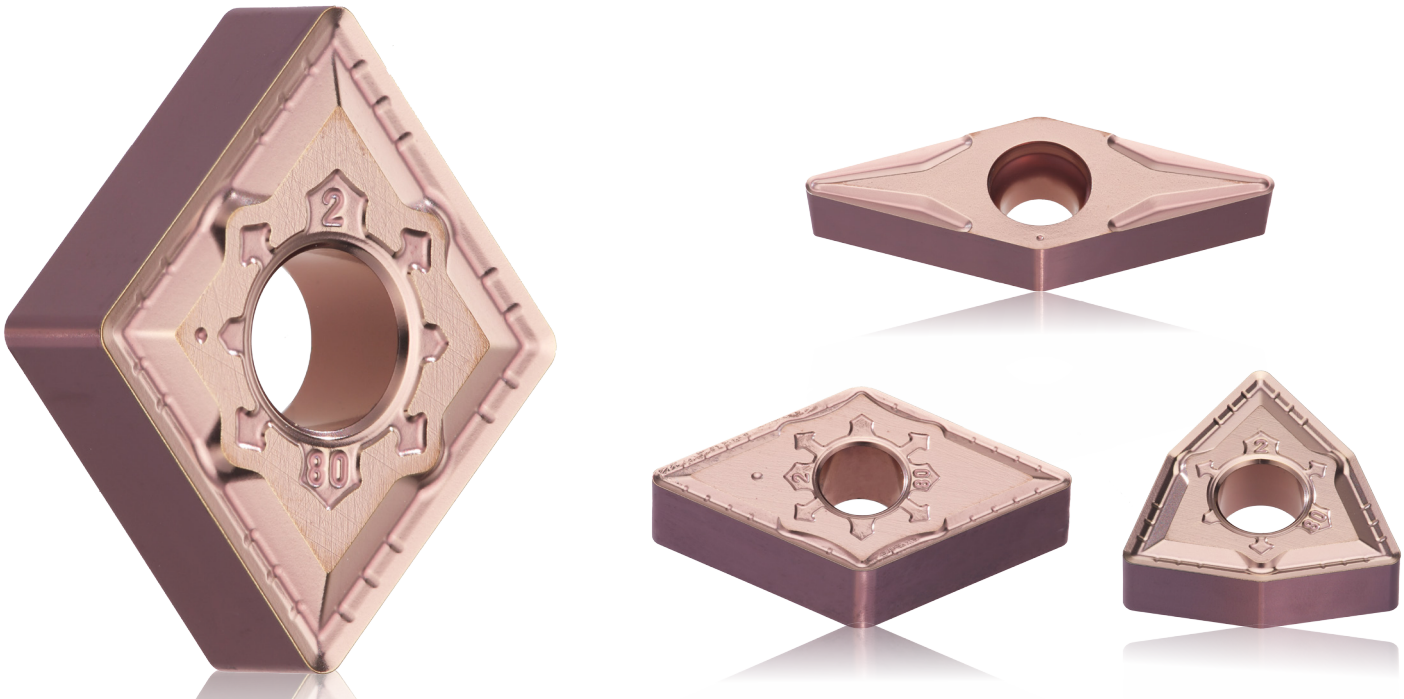
NEW PRODUCT NEWS

T-TURN

new

TT3005, A New CVD Coated Grade for HRSA Finish Machining



TaeguTec
Member IMC Group

KEY POINT

TaeguTec has introduced a new CVD coated grade, TT3005, for excellent finishing of heat resistant super alloys (HRSA).

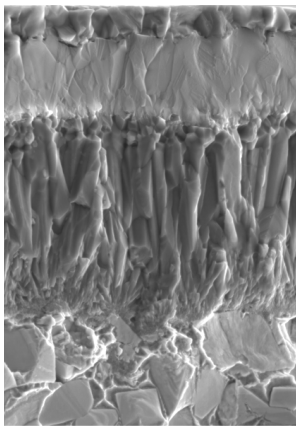
The **TT3005** CVD coated grade, easily noticed by its shiny purple surface, is the latest addition to TaeguTec's T-TURN family. Characterized by high wear resistance due to the ultra-fine substrate, it is also very good at preventing built-up-edges. It is a grade suitable for high-speed finish machining and longer tool life in medium-speed conditions.

With the introduction of the **TT3005**, along with the TT3010 and TT3020 grades in 2018, TaeguTec now covers a wide range of heat resistant super alloys (HRSA).

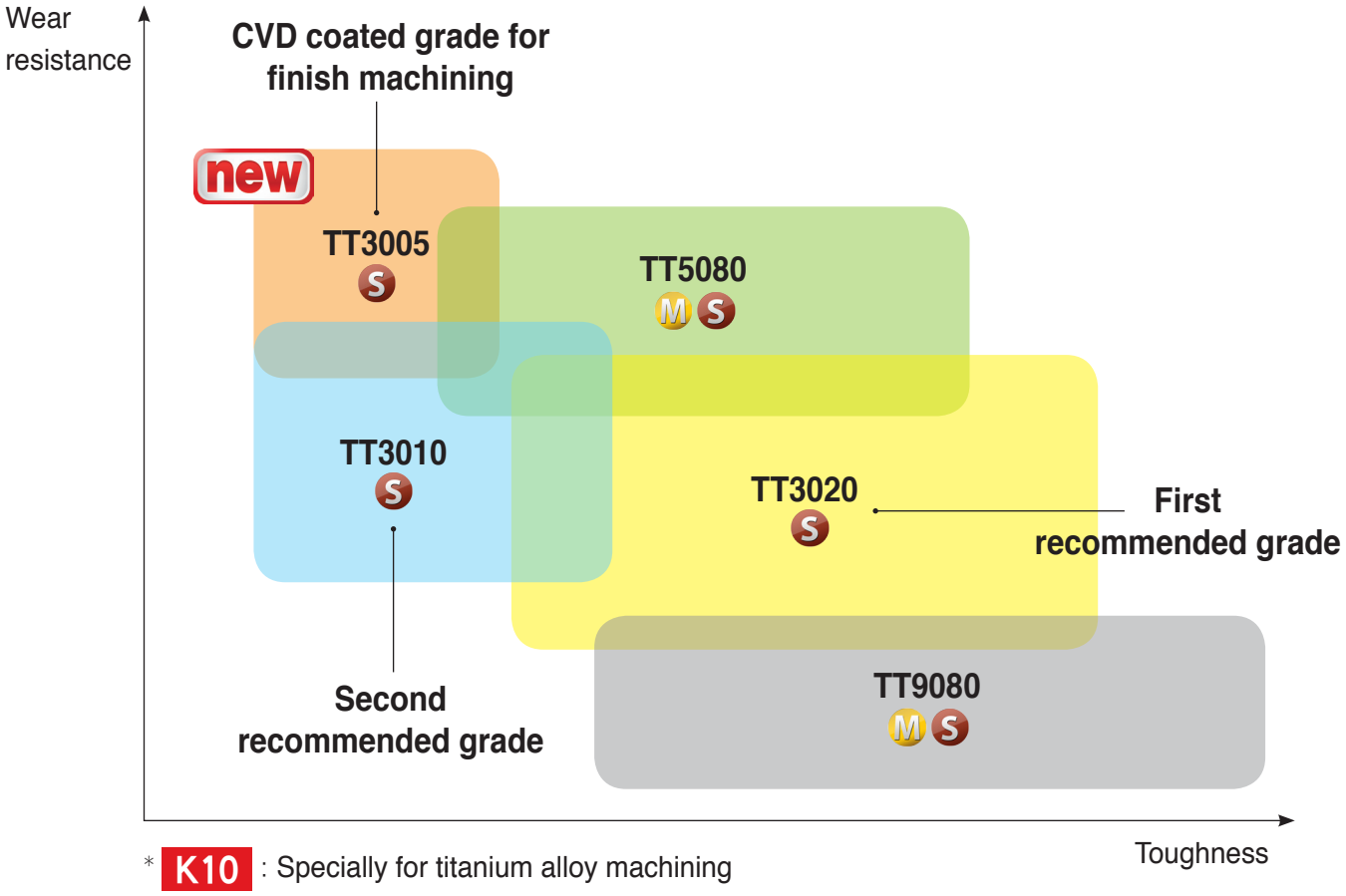
Note: TT3005, TT3010 and TT3020 grades are suitable for heat resistant super alloys such as Inconel, hastelloy and waspalloy. For titanium alloys, the K10 grade is the first recommended option.

Features

- High abrasion resistant ultra-fine substrate
- A CVD coated layer for high wear resistance and machining stability
- Surface treated smooth coated layer prevents built-up-edges and promotes good chip evacuation
- Suitable for high-speed finish machining of aerospace materials
- Distinctive shiny, purple surface color for improved recognition of the latest T-Turn grade



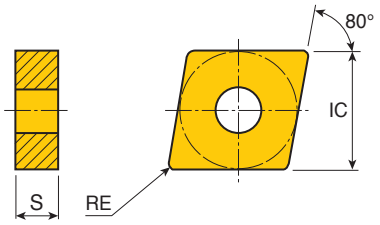
Application range



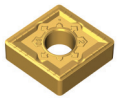
* K10 : Specially for titanium alloy machining

CNMG

Negative 80° rhombic inserts



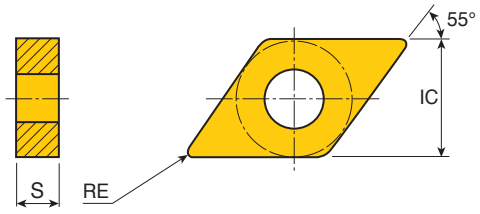
Size	Dimension (mm)		
	IC	S	RE
12	12.7	4.76	0.8-1.2

Insert	Designation	ap (mm)	Feed (mm/rev)	CVD coated	PVD coated		Uncoated
				new TT3005	TT3010	TT3020	K10
	**CNMG 120408 MGS**	1.0-4.0	0.15-0.40	●	●	●	●
	120412 MGS	1.5-4.0	0.17-0.50	●	●	●	●

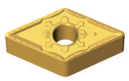
●: Standard items

DNMG

Negative 55° rhombic inserts



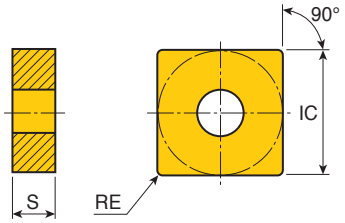
Size	Dimension (mm)		
	IC	S	RE
15	12.7	4.76-6.35	0.8-1.2

Insert	Designation	ap (mm)	Feed (mm/rev)	CVD coated	PVD coated		Uncoated
				new TT3005	TT3010	TT3020	K10
	**DNMG 150408 MGS**	1.0-4.0	0.15-0.40	●	●	●	●
	150608 MGS	1.0-4.0	0.15-0.40	●	●	●	●
	150612 MGS	1.0-4.0	0.17-0.40	●	●	●	●

●: Standard items

SNMG

Negative square inserts



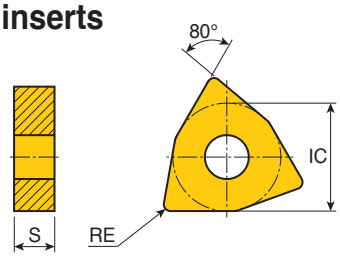
Size	Dimension (mm)		
	IC	S	RE
12	12.7	4.76	0.8-1.2
19	19.05	6.35	1.6

Insert	Designation	ap (mm)	Feed (mm/rev)	CVD coated	PVD coated		Uncoated
				new TT3005	TT3010	TT3020	K10
	**SNMG 120408 MGS**	1.0-4.0	0.15-0.40	●	●	●	●
	120412 MGS	1.3-4.0	0.17-0.40	●	●	●	●
	190616 MGS	1.5-8.0	0.17-0.60	●	●	●	●

●: Standard items

WNMG

Negative 80° trigon inserts



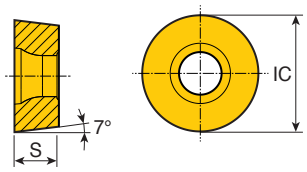
Size	Dimension (mm)		
	IC	S	RE
08	12.7	4.76	0.8-1.2

Insert	Designation	ap (mm)	Feed (mm/rev)	CVD coated	PVD coated		Uncoated
				new TT3005	TT3010	TT3020	K10
	**WNMG 080408 MGS**	1.0-4.0	0.15-0.40	●	●	●	●
	080412 MGS	1.3-4.0	0.17-0.40	●	●	●	●

●: Standard items

RCMT

Positive 7° clearance round inserts



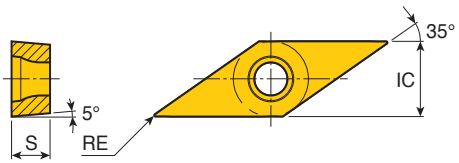
Size	Dimension (mm)		
	IC	S	
08	8	3.18	
12	12	4.76	

Insert	Designation		ap (mm)	Feed (mm/rev)	CVD coated	PVD coated		Uncoated
					new TT3005	TT3010	TT3020	K10
	**RCMT**	**080300 MGS**	0.5-2.0	0.15-0.30	●	●	●	●
		120400 MGS	1.0-3.0	0.25-0.50	●	●	●	●

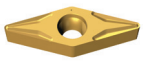
●: Standard items

VBGT

Positive 5° clearance 35° rhombic inserts



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

Insert	Designation		ap (mm)	Feed (mm/rev)	CVD coated	PVD coated		Uncoated
					new TT3005	TT3010	TT3020	K10
	**VBGT**	**160404 FGS**	0.2-2.5	0.03-0.20	●	●	●	●
		160408 FGS	0.3-2.5	0.05-0.20	●	●	●	●
		160412 FGS	0.3-2.5	0.07-0.20	●	●	●	●

●: Standard items

Recommended Cutting Conditions

ISO	Material		Condition	Tensile strength (N/mm²)	Hardness HB	Material No.	Cutting speed Vc(m/min)					
							Uncoated	Coated				
							K10	TT3005	TT5080	TT3010	TT3020	TT9080
P	Non-alloy steel, cast steel, free cutting steel	< 0.25%C	Annealed	420	125	1						
		>= 0.25%C	Annealed	650	190	2						
		< 0.55%C	Quenched and tempered	850	250	3						
		>= 0.55%C	Annealed	750	220	4						
			Quenched and tempered	1000	300	5						
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6						
			Quenched and tempered	930	275	7						
				1000	300	8						
				1200	350	9						
	High alloy steel, cast steel and tool steel		Annealed	680	200	10						
			Quenched and tempered	1100	325	11						
M	Stainless steel and cast steel		Ferritic / martensitic	680	200	12			160-390			120-290
			Martensitic	820	240	13			160-280			120-270
			Austenitic	600	180	14			100-250			90-240
K	Gray cast iron (GG)		Ferritic		160	15						
			Pearlitic		250	16						
	Cast iron nodular (GGG)		Ferritic		180	17						
			Pearlitic		260	18						
	Malleable cast iron		Ferritic		130	19						
			Pearlitic		230	20						
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	55-85	60-200	50-180	50-170	40-165	40-160
			Cured		280	32	40-65	50-180	40-160	40-150	30-145	30-130
		Ni or Co based	Annealed		250	33	32-55	55-120	45-100	45-90	35-85	35-80
			Cured		350	34	21-40	45-110	35-90	35-80	30-75	30-70
			Cast		320	35	16-26	40-100	30-80	30-70	30-65	30-60
	Titanium, Ti alloys			Rm 400		36	50-75	120-220	110-200	110-190	100-185	90-180
			Alpha+beta alloys cured	Rm 1050		37	45-70	60-120	50-100	50-90	40-85	40-80
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