

THE NEW VALUE FRONTIER



Chipbreaker for
aluminum

AP chipbreaker

AP chipbreaker

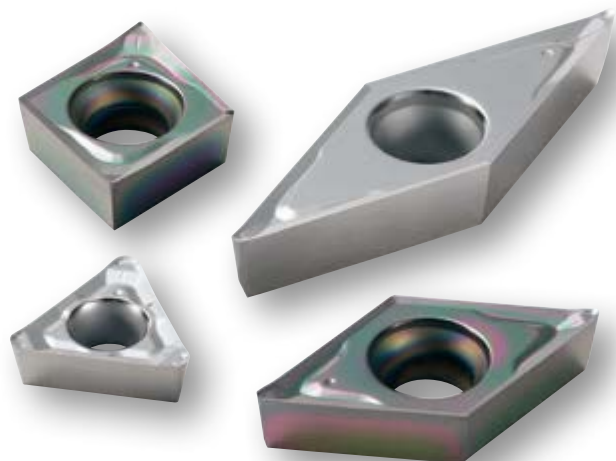


Provides excellent surface finish when finishing aluminum

Improved chip control during aluminum finishing applications

Combination of sharp cutting edge and DLC coating prevents burrs

Chipbreaker for positive type inserts

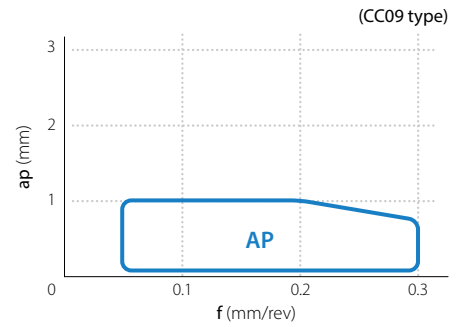


Chipbreaker for aluminum finishing

AP chipbreaker

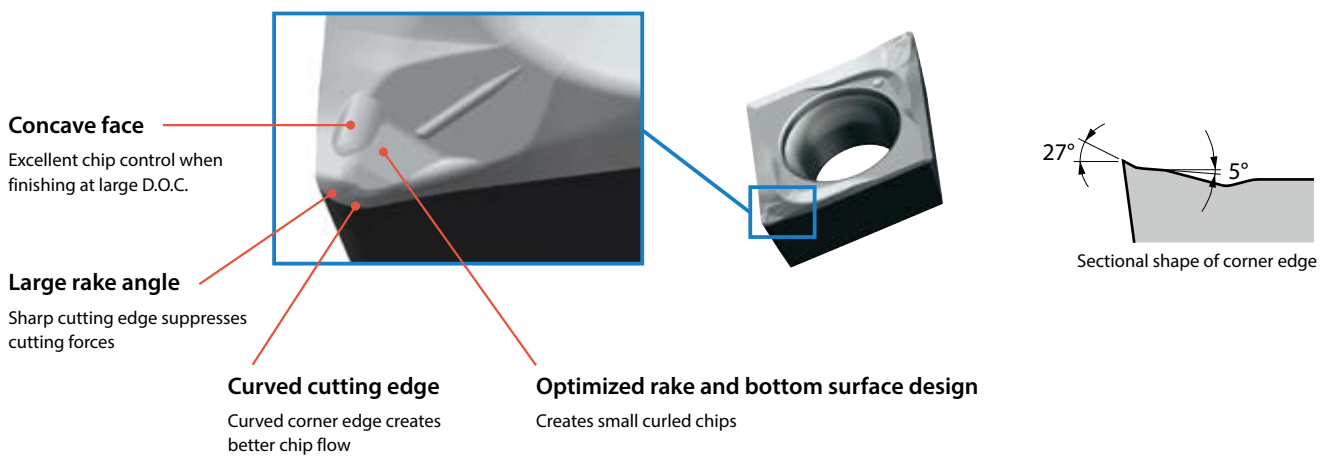
Improved chip control during aluminum finishing applications

Applicable chipbreaker range



1 Improved chip control during finishing

Optimized chipbreaker provides better chip control



Chip control comparison (Internal evaluation)

External turning



Cutting conditions: $V_c = 400$ m/min, $a_p = 0.5$ mm, $f = 0.15$ mm/rev, Wet, CC**09T304 type
Workpiece: AlMg1SiCu

Internal turning

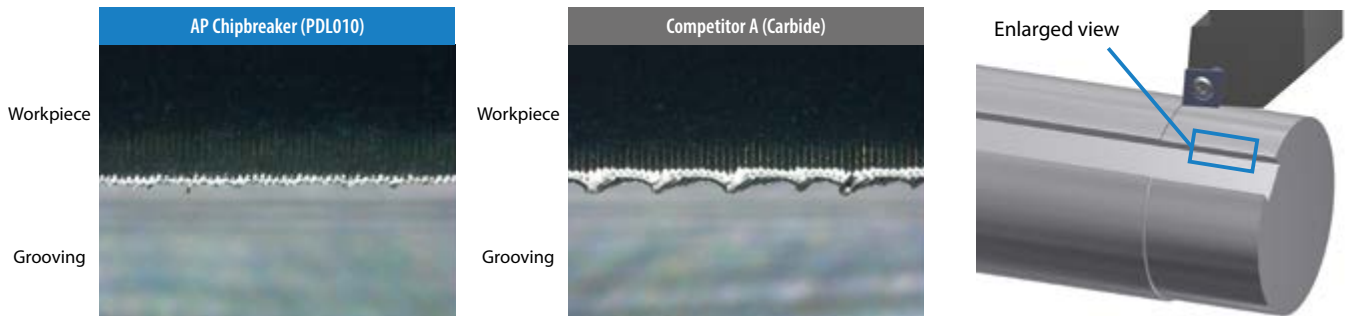


Cutting conditions: $V_c = 400$ m/min, $a_p = 0.3$ mm, $f = 0.15$ mm/rev, Wet, CC**09T304 type
Workpiece: AlMg1SiCu

AP chipbreaker showed better chip control than competitors for both external and internal turning

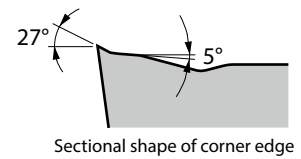
2 Sharp cutting edge and DLC coating prevent burrs

Burr comparison when exiting the slot (Internal evaluation)

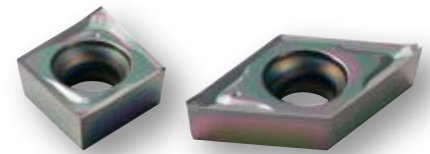


AP chipbreaker (PDL010) suppressed burrs of exiting the slot

Cutting conditions: $V_c = 400$ m/min, $a_p = 0.25$ mm, $f = 0.12$ mm/rev, CC**09T304 Type, wet, external turning
Workpiece: AlMg2.5

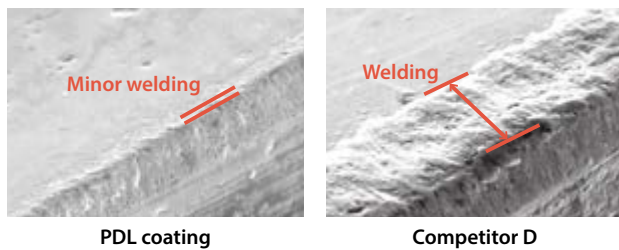


3 DLC coated grade PDL010 is available



Excellent surface finish with aluminum welding resistance

Welding resistance comparison (Internal evaluation)

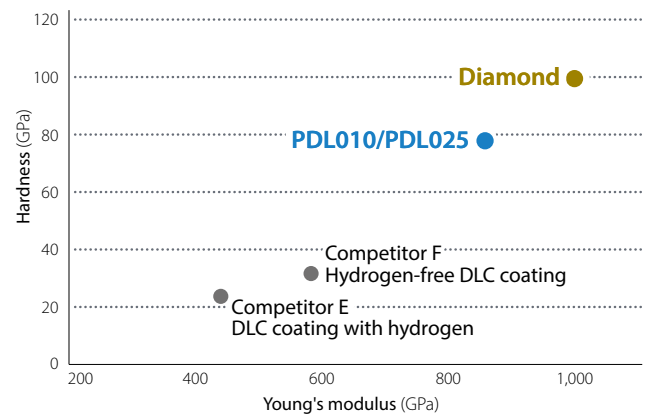


Cutting conditions: $V_c = 800$ m/min, $f_z = 0.1$ mm/t, $a_p \times a_e = 3 \times 5$ mm, dry
Cutter dia. $\phi 25$ mm Workpiece: AlMg2.5 Cutting length: 57 m

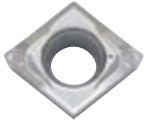



Achieves long tool life with hardness close to that of diamond

High hardness with Kyocera's proprietary hydrogen-free DLC coating

Coating properties (Internal evaluation)



Inserts

Shape	Description	Dimensions (mm)					Grade		
		I.C.	Thickness	Hole	Corner-R (RE)	Relief angle	DLC coating	Carbide	
							PDL010	KW10	
Finishing  Sharp edge / Mirror surface finish	CCGT	060202AP	6.35	2.38	2.8	0.2	7°	●	●
		060204AP				0.4		●	●
	CCGT	09T302AP	9.525	3.97	4.4	0.2		●	●
		09T304AP				0.4		●	●
		09T308AP				0.8		●	●
Finishing  Sharp edge / Mirror surface finish	DCGT	070202AP	6.35	2.38	2.8	0.2	7°	●	●
		070204AP				0.4		●	●
	DCGT	11T302AP	9.525	3.97	4.4	0.2		●	●
		11T304AP				0.4		●	●
		11T308AP				0.8		●	●
Finishing  Sharp edge / Mirror surface finish	TPGT	110302AP	6.35	3.18	3.3	0.2	11°	●	●
		110304AP				0.4		●	●
		110308AP				0.8		●	●
Finishing  Sharp edge / Mirror surface finish	VCGT	160404AP	9.525	4.76	4.4	0.4	7°	●	●

●: Available

Applicable chipbreaker range

