

# NPN

New Product News



## New Multipurpose TDCT Insert for Grooving and Turning Applications



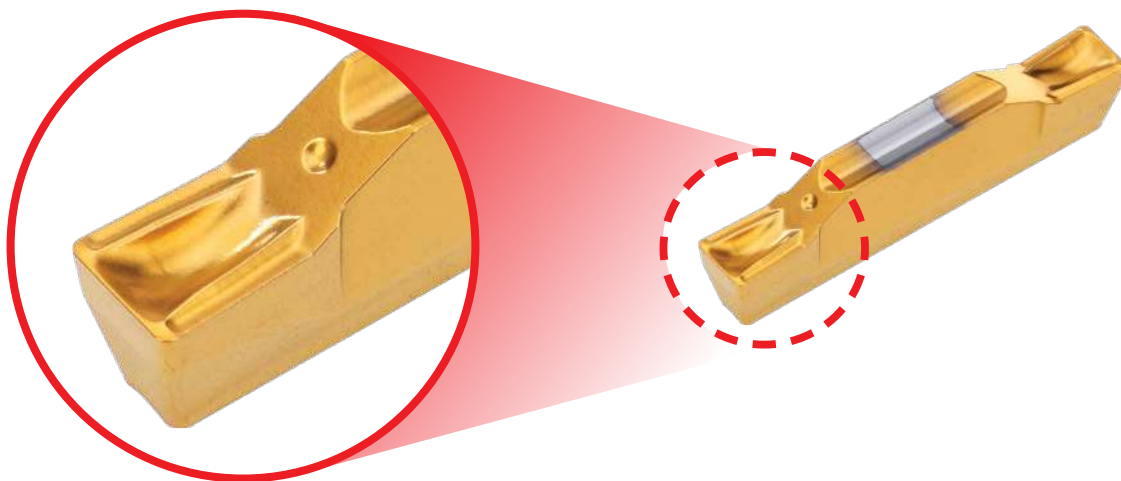
## KEY POINT

**TaeguTec has launched the TDCT type insert, a new multipurpose grooving and turning line.**

With a strong cutting edge allowing for high-feed parting and grooving applications, this double-ended insert's built-in chip breaker is also capable of turning machining.

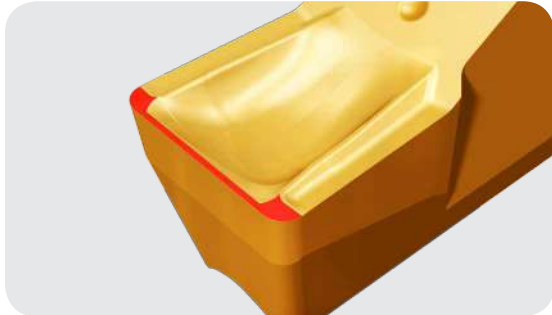
### Features

- Multi-purpose chip breaker for grooving, parting and turning
- Reinforced edge for high feed grooving and parting applications
- Stable machining performance in both interrupted and unstable conditions
- Optimized turning chip breaker according to depth of cut
- Available in 2, 3, 4, 5 and 6 mm width sizes
- Compatible with existing standard holders and optimal performance with COOL-BURST (high-pressure) type holders

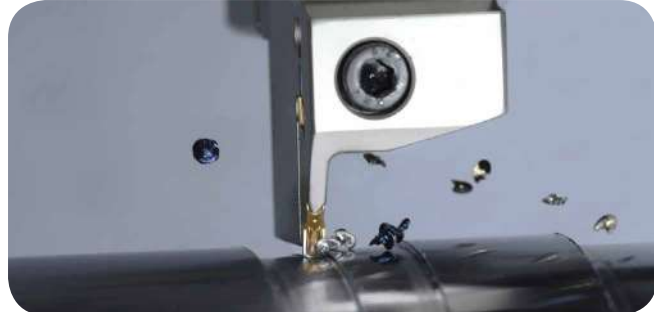


## Features





- Reinforced front edge for stable cutting in parting and grooving operations



- Optimized chip breaker shape for excellent chip breaking in turning operations



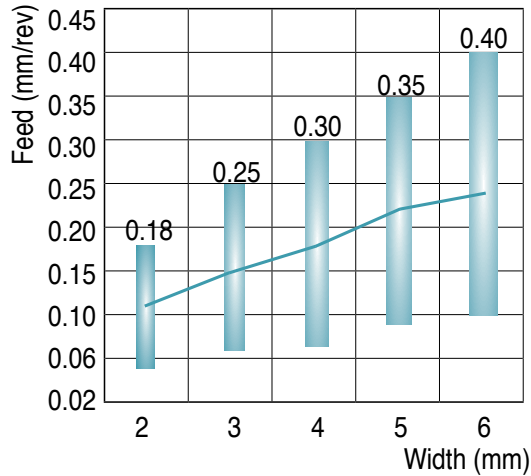
## Multifunctional chip breaker features

Chip breakers	Applications and Features
 <p><b>TDCT</b></p>	<ul style="list-style-type: none"> <li>- Stable cutting edge in grooving and parting</li> <li>- Covers C-type chip breaker applications including a built-in chip breaker for turning applications</li> <li>- Medium-to-high feed range</li> <li>- Steel, cast iron, stainless steel and heat resistant alloys</li> </ul>
 <p><b>TDXY</b></p>	<ul style="list-style-type: none"> <li>- Suitable for wide groove side turning</li> <li>- Suited for face grooving and face turning</li> <li>- Steel, cast iron, stainless steel and heat resistant alloys</li> </ul>
 <p><b>TDXU</b></p>	<ul style="list-style-type: none"> <li>- 1st choice for general purpose machining in groove-turn applications</li> <li>- Multifunctional chip breaker for external, internal and face machining</li> <li>- Low cutting force and good chip control</li> <li>- Steel, stainless steel and heat resistant alloys</li> </ul>
 <p><b>TDXT</b></p>	<ul style="list-style-type: none"> <li>- 1st choice for turning and grooving of cast iron</li> <li>- Grooving of various geometries</li> <li>- High feed rate for turning</li> </ul>

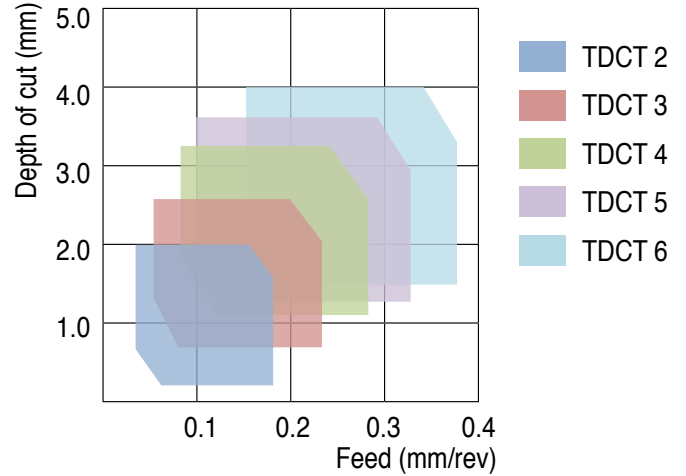
## Recommended application range



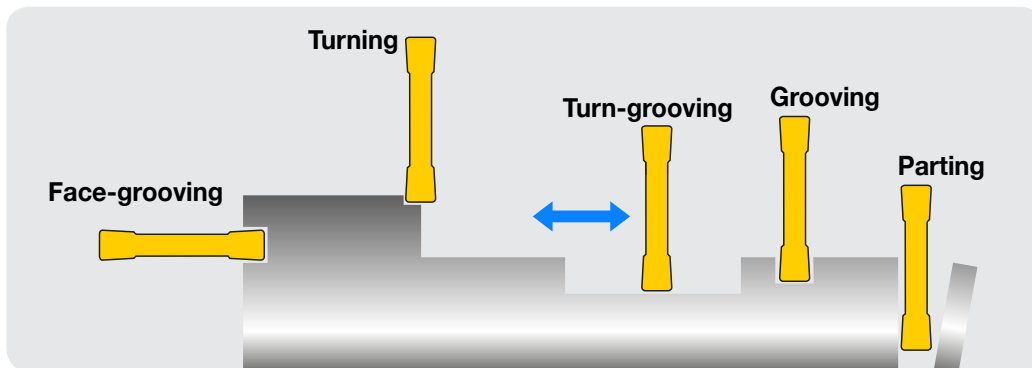
- Grooving



- Turning



## Wide Variety of Applications





## Recommended Cutting Conditions

### Grooving and Turning

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Cutting speed Vc (m/min)
						TT9080
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1	100-200
		>=0.25%C Annealed	650	190	2	100-180
		<0.55%C Quenched and tempered	850	250	3	80-160
		>=0.55%C Annealed	750	220	4	80-160
	Low alloy steel and cast steel (less than 5% of alloying elements)	Quenched and tempered	1000	300	5	70-130
		Annealed	600	200	6	100-160
		Quenched and tempered	930	275	7	80-160
			1000	300	8	80-150
			1200	350	9	80-130
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	90-130
		Quenched and tempered	1100	325	11	50-80
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	80-170
		Martensitic	820	240	13	80-150
		Austenitic	600	180	14	80-170
K	Gray cast iron (GG)	Ferritic		160	15	100-230
		Pearlitic		250	16	90-180
	Cast iron nodular (GGG)	Ferritic		180	17	150-250
		Pearlitic		260	18	100-230
	Malleable cast iron	Ferritic		130	19	90-180
		Pearlitic		230	20	90-180
N	Aluminum - wrought alloy	Not cureable		60	21	
		Cured		100	22	
	Aluminum-cast, alloyed	<=12% Si Not cureable		75	23	
		Cured		90	24	
		>12% Si High temp.		130	25	
	Copper alloys	>1% Pb Free cutting		110	26	
		Brass		90	27	
		Electrolitic copper		100	28	
	Non-metallic	Duroplastics, fiber plastics			29	
		Hard rubber			30	
S	High temp. alloys Fe based	Annealed		200	31	30-50
		Cured		280	32	20-40
	Ni or Co based	Annealed		250	33	20-30
		Cured		350	34	15-20
		Cast		320	35	15-20
	Titanium, Ti alloys		Rm 400		36	130-170
Alpha+beta alloys cured		Rm 1050		37	40-70	
H	Hardened steel	Hardened		55HRC	38	
		Hardened		60HRC	39	
	Chilled cast iron	Cast		400	40	
	Cast iron nodular	Hardened		55HRC	41	

■ Steel   
 ■ Stainless steel   
 ■ Cast iron   
 ■ Nonferrous   
 ■ High temp. alloys   
 ■ Hardened steel

## Recommended Cutting Conditions

### Face grooving and Internal grooving

ISO	Material	Condition	Tensile strength (N/mm <sup>2</sup> )	Hardness HB	Material No.	Cutting speed Vc (m/min)	
						TT9080	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C Annealed	420	125	1	100-150	
		>=0.25%C Annealed	650	190	2	60-100	
		<0.55%C Quenched and tempered	850	250	3	50-100	
		>=0.55%C Annealed	750	220	4	60-110	
		Quenched and tempered	1000	300	5	50-100	
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	60-110	
		Quenched and tempered	930	275	7	70-110	
			1000	300	8	70-110	
			1200	350	9	60-90	
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	60-90	
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		Ni or Co based	Annealed		250	33	15-20
			Cured		350	34	15-20
			Cast		320	35	15-20
	Titanium, Ti alloys		Rm 400		36	90-120	
		Alpha+beta alloys cured	Rm 1050		37	20-50	
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