

THE NEW VALUE FRONTIER



CVD coated carbide grade
for steel

CA025P

CA025P



Next generation CVD coating for longer tool life

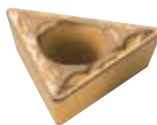
Improved wear resistance

Excellent fracture resistance

Excellent adhesion resistance and chipping resistance

Positive inserts added to the lineup

NEW



CVD coated carbide grade for steel

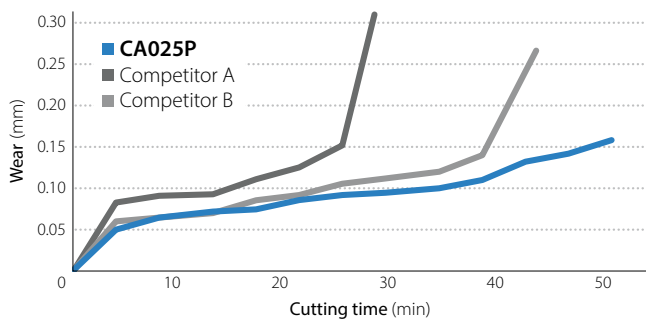
CA025P

Next generation CVD coating for longer tool life

1 Improved wear resistance with new CVD grade for steel

Thickened alumina with good thermal resistance (Twice as thick as conventional coating)
Improved plastic deformation resistance by increased temperature strength

Wear resistance comparison (Internal evaluation)

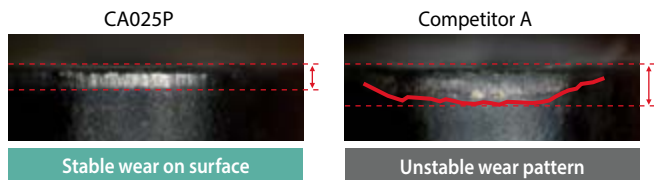


Good wear condition

Cutting conditions: $V_c = 300$ m/min, $a_p = 1.5$ mm, $f = 0.3$ mm/rev, wet workpiece: 34CrMo4

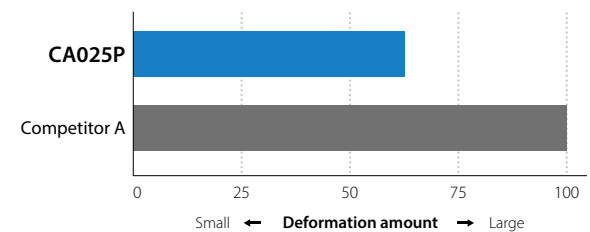
Wear comparison (Internal evaluation) Cutting time: 25.2 min

CA025P maintains smooth and flat wear with stable tool life



Cutting conditions: $V_c = 300$ m/min, $a_p = 1.5$ mm, $f = 0.3$ mm/rev, wet workpiece : 34CrMo4

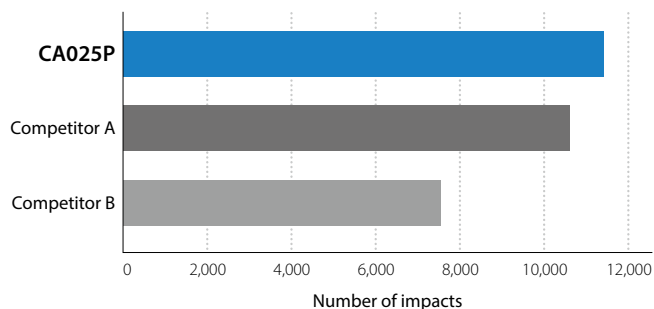
Plastic deformation comparison under high temperature (Internal evaluation)
Comparison with Competitor A



2 Excellent fracture resistance

New substrate with high stability provides excellent chipping resistance

Fracture resistance comparison (Internal evaluation) Average of 5 times

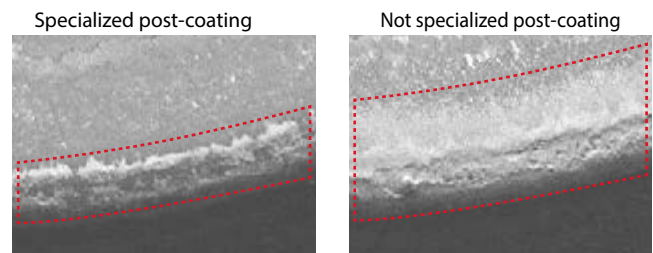


Cutting conditions: $V_c = 250$ m/min, $a_p = 1.5$ mm, $f = 0.35$ mm/rev, wet Workpiece: 42CrMo4 (with 4 slots)

3 Excellent adhesion resistance and chipping resistance

Specialized post-coating process prevents adhesion

Adhesion on the edge after cutting (Internal evaluation)



Less adhesion

Wide area of adhesion
* Adhesion area appears white

Cutting conditions: $V_c = 270$ m/min, $a_p = 1.0$ mm, $f = 0.1$ mm/rev, wet Workpiece: 42CrMo4 (with 4 slots)

Case studies

Cold forging die - X40CrMoV5-1

Vc = 230 m/min
ap = 2.0 mm~
f = 0.23 mm/rev
Wet
CNMG120408PG
CA025P



Tool life

**CA025P
PG chipbreaker**

25 pcs/edge

x1.6
Tool life

Competitor B
Molded chipbreaker

15 pcs/edge



CA025P



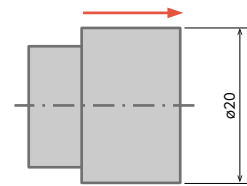
Competitor B

CA025P PG chipbreaker extended tool life by 1.6 times when compared to Competitor B. Good cutting edge provided continuous machining.

User evaluation

Pipe - 42CrMo4

Vc = 160 m/min
ap = 1.2 mm
f = 0.2 mm/rev
Wet
DNMG150408PG
CA025P



Tool life

**CA025P
PG chipbreaker**

40 pcs/edge

x2
Tool life

Competitor C
Molded chipbreaker

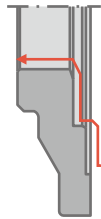
20 pcs/edge

CA025P PG chipbreaker maintained doubled the tool life of Competitor C. Less edge build-up and superior surface finish.

User evaluation

Flange - C45

Vc = 250 m/min
ap = 1.0 mm
f = 0.1 ~ 0.35 mm/rev
Wet
WNMG080408PQ
CA025P



Tool life

**CA025P
PQ chipbreaker**

150 pcs/edge

x1.5
Tool life

Competitor D
Molded chipbreaker

100 pcs/edge



CA025P



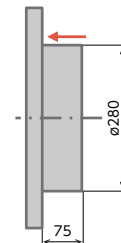
Competitor D

CA025P PQ chipbreaker extended tool life by 1.5 times that of Competitor D. Excellent cutting edge maintained continuous machining.

User evaluation

Flange - 42CrMo4 (Normalized)

Vc = 200 m/min
ap = 0.3 mm
f = 0.15 mm/rev
Wet
DNMG150404PP
CA025P



Tool life

**CA025P
PP chipbreaker**

30 pcs/edge

Improved
Cutting edge

Competitor E
Molded chipbreaker

30 pcs/edge



CA025P














Competitor E








CA025P PP chipbreaker showed less wear on cutting edge after machining 30 pcs and maintained stable machining.

User evaluation

Negative type inserts















Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (r _e)	
Wiper edge  Finishing	CNMG 120404WF	12.70	4.76	5.16	0.4	●
	120408WF				0.8	●
Wiper edge  Finishing	CNMG 120404WP	12.70	4.76	5.16	0.4	●
	120408WP				0.8	●
Wiper edge  Finishing-Medium	CNMG 120404WE	12.70	4.76	5.16	0.4	●
	120408WE				0.8	●
	120412WE				1.2	●
Wiper edge  Finishing-Medium	CNMG 120404WQ	12.70	4.76	5.16	0.4	●
	120408WQ				0.8	●
	120412WQ				1.2	●
Finishing 	CNMG 120402PP	12.70	4.76	5.16	0.2	●
	120404PP				0.4	●
	120408PP				0.8	●
	120412PP				1.2	●
Finishing 	CNMG 120402GP	12.70	4.76	5.16	0.2	●
	120404GP				0.4	●
	120408GP				0.8	●
Finishing-Medium 	CNMG 120404PQ	12.70	4.76	5.16	0.4	●
	120408PQ				0.8	●
	120412PQ				1.2	●
Finishing-Medium 	CNMG 090404HQ	9.525	4.76	3.81	0.4	●
	090408HQ				0.8	●
	CNMG 120404HQ	12.70	4.76	5.16	0.4	●
	120408HQ				0.8	●
120412HQ	1.2	●				
Finishing-Medium / Up facing 	CNMG 120404CQ	12.70	4.76	5.16	0.4	●
	120408CQ				0.8	●
	120412CQ				1.2	●
	CNMG 160608CQ	15.875	6.35	6.35	0.8	●
160612CQ	1.2				●	
Finishing-Medium / Up facing 	CNMG 120408CJ	12.70	4.76	5.16	0.8	●
	120412CJ				1.2	●
	CNMG 160612CJ	15.875	6.35	6.35	1.2	●
160616CJ	1.6				●	
Medium-Roughing (Continuous) 	CNMG 090404GS	9.525	4.76	3.81	0.4	●
	090408GS				0.8	●
	CNMG 120404GS	12.70	4.76	5.16	0.4	●
	120408GS				0.8	●
120412GS	1.2	●				















● : Available

Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (r _e)	
Medium-Roughing (Intermittent) 	CNMG 120404PG	12.70	4.76	5.16	0.4	●
	120408PG				0.8	●
	120412PG				1.2	●
	120416PG				1.6	●
Medium-Roughing 	CNMG 120404PS	12.70	4.76	5.16	0.4	●
	120408PS				0.8	●
	120412PS				1.2	●
	120416PS				1.6	●
	CNMG 160612PS	15.875	6.35	6.35	1.2	●
	160616PS				1.6	●
Medium-Roughing / High feed 	CNMG 120408PT	12.70	4.76	5.16	0.8	●
	120412PT				1.2	●
	CNMG 160608PT	15.875	6.35	6.35	0.8	●
	160612PT				1.2	●
160616PT	1.6	●				
Medium-Roughing / High feed 	CNMG 120408GT	12.70	4.76	5.16	0.8	●
	120412GT				1.2	●
Roughing 	CNMG 120404	12.70	4.76	5.16	0.4	●
	120408				0.8	●
	120412				1.2	●
	CNMG 160608	15.875	6.35	6.35	0.8	●
	160612				1.2	●
	CNMG 190612	19.05	6.35	7.94	1.2	●
190616	1.6				●	
Roughing 	CNMG 120408PH	12.70	4.76	5.16	0.8	●
	120412PH				1.2	●
	120416PH				1.6	●
	CNMG 160608PH	15.875	6.35	6.35	0.8	●
	160612PH				1.2	●
	160616PH				1.6	●
CNMG 190608PH	19.05	6.35	7.94	0.8	●	
190612PH				1.2	●	
190616PH				1.6	●	
190624PH				2.4	●	
Single Sided Roughing / High feed 	CNMM 120408PX	12.70	4.76	5.16	0.8	●
	120412PX				1.2	●
	120416PX				1.6	●
	CNMM 160608PX	15.875	6.35	6.35	0.8	●
	160612PX				1.2	●
	160616PX				1.6	●
	CNMM 190608PX	19.05	6.35	7.94	0.8	●
	190612PX				1.2	●
	190616PX				1.6	●
	190624PX				2.4	●

● : Available

Negative type inserts

Shape		Description	Dimensions (mm)				CA025P		
			I.C.	Thick-ness	Hole	Corner-R (re)			
Low carbon steel		CNMG 120404XP 120408XP	12.70	4.76	5.16	0.4	●		
						0.8	●		
Low carbon steel		CNMG 120404XQ 120408XQ	12.70	4.76	5.16	0.4	●		
						0.8	●		
Low carbon steel		CNMG 120408XS	12.70	4.76	5.16	0.8	●		
Wiper edge		DNMX 150404WF 150408WF 150412WF	12.70	4.76	5.16	0.4	●		
						0.8	●		
						1.2	●		
		Finishing		DNMX 150604WF 150608WF 150612WF	12.70	6.35	5.16	0.4	●
0.8	●								
1.2	●								
1.2	●								
Finishing		DNMG 150402PP 150404PP 150408PP 150412PP	12.70	4.76	5.16	0.2	●		
						0.4	●		
						0.8	●		
						1.2	●		
		Finishing		DNMG 150602PP 150604PP 150608PP 150612PP	12.70	6.35	5.16	0.2	●
								0.4	●
								0.8	●
								1.2	●
								1.2	●
								1.2	●
Finishing		DNMG 110404GP 110408GP	9.525	4.76	3.81	0.4	●		
						0.8	●		
		Finishing		DNMG 150402GP 150404GP 150408GP	12.70	4.76	5.16	0.2	●
								0.4	●
0.8	●								
Finishing-Medium		DNMG 150404PQ 150408PQ 150412PQ	12.70	4.76	5.16	0.4	●		
						0.8	●		
						1.2	●		
		Finishing-Medium		DNMG 150604PQ 150608PQ 150612PQ	12.70	6.35	5.16	0.4	●
								0.8	●
								1.2	●
Finishing-Medium		DNMG 110402HQ 110404HQ	9.525	4.76	3.81	0.2	●		
						0.4	●		
		Finishing-Medium		DNMG 150404HQ 150408HQ 150412HQ	12.70	4.76	5.16	0.4	●
								0.8	●
								1.2	●
		Finishing-Medium		DNMG 150604HQ 150608HQ 150612HQ	12.70	6.35	5.16	0.4	●
								0.8	●
								1.2	●

Shape		Description	Dimensions (mm)				CA025P						
			I.C.	Thick-ness	Hole	Corner-R (re)							
Finishing-Medium / Lip Facing		DNMG 150404CQ 150408CQ 150412CQ	12.70	4.76	5.16	0.4	●						
						0.8	●						
						1.2	●						
Finishing-Medium / Lip Facing		DNMG 150604CQ 150608CQ 150612CQ	12.70	6.35	5.16	0.4	●						
						0.8	●						
						1.2	●						
Finishing-Medium / Lip Facing		DNMG 150408CJ 150412CJ 150608CJ 150612CJ	12.70	4.76	5.16	0.8	●						
						1.2	●						
			12.70	6.35	5.16	0.8	●						
Medium-Roughing (Continuous)		DNMG 110404GS 110408GS	9.525	4.76	3.81	0.4	●						
						0.8	●						
		Medium-Roughing (Continuous)		DNMG 150404GS 150408GS 150412GS	12.70	4.76	5.16	0.4	●				
								0.8	●				
Medium-Roughing (Intermittent)		DNMG 150604GS 150608GS	12.70	6.35	5.16	0.4	●						
						0.8	●						
						Medium-Roughing (Intermittent)		DNMG 150404PG 150408PG 150412PG 150416PG	12.70	4.76	5.16	0.4	●
												0.8	●
1.2	●												
1.6	●												
Medium-Roughing (Intermittent)		DNMG 150604PG 150608PG 150612PG 150616PG	12.70	6.35	5.16	0.4	●						
						0.8	●						
						1.2	●						
						1.6	●						
Medium-Roughing		DNMG 150404PS 150408PS 150412PS	12.70	4.76	5.16	0.4	●						
						0.8	●						
						1.2	●						
						1.2	●						
Medium-Roughing		DNMG 150604PS 150608PS 150612PS 150616PS	12.70	6.35	5.16	0.4	●						
						0.8	●						
						1.2	●						
						1.6	●						
Medium-Roughing / High Feed		DNMG 150408PT 150412PT	12.70	4.76	5.16	0.8	●						
						1.2	●						
Medium-Roughing / High Feed		DNMG 150608PT 150612PT	12.70	6.35	5.16	0.8	●						
						1.2	●						
						1.2	●						
Medium-Roughing / High Feed		DNMG 150408GT 150412GT	12.70	4.76	5.16	0.8	●						
						1.2	●						
		Medium-Roughing / High Feed		DNMG 150608GT 150612GT	12.70	6.35	5.16	0.8	●				
								1.2	●				

● : Available

● : Available

Negative type inserts
















Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (r)	
Roughing	DNMG 150404	12.70	4.76	5.16	0.4	●
					0.8	●
	DNMG 150608	12.70	6.35	5.16	0.8	●
					1.2	●
Roughing	DNMG 150408PH	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
	DNMG 150608PH	12.70	6.35	5.16	0.8	●
					1.2	●
					1.6	●
Single-sided roughing / high feed	DNMM 150408PX	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
	DNMM 150608PX	12.70	6.35	5.16	0.8	●
					1.2	●
Low carbon steel Finishing	DNMG 150404XP	12.70	4.76	5.16	0.4	●
					0.8	●
Low carbon steel Medium	DNMG 150404XQ	12.70	4.76	5.16	0.4	●
					0.8	●
Low carbon steel Roughing	DNMG 150408XS	12.70	4.76	5.16	0.8	●
Medium-Roughing	RNMG 090300	9.525	3.18	3.81	—	●
	RNMG 120400	12.70	4.76	5.16	—	●
	RNMG 150600	15.875	6.35	6.35	—	●
Finishing-Medium	SNMG 120404PQ	12.70	4.76	5.16	0.4	●
					0.8	●
					1.2	●
Finishing-Medium	SNMG 120404HQ	12.70	4.76	5.16	0.4	●
					0.8	●
					1.2	●
Medium-Roughing (Interruption)	SNMG 120408PG	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●

● : Available


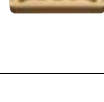



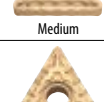




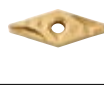
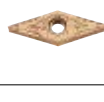



Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (r)	
Medium-Roughing	SNMG 120408PS	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
Medium-Roughing / high feed	SNMG 120408PT	12.70	4.76	5.16	0.8	●
					1.2	●
Roughing	SNMG 090304	9.525	3.18	3.81	0.4	●
					0.8	●
	SNMG 120408	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
Roughing	SNMG 120408PH	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
	SNMG 150612PH	15.875	6.35	6.35	1.2	●
					1.6	●
	SNMG 190612PH	19.05	6.35	7.94	1.2	●
					1.6	●
Single-Sided Roughing / High Feed	SNMM 120408PX	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
	SNMM 150612PX	15.875	6.35	6.35	1.2	●
					1.6	●
	SNMM 190612PX	19.05	6.35	7.94	1.2	●
					1.6	●
SNMM 190624PX	19.05	6.35	7.94	2.4	●	
Low carbon steel Finishing	SNMG 120408XP	12.70	4.76	5.16	0.8	●
Low carbon steel Medium	SNMG 120408XQ	12.70	4.76	5.16	0.8	●
Low carbon steel Roughing	SNMG 120408XS	12.70	4.76	5.16	0.8	●
Wiper edge Finishing	TNMX 160404WF	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Finishing	TNMG 160402PP	9.525	4.76	3.81	0.2	●
					0.4	●
					0.8	●
					1.2	●

● : Available

Negative type inserts










Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (re)	
Finishing	 TNMG 160402GP 160404GP 160408GP	9.525	4.76	3.81	0.2	●
					0.4	●
					0.8	●
Finishing-Medium	 TNMG 160404PQ 160408PQ 160412PQ	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Finishing-Medium	 TNMG 110404HQ 110408HQ	6.35	4.76	2.26	0.4	●
					0.8	●
					0.8	●
	 TNMG 160404HQ 160408HQ 160412HQ	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Finishing-Medium / Up facing	 TNMG 160404CQ 160408CQ 160412CQ	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
	 TNMG 220408CQ 220412CQ	12.70	4.76	5.16	0.8	●
					1.2	●
					1.2	●
Medium-Roughing (Continuous)	 TNMG 110404GS 110408GS	6.35	4.76	2.26	0.4	●
					0.8	●
	 TNMG 160404GS 160408GS	9.525	4.76	3.81	0.4	●
					0.8	●
Medium-Roughing (Interruption)	 TNMG 160404PG 160408PG 160412PG	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Medium-Roughing	 TNMG 160404PS 160408PS 160412PS	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
					1.2	●
	 TNMG 220404PS 220408PS 220412PS 220416PS	12.70	4.76	5.16	0.4	●
					0.8	●
Medium-Roughing / High feed	 TNMG 160408PT 160412PT	9.525	4.76	3.81	0.8	●
					1.2	●
Medium-Roughing / High feed	 TNMG 160408GT 160412GT	9.525	4.76	3.81	0.8	●
					1.2	●
Roughing	 TNMG 160404 160408 160412	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
	 TNMG 220408 220412	12.70	4.76	5.16	0.8	●
					1.2	●
					1.2	●

● : Available











Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (re)	
Roughing	 TNMG 160408PH 160412PH	9.525	4.76	3.81	0.8	●
					1.2	●
					1.2	●
	 TNMG 220408PH 220412PH 220416PH	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
Single-sided Roughing / High feed	 TNMM 160408PX 160412PX	9.525	4.76	3.81	0.8	●
					1.2	●
					1.2	●
	 TNMM 220408PX 220412PX 220416PX	12.70	4.76	5.16	0.8	●
					1.2	●
					1.6	●
Low carbon steel	 TNMG 160404XP 160408XP	9.525	4.76	3.81	0.4	●
					0.8	●
Low carbon steel	 TNMG 160404XQ 160408XQ	9.525	4.76	3.81	0.4	●
					0.8	●
Low carbon steel	 TNMG 160408XS	9.525	4.76	3.81	0.8	●
					0.8	●
Medium-Roughing	 TNMG 160404 ^R /L-ST 160408 ^R /L-ST	9.525	4.76	3.81	0.4	●
					0.8	●
Finishing	 VNMG 160402PP 160404PP 160408PP 160412PP	9.525	4.76	3.81	0.2	●
					0.4	●
					0.8	●
					1.2	●
Finishing	 VNMG 160402GP 160404GP 160408GP	9.525	4.76	3.81	0.2	●
					0.4	●
					0.8	●
Finishing-Medium	 VNMG 160404 ^R /L-VC 160408 ^R /L-VC 160412 ^R /L-VC	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Finishing-Medium	 VNMG 160404VF 160408VF 160412VF	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Finishing-Medium	 VNMG 160404PQ 160408PQ 160412PQ	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Finishing-Medium	 VNMG 160404HQ 160408HQ 160412HQ	9.525	4.76	3.81	0.4	●
					0.8	●
					1.2	●
Roughing	 VNMG 160404 160408	9.525	4.76	3.81	0.4	●
					0.8	●

● : Available

Negative type inserts

Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (rε)	
Wiper edge  Finishing	WNMG 080404WF	12.70	4.76	5.16	0.4	●
	080408WF				0.8	●
Wiper edge  Finishing	WNMG 080404WP	12.70	4.76	5.16	0.4	●
	080408WP				0.8	●
Wiper edge  Finishing-Medium	WNMG 080404WE	12.70	4.76	5.16	0.4	●
	080408WE				0.8	●
	080412WE				1.2	●
Wiper edge  Finishing-Medium	WNMG 080404WQ	12.70	4.76	5.16	0.4	●
	080408WQ				0.8	●
	080412WQ				1.2	●
Finishing 	WNMG 080402PP	12.70	4.76	5.16	0.2	●
	080404PP				0.4	●
	080408PP				0.8	●
	080412PP				1.2	●
Finishing-Medium 	WNMG 080404PQ	12.70	4.76	5.16	0.4	●
	080408PQ				0.8	●
	080412PQ				1.2	●
Finishing-Medium 	WNMG 06T304HQ	9.525	3.97	3.81	0.4	●
	06T308HQ				0.8	●
	WNMG 060404HQ	9.525	4.76	3.81	0.4	●
	060408HQ				0.8	●
	WNMG 080404HQ	12.70	4.76	5.16	0.4	●
	080408HQ				0.8	●
	080412HQ				1.2	●
	080412HQ				1.2	●
Finishing-Medium / Upfacing 	WNMG 080404CQ	12.70	4.76	5.16	0.4	●
	080408CQ				0.8	●
	080412CQ				1.2	●
Finishing-Medium / Upfacing 	WNMG 080408CJ	12.70	4.76	5.16	0.8	●
	080412CJ				1.2	●












● : Available

Shape	Description	Dimensions (mm)				CA025P
		I.C.	Thick-ness	Hole	Corner-R (rε)	
Medium-Roughing (Continuous) 	WNMG 060404GS	9.525	4.76	3.81	0.4	●
	060408GS				0.8	●
	WNMG 080404GS	12.70	4.76	5.16	0.4	●
	080408GS				0.8	●
Medium-Roughing (Intermittent) 	WNMG 080404PG	12.70	4.76	5.16	0.4	●
	080408PG				0.8	●
	080412PG				1.2	●
	080416PG				1.6	●
Medium-Roughing 	WNMG 080404PS	12.70	4.76	5.16	0.4	●
	080408PS				0.8	●
	080412PS				1.2	●
	080416PS				1.6	●
Medium-Roughing / High feed 	WNMG 080408PT	12.70	4.76	5.16	0.8	●
	080412PT				1.2	●
Medium-Roughing / High feed 	WNMG 080408GT	12.70	4.76	5.16	0.8	●
	080412GT				1.2	●
Roughing 	WNMG 080404	12.70	4.76	5.16	0.4	●
	080408				0.8	●
	080412				1.2	●
Roughing 	WNMG 080408PH	12.70	4.76	5.16	0.8	●
	080412PH				1.2	●
Low carbon steel  Finishing	WNMG 080404XP	12.70	4.76	5.16	0.4	●
	080408XP				0.8	●
Low carbon steel  Medium	WNMG 080404XQ	12.70	4.76	5.16	0.4	●
	080408XQ				0.8	●
Low carbon steel  Roughing	WNMG 080408XS	12.70	4.76	5.16	0.8	●








● : Available

Positive type inserts

NEW








Shape	Description	Dimensions (mm)				Relief angle	CVD coated carbide CA025P
		I.C.	Thick-ness	Hole	Corner-R (RE)		
Wiper edge  Finishing	CCMT 060202WP	6.35	2.38	2.8	0.2	7°	●
	060204WP				0.4		●
	060208WP				0.8		●
	CCMT 09T302WP	9.525	3.97	4.4	0.2	7°	●
	09T304WP				0.4		●
	09T308WP				0.8		●
Finishing 	CCMT 060202PP	6.35	2.38	2.8	0.2	7°	●
	060204PP				0.4		●
	CCMT 09T302PP	9.525	3.97	4.4	0.2	7°	●
	09T304PP				0.4		●
	09T308PP				0.8		●
	Finishing-Medium 	CCMT 060202GK	6.35	2.38	2.8	0.2	7°
060204GK		0.4				●	
CCMT 09T302GK		9.525	3.97	4.4	0.2	7°	●
09T304GK					0.4		●
CCMT 120404GK		12.70	4.76	5.5	0.4	7°	●
120408GK					0.8		●
120412GK	1.2				●		
Finishing-Medium 	CCMT 060202HQ	6.35	2.38	2.8	0.2	7°	●
	060204HQ				0.4		●
	CCMT 09T302HQ	9.525	3.97	4.4	0.2	7°	●
	09T304HQ				0.4		●
	09T308HQ				0.8		●
	Medium 	CCMT 09T308	9.525	3.97	4.4	0.8	7°
Finishing 	CPMT 080202PP	7.94	2.38	3.3	0.2	11°	●
	080204PP				0.4		●
	CPMT 090302PP	9.525	3.18	4.4	0.2	11°	●
	090304PP				0.4		●
	090308PP				0.8		●
	Finishing 	CPMT 080204GP	7.94	2.38	3.3	0.4	11°
CPMT 090304GP		9.525	3.18	4.4	0.4	11°	●
090308GP					0.8		●
Finishing-Medium 	CPMH 080204HQ	7.94	2.38	3.5	0.4	11°	●
	080208HQ				0.8		●
	CPMH 090304HQ	9.525	3.18	4.5	0.4	11°	●
	090308HQ				0.8		●
Medium 	CPMH 080204	7.94	2.38	3.5	0.4	11°	●
	080208				0.8		●
	CPMH 090304	9.525	3.18	4.5	0.4	11°	●
	090308				0.8		●
Low carbon steel  Finishing	CPMT 080204XP	7.94	2.38	3.3	0.4	11°	●
	CPMT 090304XP	9.525	3.18	4.4	0.4	11°	●
	090308XP				0.8		●
Low carbon steel  Finishing-Medium	CPMT 090304XQ	9.525	3.18	4.4	0.4	11°	●
	090308XQ				0.8		●

● : Available







Shape	Description	Dimensions (mm)				Relief angle	CVD coated carbide CA025P
		I.C.	Thick-ness	Hole	Corner-R (RE)		
Wiper edge  Finishing	DCMX 070202WP	6.35	2.38	2.8	0.2	7°	●
	070204WP				0.4		●
	070208WP				0.8		●
	DCMX 11T302WP	9.525	3.97	4.4	0.2	7°	●
	11T304WP				0.4		●
	11T308WP				0.8		●
Finishing 	DCMT 070202PP	6.35	2.38	2.8	0.2	7°	●
	070204PP				0.4		●
	DCMT 11T302PP	9.525	3.97	4.4	0.2	7°	●
	11T304PP				0.4		●
11T308PP	0.8				●		
Finishing 	DCMT 070202GP	6.35	2.38	2.8	0.2	7°	●
	070204GP				0.4		●
	DCMT 11T304GP	9.525	3.97	4.4	0.4	7°	●
	11T308GP				0.8		●
Finishing-Medium 	DCMT 070202GK	6.35	2.38	2.8	0.2	7°	●
	070204GK				0.4		●
	070208GK				0.8		●
	DCMT 11T302GK	9.525	3.97	4.4	0.2	7°	●
11T304GK	0.4				●		
11T308GK	0.8				●		
Finishing-Medium 	DCMT 070202HQ	6.35	2.38	2.8	0.2	7°	●
	070204HQ				0.4		●
	070208HQ				0.8		●
	DCMT 11T302HQ	9.525	3.97	4.4	0.2	7°	●
	11T304HQ				0.4		●
	11T308HQ				0.8		●
Low carbon steel  Finishing	DCMT 070204XP	6.35	2.38	2.8	0.4	7°	●
	DCMT 11T302XP	9.525	3.97	4.4	0.2	7°	●
	11T304XP				0.4		●
	11T308XP				0.8		●
Low carbon steel  Finishing-Medium	DCMT 11T304XQ	9.525	3.97	4.4	0.4	7°	●
	11T308XQ				0.8		●

● : Available

Positive type inserts NEW

Shape	Description	Dimensions (mm)				Relief angle	CVD coated carbide	
		I.C.	Thick-ness	Hole	Corner-R (RE)		CA025P	
Medium		RCMX 1003M0	10.0	3.18	3.6	—	7°	●
		RCMX 1204M0	12.0	4.76	4.2	—		●
Finishing-Medium		SCMT 09T304HQ	9.525	3.97	4.4	0.4	7°	●
		SCMT 09T308HQ				0.8		●
Medium		SPMR 090304	9.525	3.18	—	0.4	11°	●
						0.8		●
		SPMR 120304	12.7	3.18	—	0.4	11°	●
						0.8		●
Finishing		TBMT 060102DP	3.97	1.59	2.3	0.2	5°	●
		TBMT 060104DP				0.4		●
Wiper edge		TCMX 090204WP	5.56	2.38	2.5	0.4	7°	●
		TCMX 110204WP	6.35	2.38	2.8	0.4	7°	●
Finishing-Medium		TCMT 110204HQ	6.35	2.38	2.8	0.4	7°	●
		TCMT 110208HQ				0.8		●
Wiper edge		TPMX 090202WP	5.56	2.38	2.8	0.2	11°	●
						0.4		●
						0.8		●
		TPMX 110302WP	6.35	3.18	3.3	0.2	11°	●
						0.4		●
						0.8		●











● : Available

Shape	Description	Dimensions (mm)				Relief angle	CVD coated carbide	
		I.C.	Thick-ness	Hole	Corner-R (RE)		CA025P	
Finishing		TPMT 090202PP	5.56	2.38	2.8	0.2	11°	●
		TPMT 090204PP				0.4		●
		TPMT 110302PP	6.35	3.18	3.3	0.2	11°	●
		TPMT 110304PP				0.4		●
		TPMT 110308PP				0.8		●
Finishing		TPMT 090204GP	5.56	2.38	2.8	0.4	11°	●
		TPMT 110304GP	6.35	3.18	3.3	0.4	11°	●
		TPMT 110308GP				0.8		●
		TPMT 160304GP	9.525	3.18	4.4	0.4	11°	●
Finishing-Medium		TPMT 090202HQ	5.56	2.38	2.8	0.2	11°	●
		TPMT 090204HQ				0.4		●
		TPMT 110302HQ	6.35	3.18	3.3	0.2	11°	●
		TPMT 110304HQ				0.4		●
		TPMT 110308HQ				0.8		●
		TPMT 160304HQ	9.525	3.18	4.4	0.4	11°	●
						0.8		●
Low carbon steel		TPMT 090204XP	5.56	2.38	2.8	0.4	11°	●
		TPMT 110304XP	6.35	3.18	3.3	0.4	11°	●
		TPMT 110308XP				0.8		●
Low carbon steel		TPMT 160304XP	9.525	3.18	4.4	0.4	11°	●
		TPMT 160308XP				0.8		●
Low carbon steel		TPMT 110304XQ	6.35	3.18	3.3	0.4	11°	●
		TPMT 110308XQ				0.8		●
		TPMT 160304XQ	9.525	3.18	4.4	0.4	11°	●
						TPMT 160308XQ		0.8







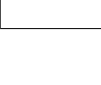


● : Available

Positive type inserts



Shape	Description	Dimensions (mm)				Relief angle	CVD coated carbide CA025P	
		I.C.	Thick-ness	Hole	Corner-R (RE)			
Finishing		TPMR 160304GP	9.525	3.18	—	0.4	11°	●
								●
Finishing-Medium		TPMR 110304HQ 110308HQ	6.35	3.18	—	0.4	11°	●
						0.8		●
Medium		TPMR 160304HQ 160308HQ	9.525	3.18	—	0.4	11°	●
						0.8		●
Finishing		VBMT 110302PP 110304PP 110308PP	6.35	3.18	2.8	0.2	5°	●
						0.4		●
Finishing		VBMT 160404PP 160408PP 160412PP	9.525	4.76	4.4	0.4	5°	●
						0.8		●
Finishing		VBMT 110304GP 160404GP 160408GP	6.35	3.18	2.8	0.4	5°	●
						0.8		●
Finishing		VBMT 110302VF 110304VF 110308VF	6.35	3.18	2.8	0.2	5°	●
						0.4		●
Finishing		VBMT 160402VF 160404VF 160408VF 160412VF	9.525	4.76	4.4	0.2	5°	●
						0.4		●
Finishing-Medium		VBMT 110304HQ 110308HQ	6.35	3.18	2.8	0.4	5°	●
						0.8		●
Finishing-Medium		VBMT 160404HQ 160408HQ 160412HQ	9.525	4.76	4.4	0.4	5°	●
						0.8		●

● : Available

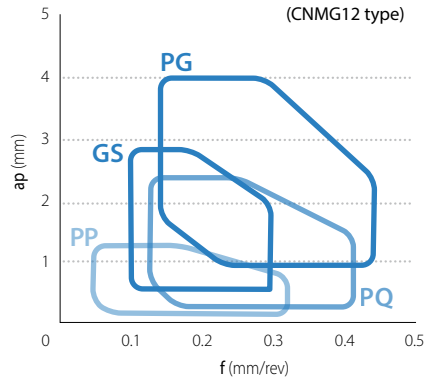
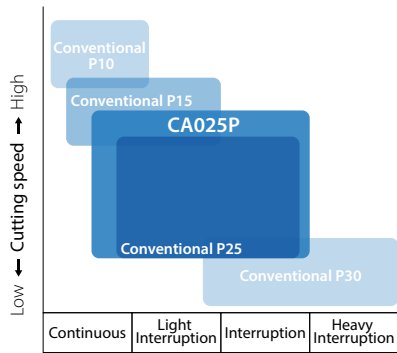
Shape Handed insert shows left-hand	Description	Dimensions (mm)				Relief angle	CVD coated carbide CA025P	
		I.C.	Thick-ness	Hole	Corner-R (RE)			
Finishing		VCMT 080202PP 080204PP	4.76	2.38	2.3	0.2	7°	●
						0.4		●
Finishing		VCMT 160404PP 160408PP	9.525	4.76	4.4	0.4	7°	●
						0.8		●
Finishing		VCMT 080202VF 080204VF	4.76	2.38	2.3	0.2	7°	●
						0.4		●
Finishing-Medium		VCMT 080202HQ 080204HQ	4.76	2.38	2.3	0.2	7°	●
						0.4		●
Finishing		WBMT 060102L-DP 060104L-DP	3.97	1.59	2.3	0.2	5°	L
						0.4		L
Finishing		WBMT 080202L-DP 080204L-DP	4.76	2.38	2.3	0.2	5°	L
						0.4		L
Finishing		WPMT 110204GP 160304GP	6.35	2.38	2.8	0.4	11°	●
						0.4		●
Finishing-Medium		WPMT 110202HQ 110204HQ	6.35	2.38	2.8	0.2	11°	●
						0.4		●
Finishing-Medium		WPMT 160304HQ 160308HQ	9.525	3.18	4.4	0.4	11°	●
						0.8		●

● : Available
L: L-hand only

Recommended cutting conditions

Vc (m/min)

	Low carbon steel Low carbon alloy steel 150 HB or below	Medium carbon steel Medium carbon alloy steel 250 HB or below	High carbon alloy steel 300 HB or below
	CA025P	150 ~ 240 ~ 320	



■ **PG chipbreaker** Medium-Roughing Interruption (Medium-Roughing)
1st recommendation
Stable machining and good chip control in a wide range of applications

■ **PQ chipbreaker** Finishing-Medium
Reduces chip clogging and resistance at high feed rates

■ **GS chipbreaker** Medium-Roughing Continuous (Medium-Roughing)
1st recommendation
Hybrid land enables stable machining during light interruption

■ **PP chipbreaker** Finishing
Improves chip clogging and chip crunching at high feed rates with small ap