

NPA

New Product Announcement No. 2019-52



T-TURN

New Chip Breakers for Steel Machining: FLP, MLP, MGP, RGP



FLP



MLP



MGP



RGP

KEY POINT

TaeguTec has released four new chip breakers from roughing to finishing applications for steel machining.

To meet the market's current requirements in automation and improved productivity, TaeguTec introduces a series of optimized new chip breakers and grades with improved coating:

- Improved stability
- Improved tool life
- Excellent chip control performance
- Wide application range to cover the current line of chip breakers

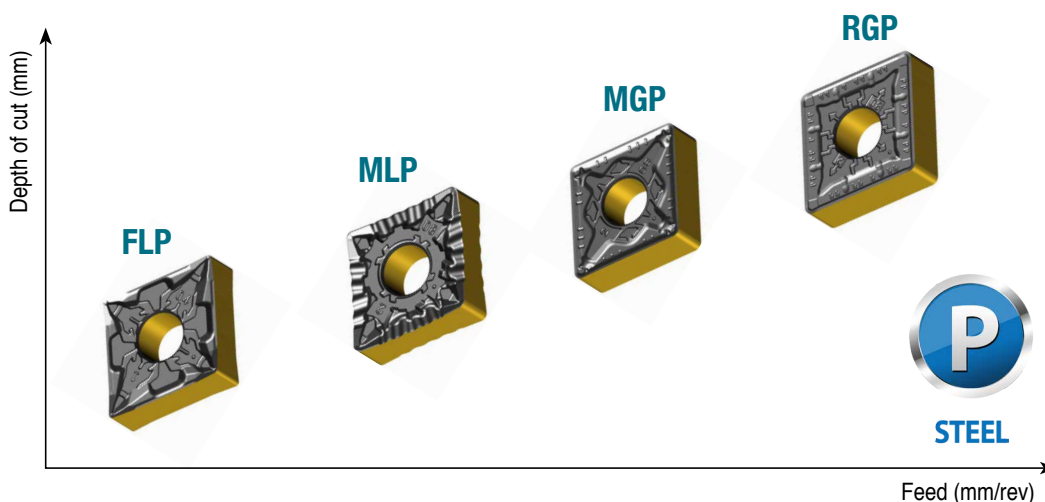
Four new chip breakers have been launched. These inserts are easily distinguished by a new designation system that clearly defines their application range. The new chip breakers deliver optimal machining performance and high reliability in a wider range of operations.

The **FLP** chip breaker (for finishing) minimizes machining load at low depths of cut, has excellent chip control capability due to the wide, stable supporting area, and enables excellent workpiece dimensional accuracy.

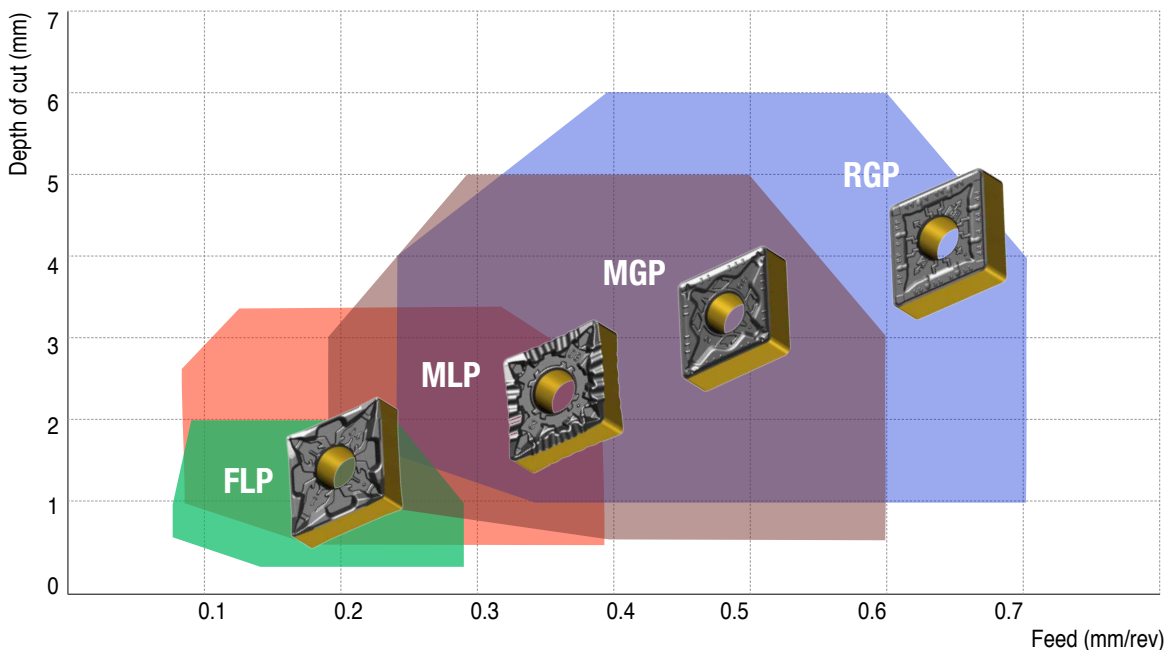
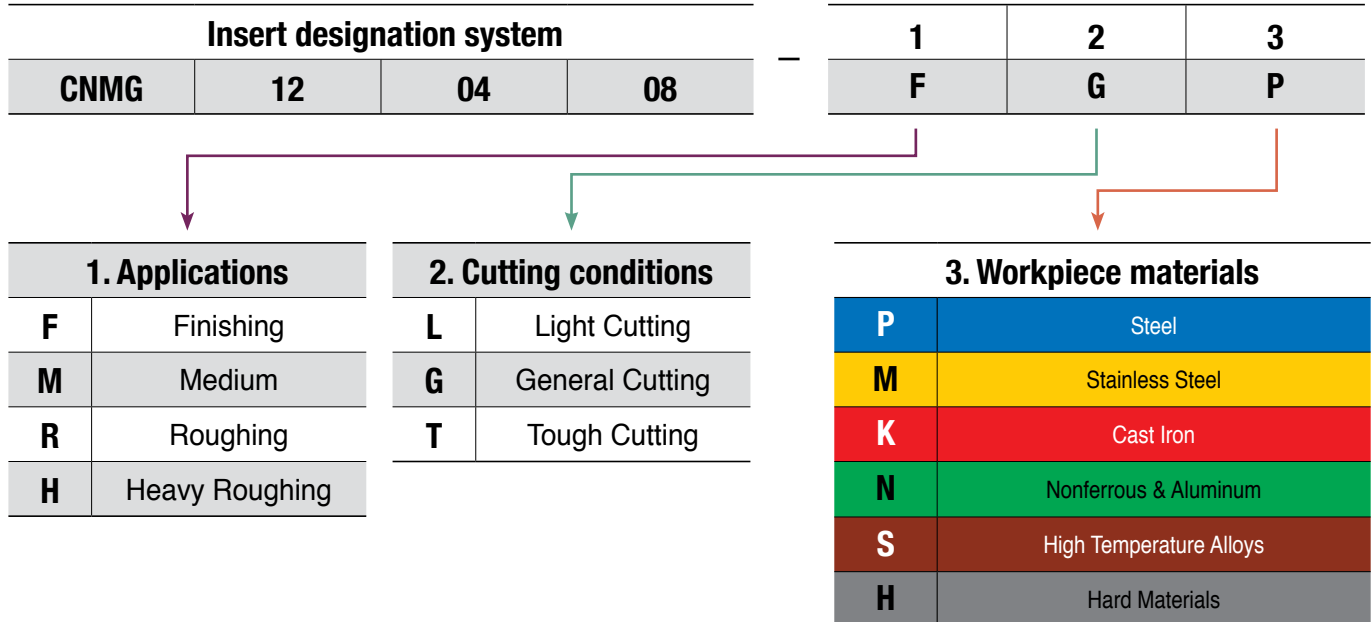
The **MLP** chip breaker (for semi-finishing to medium) enables excellent chip control capability due to the side wave edge geometry in highly variable depths of cut, and with a specially designed edge that enables stable machining in a wide range of medium applications.

The **MGP** chip breaker (for medium), characterized by good chip control, is the first recommended machining solution for a wide range of operations. Also, the MGP is designed with cutting edge strength and has a wide support area that promotes stable and reliable machining.

The **RGP** chip breaker (for roughing) is suitable for roughing applications due to its reinforced cutting edge and wide chip groove, and can perform reliably without chipping even in extreme interrupted machining conditions.

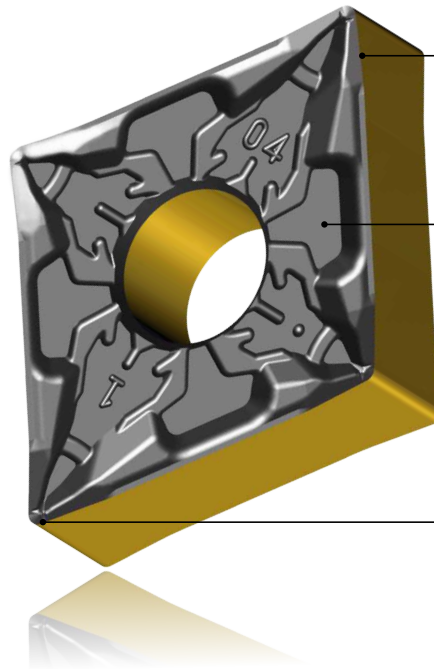
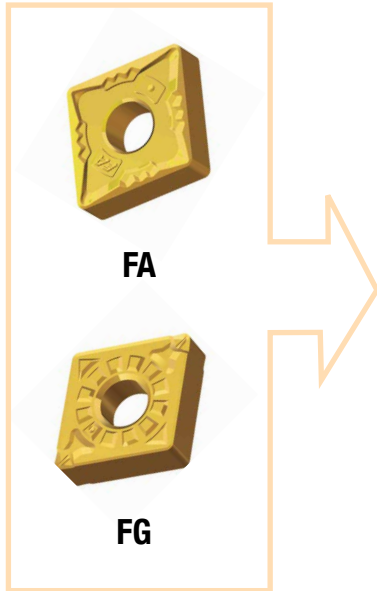


New chip breaker designation



- Insert: CNMG 120408
- Cutting speed (V): 200 m/min
- Material: AISI 4140 (HB230-260)

FLP type



Helical edge geometry

- Low cutting load and excellent chip control

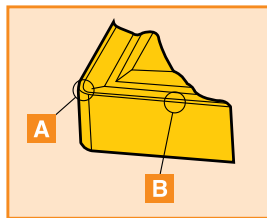
Stable supporting area

- Wide and stable insert for support during operation

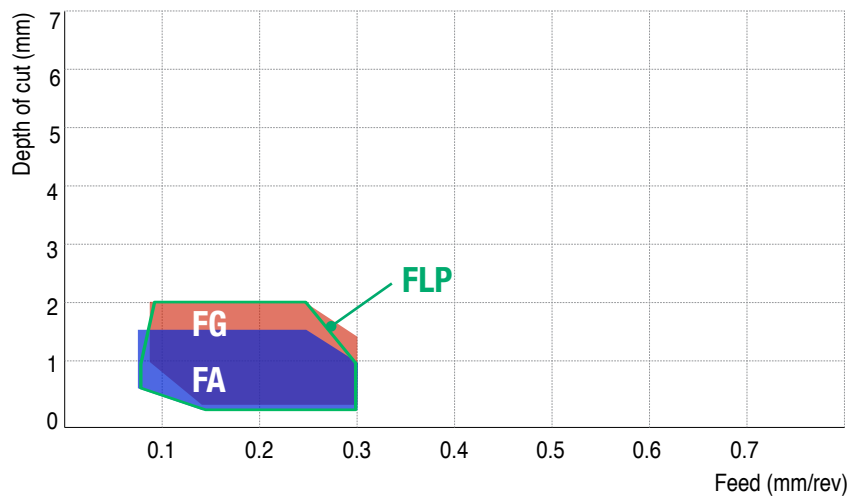
Sharp edge

- Low cutting load
- Excellent chip control at low depths of cut

Edge geometry



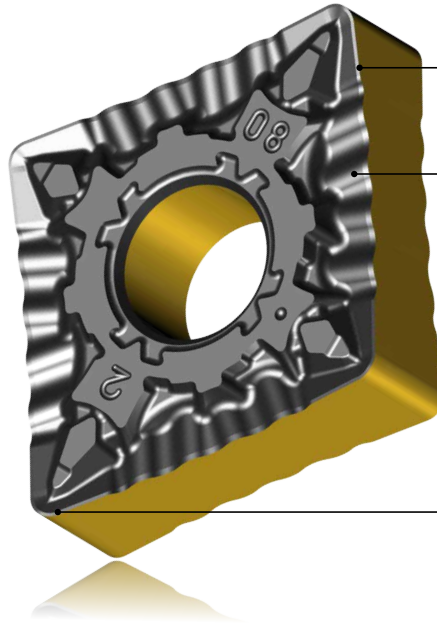
Application range



- Insert: CNMG 120408 FLP
- Cutting speed (V): 200 m/min
- Material: AISI 4140 (HB230-260)

✓ FLP type will be available when the current stock of FA, FG types are depleted.

MLP type



Helical edge geometry

- Low cutting load and excellent chip control

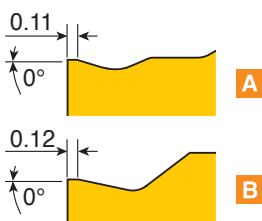
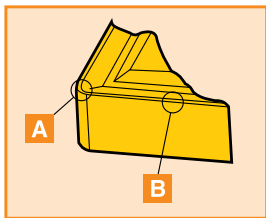
Inclined serrated edge

- Excellent chip control and surface roughness
- Applicable to variable cutting depth of cut

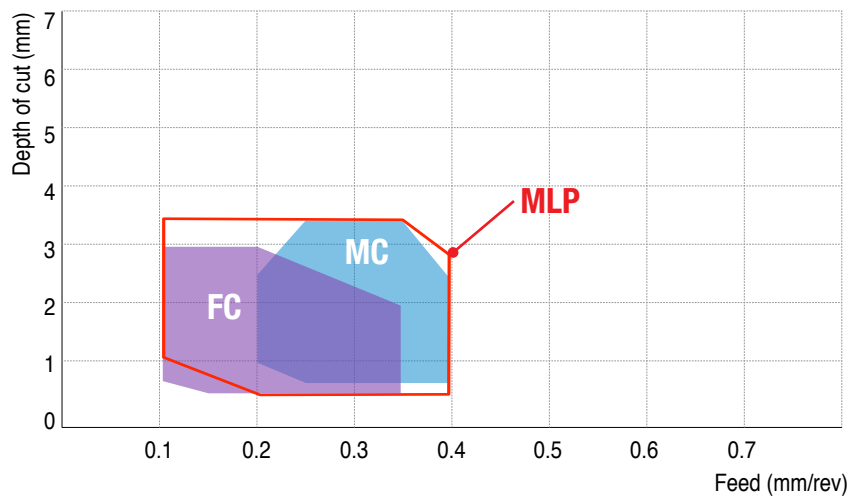
Narrow land and protrusion

- Reinforced cutting edge
- Excellent chip control at low depths of cut

Edge geometry



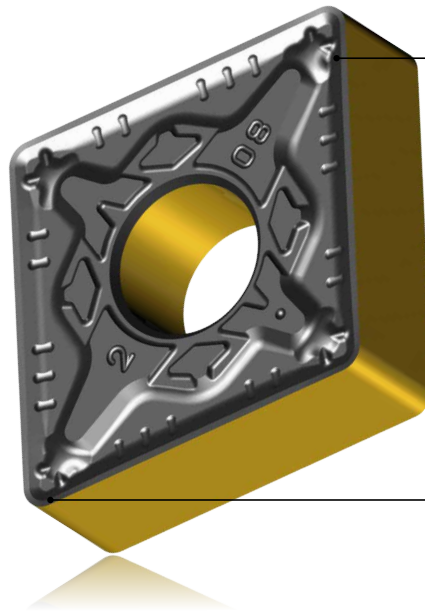
Application range



- Insert: CNMG 120408 MLP
- Cutting speed (V): 200 m/min
- Material: AISI 4140 (HB230-260)

✓ MLP type will be available when the existing stock of FC, MC types are depleted.

MGP type



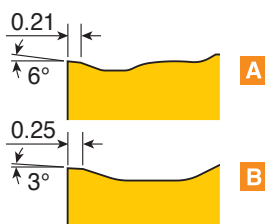
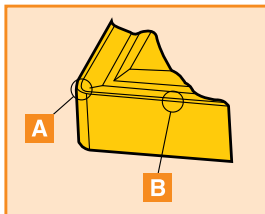
Wide groove and stable cutting edge

- Excellent chip control in deeper depths of cut
- Wide application range and low cutting load
- Stable tool life

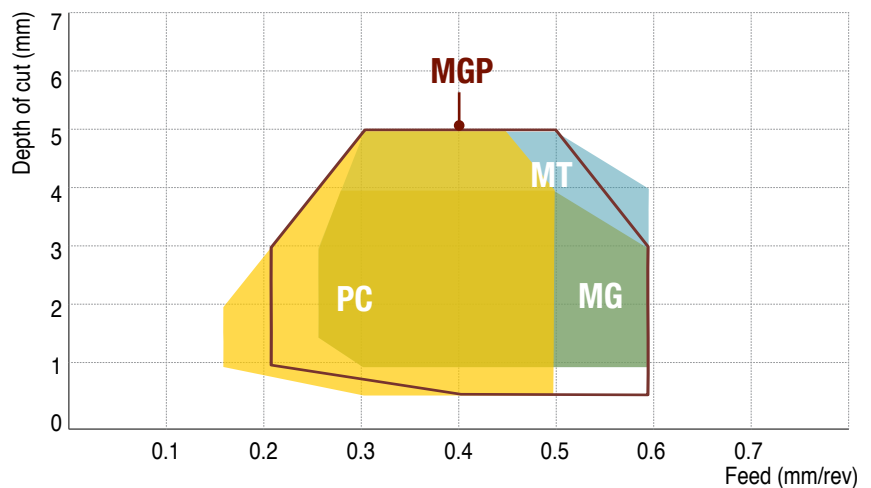
Positive land and wide protrusion for chip control

- Excellent chip control at low depths of cut and low feed cutting conditions
- Stable cutting edge for low cutting resistance

Edge geometry



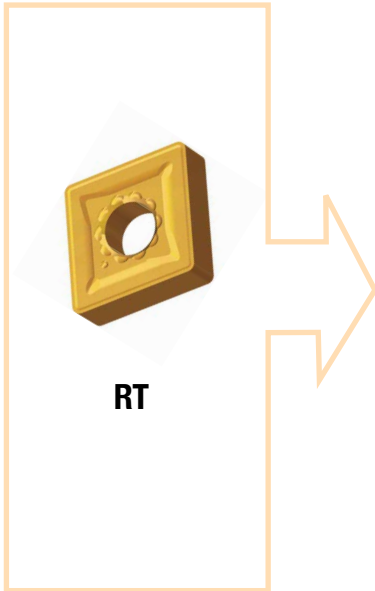
Application range



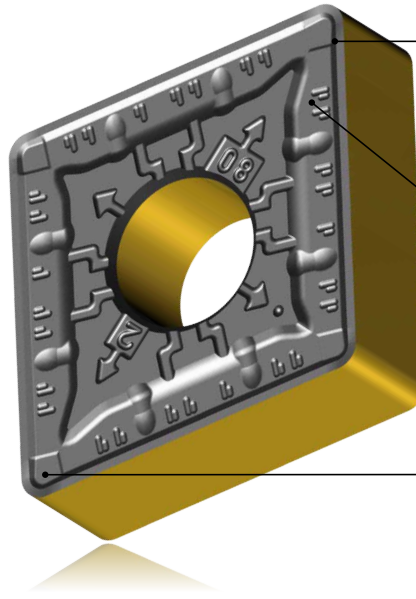
- Insert: CNMG 120408 MGP
- Cutting speed (V): 200 m/min
- Material: AISI 4140 (HB230-260)

✓ MGP type will be available when the current stock of PC, MT, MG- types run out.

RGP type



RT



Variable land width for depth of cut

- Reinforced cutting edge
- Reduced crater wear and built-up-edges

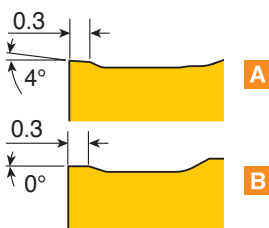
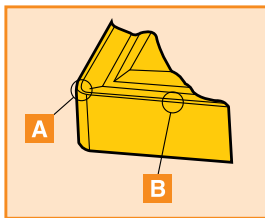
Wide chip groove

- Reduced cutting load for roughing applications
- Stable chip evacuation

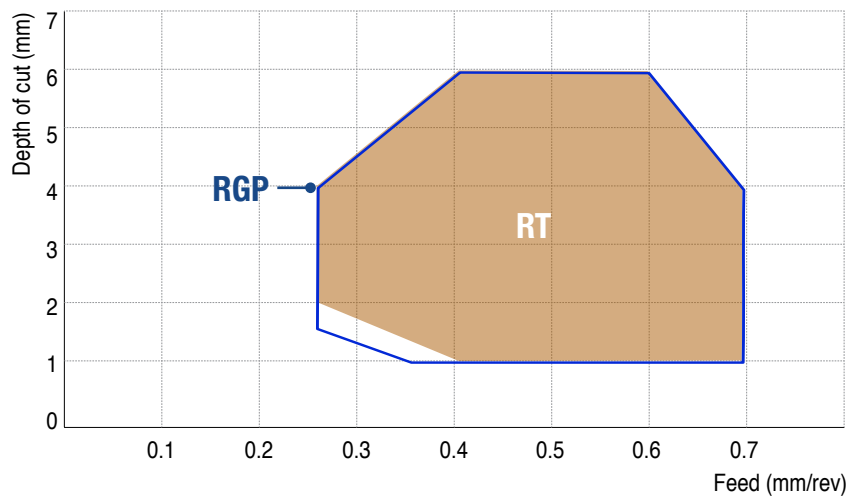
Positive land and rectangle design at the corner

- Stable cutting edge with low cutting load
- Excellent chip control at big depths of cut

Edge geometry



Application range

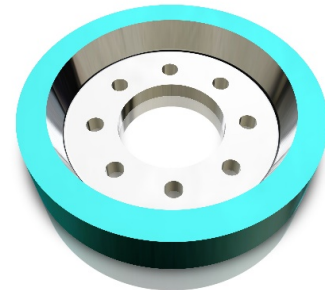
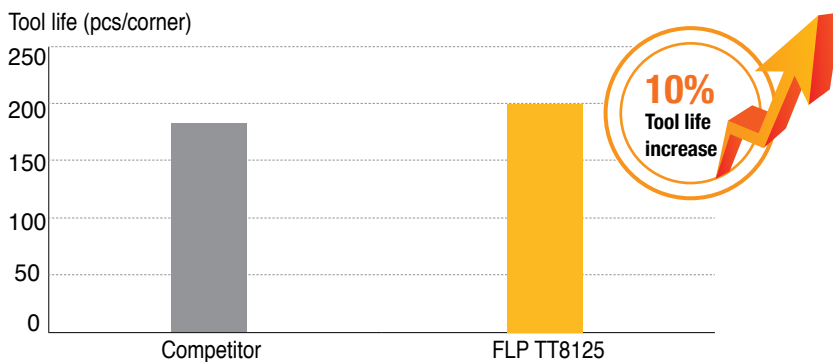


- Insert: CNMG 120408 RGP
- Cutting speed (V): 200 m/min
- Material: AISI 4140 (HB230-260)

✓ RGP type will be available when the current stock of RT type runs out.

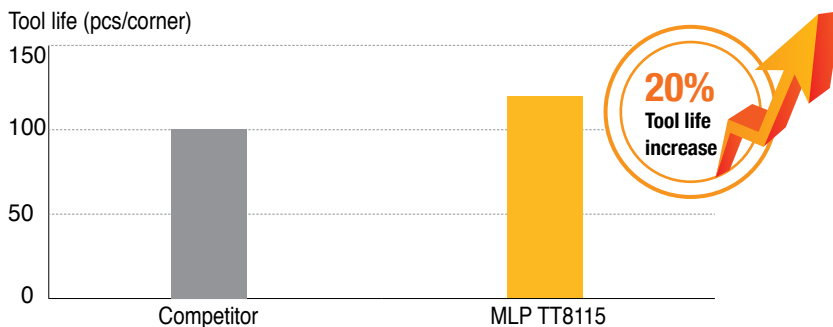
Case study 1

		Competitor	TaeguTec
Workpiece material		Differential gear, Cr alloy (SCr420HVS1)	
Operation		External turning	
Insert		DNMG 150608 CVD	DNMG 150608 FLP TT8125
Cutting speed	V (m/min)	360	360
Feed	f (mm/rev)	0.18-0.40	0.18-0.40
Depth of cut	ap (mm)	0.16-2.0	0.16-2.0
Coolant		Wet	Wet
Tool life (pcs/corner)		180	200



Case study 2

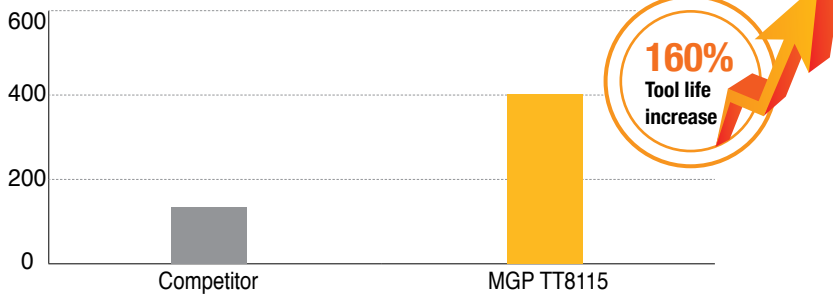
		Competitor	TaeguTec
Workpiece material		Output hub, Cr-Mo alloy (25CrMo4)	
Operation		External turning, facing	
Insert		WNMG 080412 CVD	WNMG 080412 MLP TT8115
Cutting speed	V (m/min)	300	300
Feed	f (mm/rev)	0.35	0.35
Depth of cut	ap (mm)	1.0	1.0
Coolant		Wet	Wet
Tool life (pcs/corner)		100	120



Case study 3

		Competitor	TaeguTec
Workpiece material		Outer ring, Bearing steel (DIN 1.3505)	
Operation		External turning	
Insert		CNMG 120412 CVD	CNMG 120412 MGP TT8115
Cutting speed	V (m/min)	250	250
Feed	f (mm/rev)	0.32	0.32
Depth of cut	ap (mm)	3.0	3.0
Coolant		Wet	Wet
Tool life (pcs/corner)		150	400

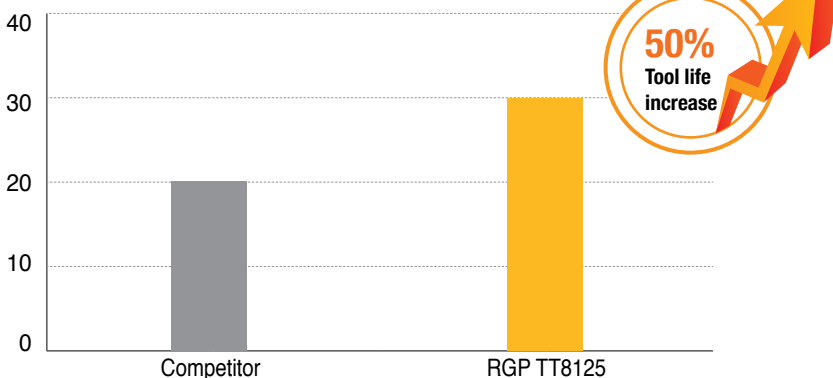
Tool life (pcs/corner)



Case study 4

		Competitor	TaeguTec
Workpiece material		Center bearing, 0.53% carbon steel	
Operation		External turning, facing	
Insert		CNMG 120408 CVD	CNMG 120408 RGP TT8125
Cutting speed	V (m/min)	230	230
Feed	f (mm/rev)	0.3	0.3
Depth of cut	ap (mm)	2.5	2.5
Coolant		Wet	Wet
Tool life (pcs/corner)		20	30

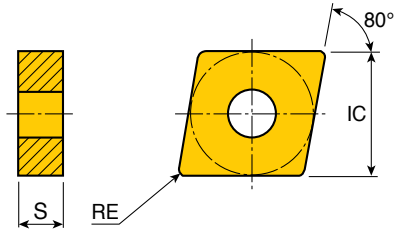
Tool life (pcs/corner)



CNMG



Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
12	12.7	4.76	0.4-1.6
19	19.05	6.35	1.6

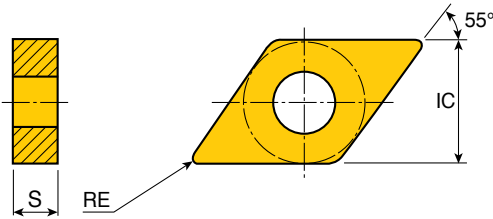
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated										PVD coated											
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10		
 Finishing	CNMG 120404 FLP	0.2-2.0	0.08-0.30																								
	120408 FLP	0.3-2.0	0.10-0.30																								
 Medium	CNMG 120408 MLP	0.5-3.5	0.10-0.40																								
	120412 MLP	0.6-3.5	0.15-0.50																								
 Medium	CNMG 120408 MGP	0.5-5.0	0.15-0.55																								
	120412 MGP	0.6-5.0	0.17-0.55																								
 Roughing	CNMG 120408 RGP	2.5-6.0	0.25-0.70																								
	120412 RGP	2.5-6.0	0.25-0.70																								
	120416 RGP	2.5-6.0	0.30-0.70																								
	190616 RGP	3.0-9.0	0.30-0.85																								

●: Standard items

DNMG



Negative 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
15	12.7	4.76-6.35	0.4-1.2

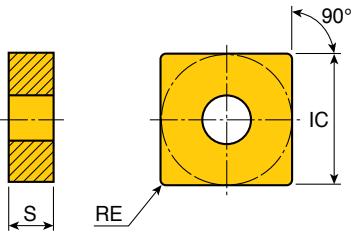
Insert	Designation	ap (mm)	Feed (mm/rev)	Material																						
				Cermet		CVD coated										PVD coated										
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10	
	DNMG 150604 FLP	0.2-2.0	0.08-0.30								●	●														
	150608 FLP	0.3-2.0	0.10-0.30								●	●														
Finishing																										
	DNMG 150608 MLP	0.3-3.5	0.10-0.40								●	●														
	150612 MLP	0.35-3.5	0.15-0.50								●	●														
Medium																										
	DNMG 150608 MGP	0.5-4.0	0.15-0.50								●	●														
	150612 MGP	0.6-4.0	0.17-0.55								●	●														
Medium																										

●: Standard items

SNMG



Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
12	12.7	4.76	0.8

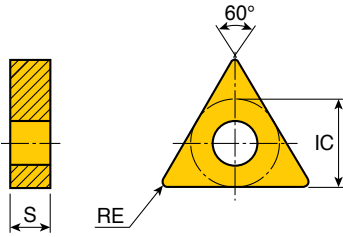
Insert	Designation	ap (mm)	Feed (mm/rev)	Coating														K10							
				Cermet		CVD coated								PVD coated											
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	
 Medium	SNMG 120408 MGP	0.5-5.0	0.15-0.50								●	●													

●: Standard items

TNMG



Negative triangular inserts



Size	Dimension (mm)		
	IC	S	RE
16	9.52	4.76	0.4-1.2

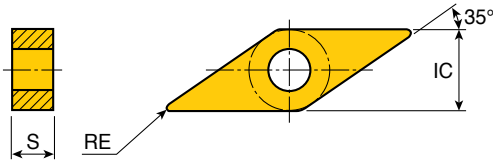
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated										PVD coated			K10						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100		TT5080	TT8020	TT9080	TT3010	TT3020	TT9020
 Finishing	TNMG 160404 FLP	0.2-2.0	0.08-0.30																						
	160408 FLP	0.3-2.0	0.10-0.30																						
 Medium	TNMG 160404 MLP	0.25-2.5	0.07-0.30																						
	160408 MLP	0.30-2.5	0.10-0.40																						
	160412 MLP	0.35-2.5	0.15-0.50																						
 Medium	TNMG 160408 MGP	0.5-4.5	0.15-0.50																						
	160412 MGP	0.6-4.5	0.17-0.55																						

●: Standard items

VNMG



Negative 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
16	9.52	4.76	0.4-0.8

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated										PVD coated			K10							
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100		TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	
 Finishing	VNMG 160404 FLP	0.2-1.5	0.08-0.30																							
	160408 FLP	0.3-1.5	0.10-0.30								●	●														
 Medium	VNMG 160408 MGP	0.5-3.0	0.17-0.36																							
											●	●														

●: Standard items

