Stable  Unstable →
Finishing	 FG
Medium	 PC
Roughing	

### For cast iron

	← Stable  Unstable →
Finishing	
Medium	 MT
Roughing	

### For aluminum

	← Stable  Unstable →
Finishing	
Medium	 GT-FL
Roughing	

# Recommendations for Chip Breakers



Chip breakers for Swiss turn (Ground type)

## ISO Positive inserts

Finishing	<p>SL</p>
Finishing-Medium	<p>SA      SM</p>
Roughing	<p>SH      ST</p>