



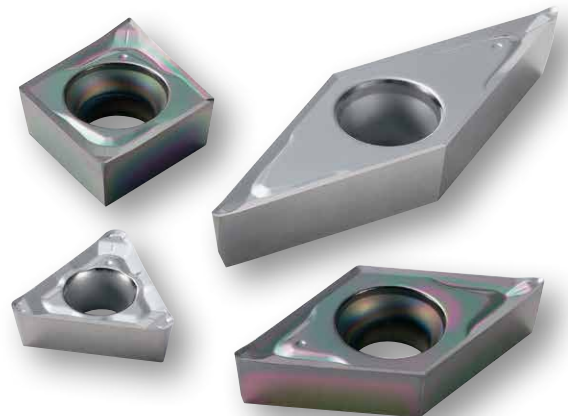
AP Chipbreaker

Positive Chipbreaker for Aluminum Finishing



Provides Excellent Surface Finish when Finishing Aluminum

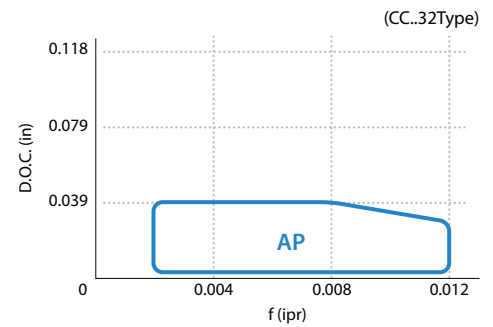
Improved Chip Control during Aluminum Finishing Applications
Combination of Sharp Cutting Edge and DLC Coating Prevents Burrs



AP Chipbreaker

Improved Chip Control
Aluminum Finishing Applications

Applicable Chipbreaker Range



1 Improved Chip Control during Finishing

Optimized chipbreaker provides better chip control

Concave Face
Excellent chip control when finishing at large D.O.C.

Large Rake Angle
Sharp cutting edge suppresses cutting forces

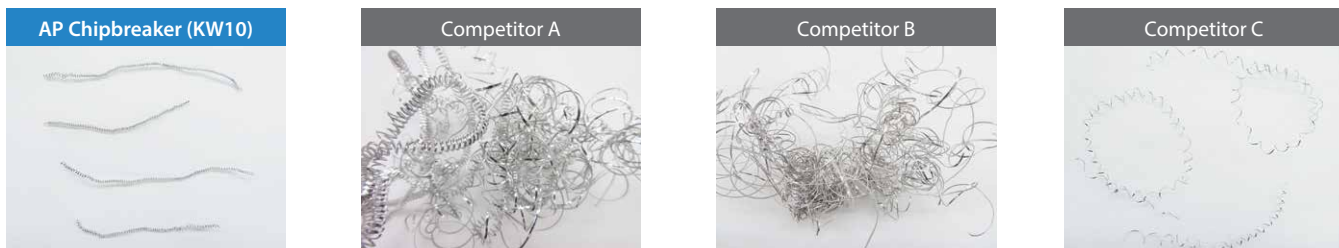
Curved Cutting Edge
Curved corner edge creates better chip flow

Optimized rake and bottom surface design
Creates small curled chips

Chipbreaker corner cross-section

Chip Control Comparison (Internal Evaluation)

External Turning



Cutting Conditions : $V_c = 1,310$ sfm, $D.O.C. = 0.020''$, $f = 0.006$ ipr, Wet, CC**3251 Type
Workpiece : 6061

Internal Turning

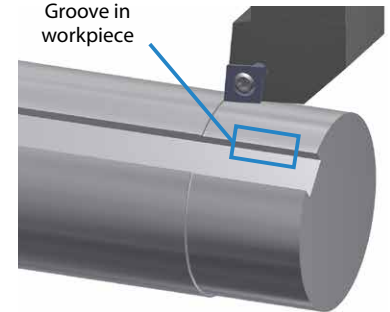
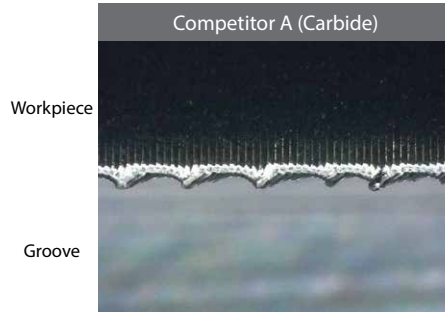
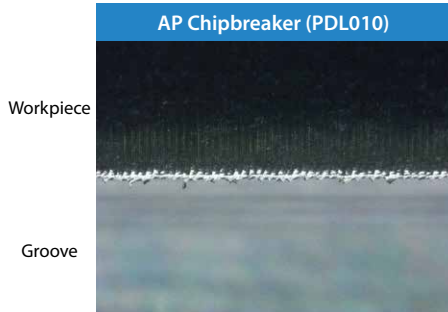


Cutting Conditions : $V_c = 1,310$ sfm, $D.O.C. = 0.079''$, $f = 0.006$ ipr, Wet, CC**3251 Type
Workpiece : 6061

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

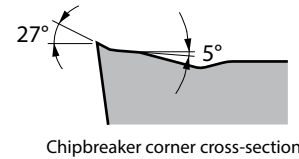
2 Sharp Cutting Edge and DLC Coating Prevent Burrs

Burr Comparison when Exiting the Hole (Internal Evaluation)

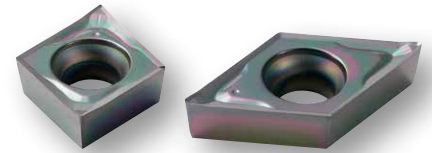


AP Chipbreaker (PDL010) suppressed burrs of exiting the hole

Cutting Conditions : Vc = 1,310 sfm, D.O.C. = 0.010", f = 0.005 ipr, CC ** 3251 Type, Wet, External Turning
Workpiece : 5052

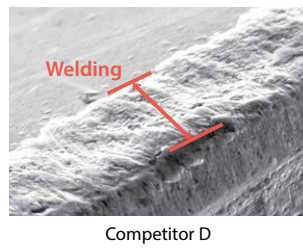
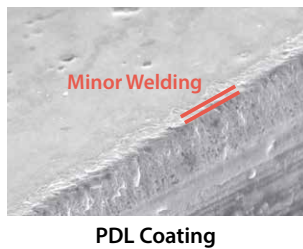


3 DLC Coated Grade PDL010 is Available



Excellent Surface Finish with Aluminum Welding Resistance

Welding Resistance Comparison (Internal Evaluation)

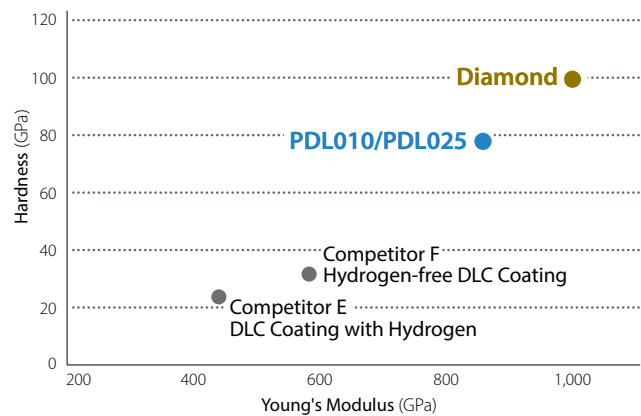


Cutting Conditions : Vc = 2,630 sfm, fz = 0.004 ipr, D.O.C. x ae = 0.118" x 0.197", Dry
Cutter Dia. Ø0.984" Workpiece : 5052 Cutting Length : 187 ft

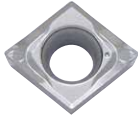

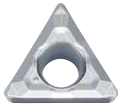
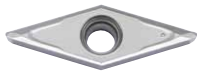
Achieves Long Tool Life with Hardness Close to that of Diamond

High Hardness with Kyocera's Proprietary Hydrogen-free DLC Coating

Coating Properties (Internal Evaluation)

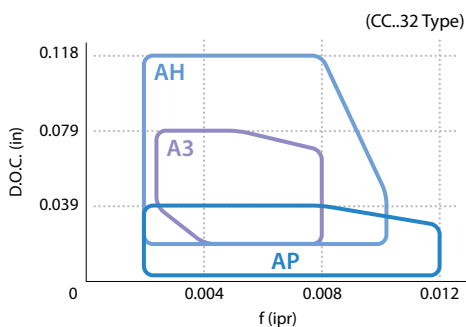


Inserts

Shape	Part Number	Dimensions (in)					Grade	
		IC	Thickness	Hole	Corner-R (RE)	Relief Angle	DLC Coating	Carbide
							PDL010	KW10
 Sharp Edge	CCGT 21505AP	1/4	3/32	0.110	0.008	7°	●	●
	2151AP				1/64		●	●
	CCGT 32505AP	3/8	5/32	0.173	0.008	7°	●	●
	3251AP				1/64		●	●
3252AP	1/32	●	●					
 Sharp Edge	DCGT 21505AP	1/4	3/32	0.110	0.008	7°	●	●
	2151AP				1/64		●	●
	DCGT 32505AP	3/8	5/32	0.173	0.008	7°	●	●
	3251AP				1/64		●	●
3252AP	1/32	●	●					
 Sharp Edge	TPGT 2205AP	1/4	1/8	0.130	0.008	11°	●	●
	221AP				1/64		●	●
	222AP				1/32		●	●
 Sharp Edge	VCGT 331AP	3/8	3/16	0.173	1/64	7°	●	●

● : Standard Item

Applicable Chipbreaker Range



KYOCERA Precision Tools, Inc.

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