

NPA

November 2015

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New Product Announcement No. 2015-20



CHASEHEPTA

A New Positive Multi Corners Milling Line



 **TaeguTec**
Member IMC Group

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CHASEHEPTA

With the increasing popularity of small machining centers, TaeguTec is pleased to launch a new single-sided line of positive seven corners insert that generates less cutting force.

The CHASEHEPTA insert generates low cutting force, achieves smooth machining and greater economy due to its seven corner and helical cutting edges.

Additionally, the CHASEHEPTA's higher insert thickness means better resistance to shock and breakage, hence, overcoming the primary weakness of single-sided positive inserts.

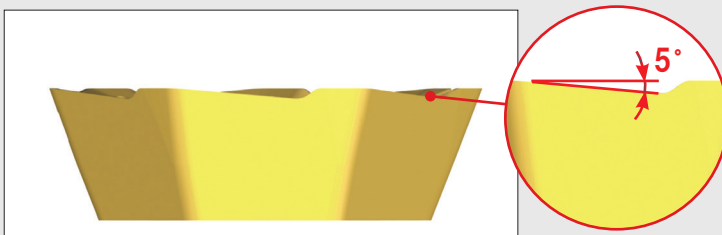
The new line, designated as 7EMT 0604, is available in two geometries; the "M" type for steel and cast iron and the "ML" type for stainless steel and difficult-to-cut materials.

The line's cutters have a 45 degree entering angle, a 3.2 mm maximum depth of cut and are available in end-mills (D32-50mm) as well as face mill types (D32-125mm) covering not only general face milling but ramping and profiling proving its advantage as a multipurpose tool.

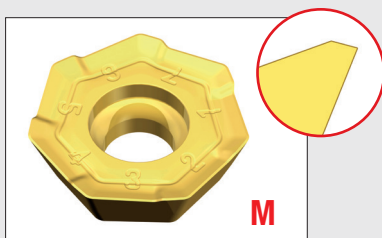
FEATURES

Insert

- Economical 7-corner cutting edges
- Higher insert thickness means better rigidity
- Smooth machining with helical cutting edge



- Optimized chip formers for various workpieces:



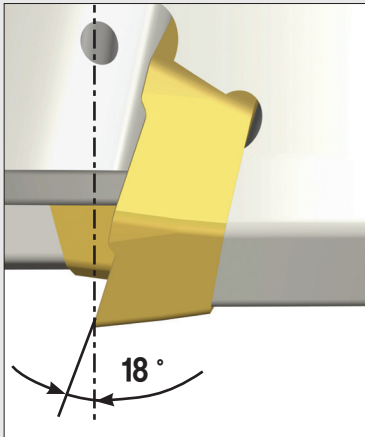
M
For steel and
cast iron



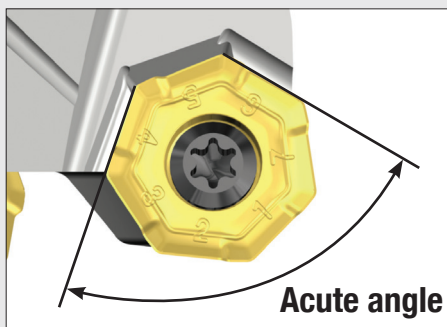
ML
For
stainless steel and
difficult-to-cut materials

Cutter

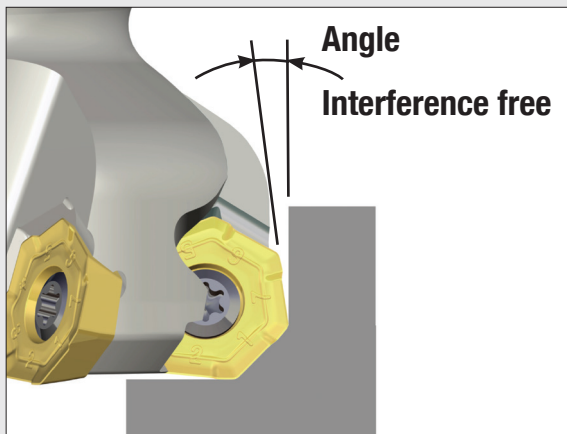
- Entering angle 45°, Max. depth of cut 3.2 mm
- 18° inclination means lower cutting force during machining



- Acute angle pocket for rigid insert clamping

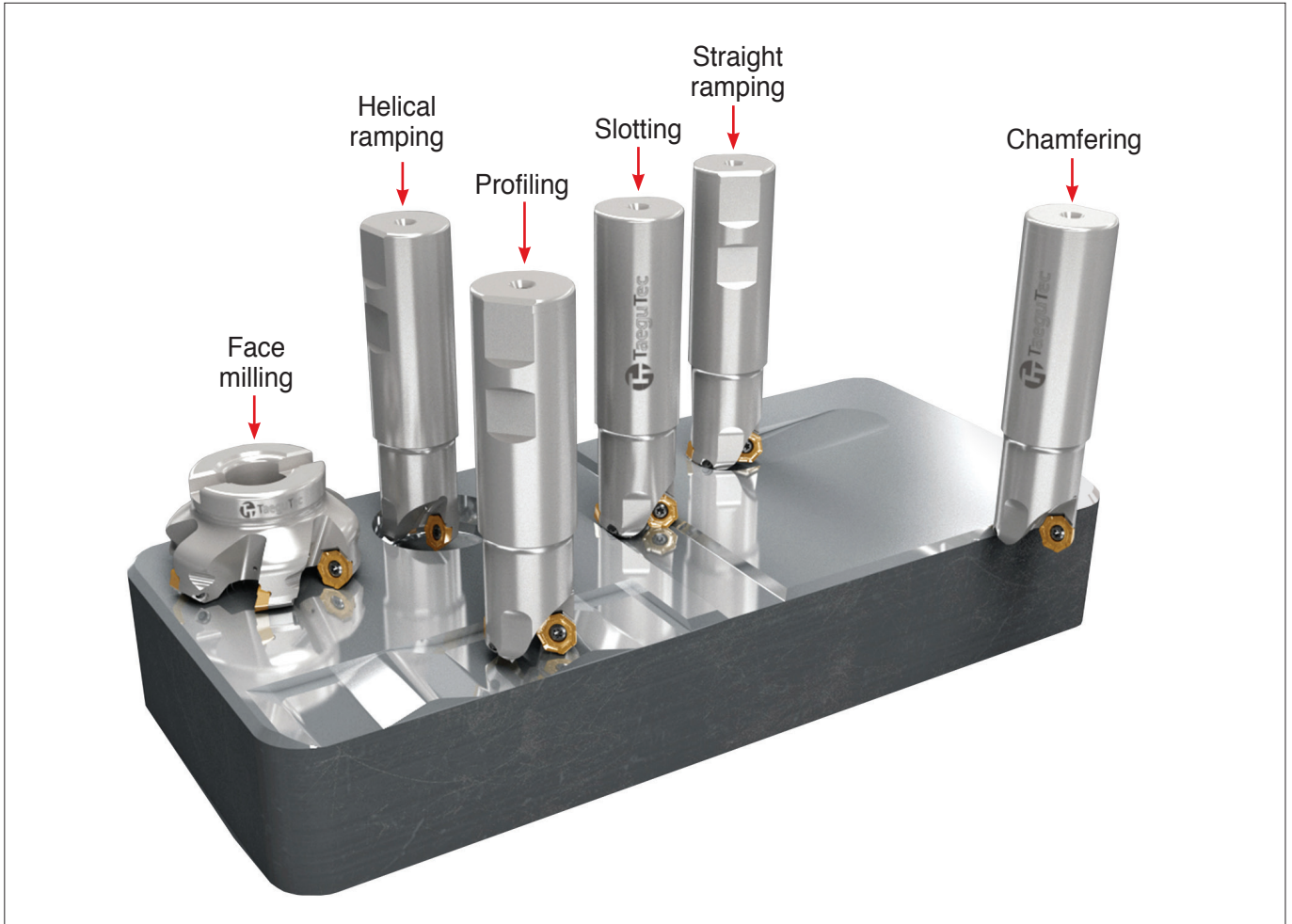


- Interference free structure for side cutting or helical ramping



- Available in end mill and face mill types for various applications including ramping and profiling

CHASEHEPTA applications



Availability

In stock

Price

Available in the GAL system

Sincerely,
TaeguTec

Park Hong-sik

Rotating & Non-Rotating Product Manager

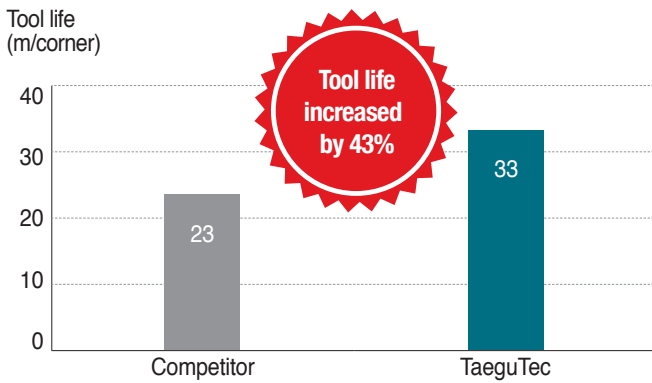
Sincerely,
TaeguTec

Lee Jae-wook

Milling Product Manager

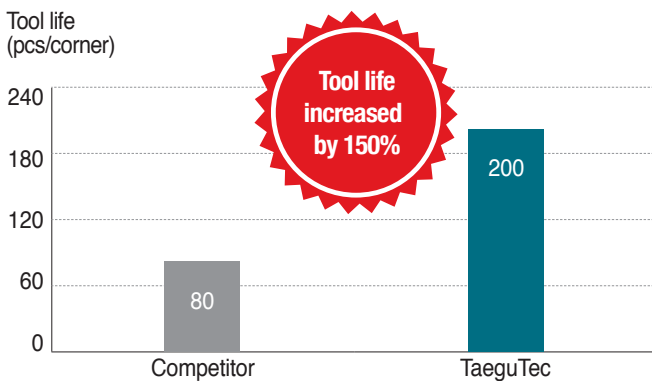
Case study 1

		Competitor	TaeguTec
Workpiece material		Stainless steel (SUS 304, AISI 304)	
Cutter		D63 (5 teeth)	7S-F45 663-22R-06 (6 teeth)
Insert		OF 05 PVD coated	7EMT 0604 AETR-ML TT8080
Cutting speed	V (m/min)	120	120
	N (rpm)	606	606
Feed rate	Fz (mm/tooth)	0.15	0.15
	F (mm/min)	454	545
Width of cut	ae (mm)	50	50
Depth of cut	ap (mm)	2.5	2.5
Coolant		dry	dry
Tool life (m/corner)		23	33



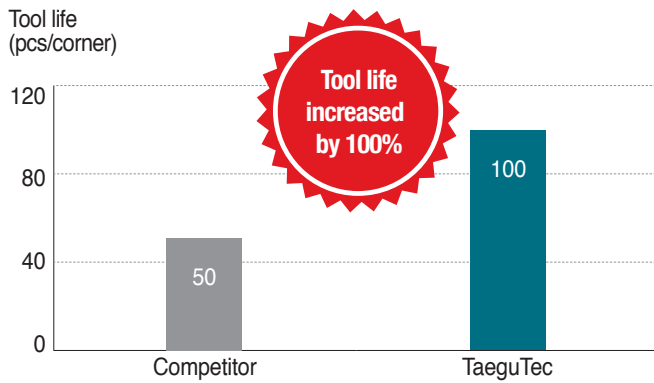
Case study 2

		Competitor	TaeguTec
Workpiece material		Cast iron (GGG 40, FCD 400)	
Cutter		D63 (5 teeth)	7S-F45 663-22R-06 (6 teeth)
Insert		PDMT 09 PVD coated	7EMT 0604 AETR-M TT9080
Cutting speed	V (m/min)	176	176
	N (rpm)	890	890
Feed rate	Fz (mm/tooth)	0.12	0.12
	F (mm/min)	550	660
Width of cut	ae (mm)	50	50
Depth of cut	ap (mm)	3.5	3.5
Coolant		dry	dry
Tool life (pcs/corner)		80	200



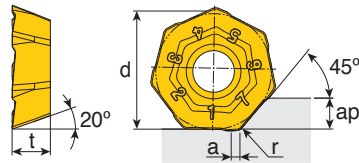
Case study 3

		Competitor	TaeguTec
Workpiece material		Cast iron (GGG 50, FCD 500)	
Cutter		D100 (7 teeth)	7S-F45 8100-32R-06 (8 teeth)
Insert		BDMT 17 PVD coated	7EMT 0604 AETR-M TT6080
Cutting speed	V (m/min)	250	250
	N (rpm)	796	796
Feed rate	Fz (mm/tooth)	0.05	0.043
	F (mm/min)	280	280
Width of cut	ae (mm)	50	50
Depth of cut	ap (mm)	3	3
Coolant		dry	dry
Tool life (pcs/corner)		50	100

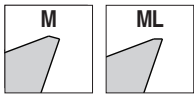




7EMT

Insert



Size	Dimension (mm)				
	d	t	ap	a	r
06	12.8	4.2	3.2	1	0.8

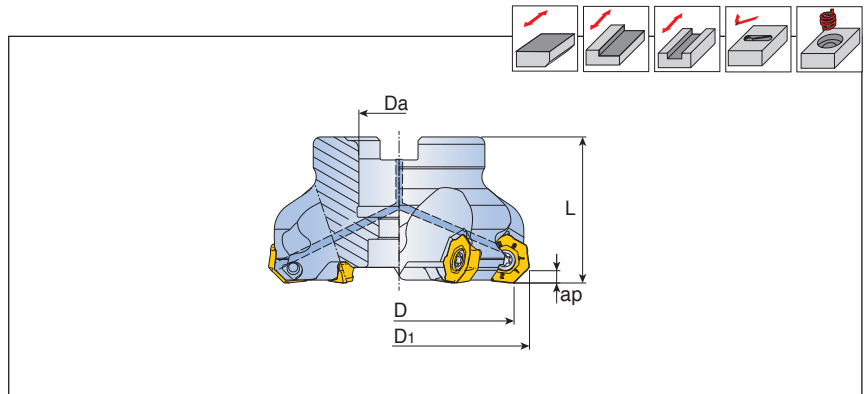
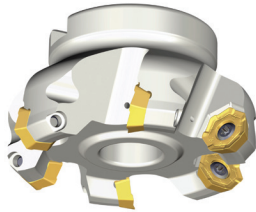


Insert	Designation	Recommended Machining Conditions		Coated		
		Feed (mm/tooth)	ap (mm)	TT9080	TT8080	TT6080
	7EMT 0604 AETR-M	0.06-0.15	2.5	●	●	●
	7EMT 0604 AETR-ML	0.06-0.15	2.5	●	●	●

● : Standard items

7S-F45-06

Face mill



Designation		Dimension (mm)					Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
7S-F45 332-16R-06	3	32	40.4	16	40	3.2	●	E	0.2	KTB 32B	7EMT 0604...
440-16R-06	4	40	48.5	16	40	3.2	●	A	0.3	SH M8X1.25X30	
550-22R-06	5	50	58.5	22	40	3.2	●	A	0.4	LH M10X1.5X25	
663-22R-06	6	63	71.5	22	40	3.2	●	A	0.5	LH M10X1.5X25	
780-27R-06	7	80	88.5	27	50	3.2	●	A	1.3	LH M12X1.75X30	
8100-32R-06	8	100	108.5	32	50	3.2	●	A	1.9	LH M16X2X35	
9125-40R-06	9	125	133.5	40	63	3.2	●	A	3.3	SH M20X2.5X40	
7S-F45 780-25.4R-06	7	80	88.5	25.4	50	3.2	●	A	1.3	LH M12X1.75X30	
8100-31.75R-06	8	100	108.5	31.75	50	3.2	●	A	1.8	LH M16X2X35	
9125-38.1R-06	9	125	133.5	38.1	63	3.2	x	B	2.8	-	

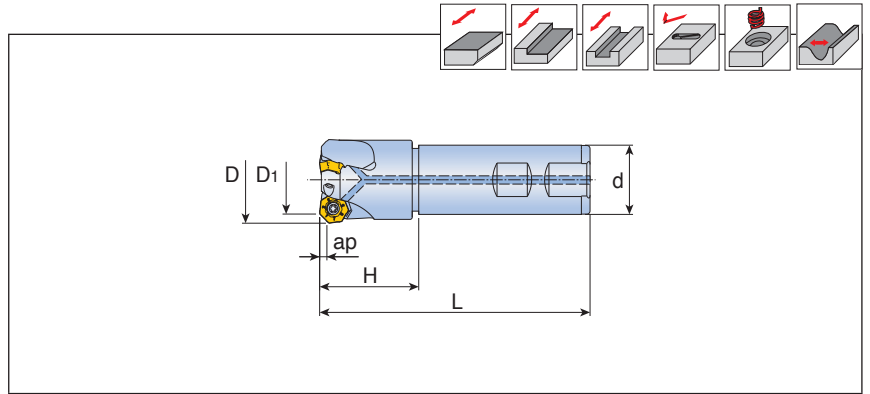
• Mounting bolt with coolant through hole is available on request (ordering example: SH M8X1.25X30-C)

Spare parts

Designation	Screw	Wrench			
7S-F45-06	TS40093I/HG	T-T15			

7S-E45-06

End mill



Designation		Dimension (mm)						Coolant	Insert
		D	D1	d	L	H	ap		
7S-E45 232P-W32-06	2	32	23.7	32	125	45	3.2	●	7EMT 0604 ...
340P-W32-06	3	40	31.6	32	125	45	3.2	●	
450P-W32-06	4	50	41.5	32	125	45	3.2	●	

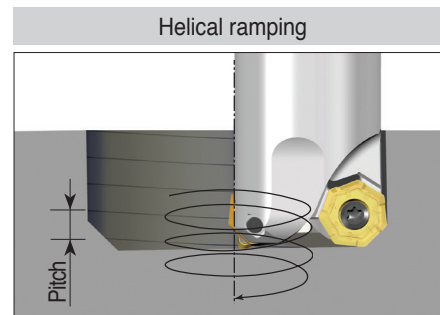
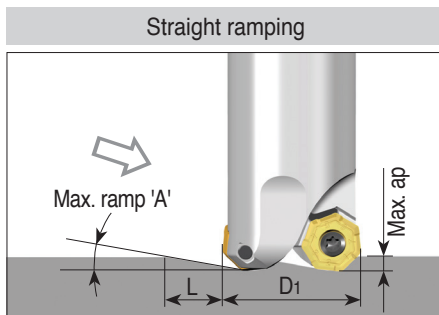
• Coolant through hole

Spare parts

Designation	Screw	Wrench			
7S-F45-06(-Ø40)	TS40085I/HG	T-T15			
7S-F45-06(Ø50-)	TS40093I/HG	T-T15			

Programming technical data

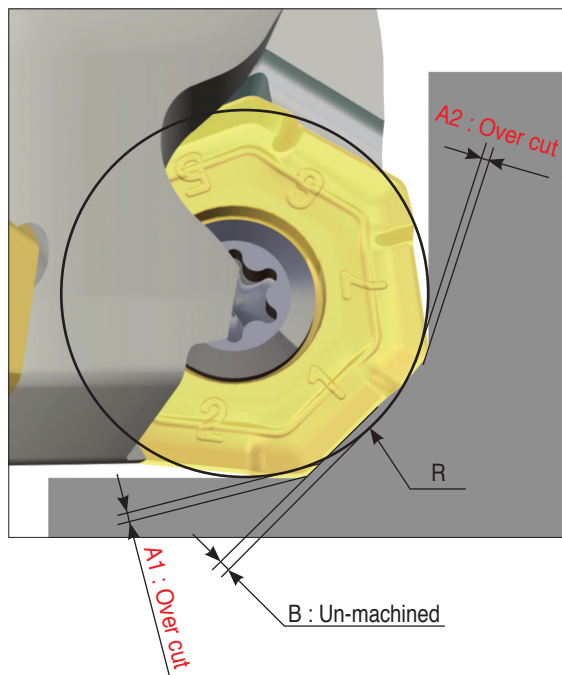
1. Ramping data



7EMT 06

Cutter dia. (D1)	Straight ramp down			Helical ramp down		
	Max. ramp (A°)	Max. ap (mm)	Min. length (L)	Min. dia. (Ø)	Max. dia. (Ø)	Max. pitch/rev.
Ø32	29	3.2	6	45.5		3.2
					64	3.2
Ø40	15.5	3.2	12	61.5		3.2
					80	3.2
Ø50	9.5	3.2	19	81.5		3.2
					100	3.2
Ø63	6.5	3.2	28	107.5		3.2
					126	3.2
Ø80	4	3.2	46	141.5		3.2
					160	3.2

2. Programming Tip



	R Program	Over cut		Un-machined material thickness
		A1	A2	B
7EMT 06	3.0	0	0	1.77
	4.5	0	0	1.51
	5.0	0.03	0.02	0.94
	6.0	0.21	0.19	0.53

Yellow background : Recommended program 'R'

Recommended Cutting Conditions

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	Cutting speed Vc(m/min)			
						Coated			
						TT9080	TT8080	TT6080	
P	Non-alloy steel, cast steel, free cutting steel	< 0.25%C	Annealed	420	125	1	220-370	170-250	
		>= 0.25%C	Annealed	650	190	2	180-310	130-220	
		< 0.55%C	Quenched and tempered	850	250	3	115-195	90-170	
		>= 0.55%C	Annealed	750	220	4	130-210	100-190	
	Low alloy steel and cast steel (less than 5% of alloying elements)	Quenched and tempered	1000	300	5	115-175	70-160		
		Annealed	600	200	6	175-265	150-220		
		Quenched and tempered	930	275	7	130-215	110-190		
			1200	350	9	95-160	70-120		
	High alloy steel, cast steel and tool steel	Annealed	680	200	10	85-155	70-110		
		Quenched and tempered	1100	325	11	75-135	60-100		
M	Stainless steel and cast steel	Ferritic / martensitic	680	200	12	115-270	90-200		
		Martensitic	820	240	13	100-230	70-160		
		Austenitic	600	180	14	120-275	100-210		
K	Gray cast iron (GG)	Ferritic		160	15			200-390	
		Pearlitic		250	16			160-300	
	Cast iron nodular (GGG)	Ferritic		180	17			130-250	
		Pearlitic		260	18			110-210	
	Malleable cast iron	Ferritic		130	19			210-330	
		Pearlitic		230	20			130-280	
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			
	Non-metallic		Electrolitic copper		100	28			
			Duroplastics, fiber plastics			29			
			Hard rubber			30			
S	High temp. alloys	Fe based	Annealed		200	31	40-80	30-65	
			Cured		280	32	30-60	20-45	
		Ni or Co based	Annealed		250	33	35-70	25-50	
			Cured		350	34	30-60	20-40	
	Titanium, Ti alloys	Cast		320	35	35-65	20-45		
				Rm 400	36	90-130	60-100		
H	Hardened steel	Alpha+beta alloys cured		Rm 1050	37	35-70	25-55		
		Hardened		55HRC	38	40-75			
	Hardened		60HRC	39	30-55				
	Chilled cast iron	Cast		400	40				
Cast iron nodular	Hardened		55HRC	41					

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