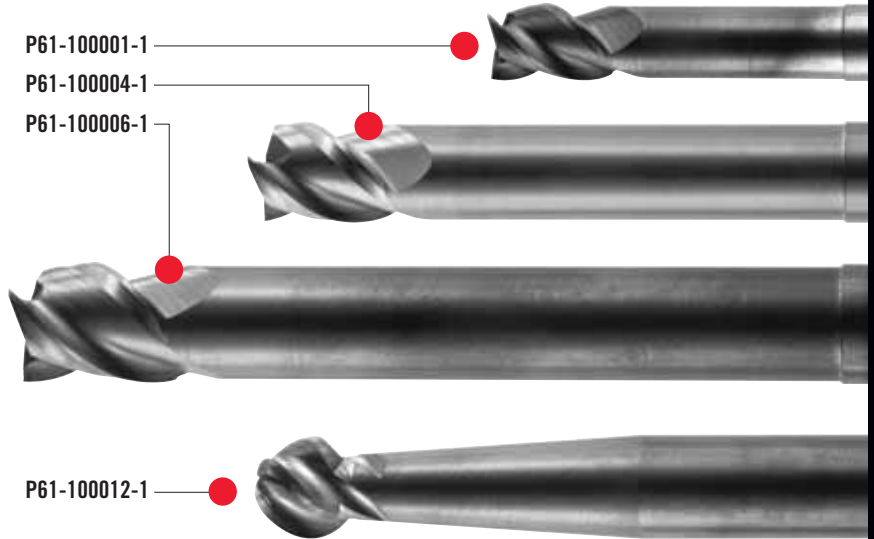


New!

Black Widow

Crystallume is proud to introduce the Black Widow line of cutting tools for high performance machining of aluminum and other nonferrous material. These specially designed tools have been optimized to be coated with the Black Widow HCC-C-100 coating. HCC-C-100 is a coating containing a mixture of diamond and graphite. Diamond is the hardest material known to man, while Graphite is much softer. These two materials are mixed together on the nanomolecular scale and therefore form a type of nano-phase amorphous material that offers high hardness and very low friction. This decreases built up edge (BUE) and extends tool life 2-3 times that of an uncoated tool.



Black Widow Tools

Diameter	Fractional	Metric	LOC	Reach	OAL	Shank Diameter	Flute Number	Style	Cutting DIA Tolerance +0.XXXX/-0.XXXX	Part Number
High Velocity Cutters										
0.2500	1/4	3/8	1-1/8	2-1/2	1/4	3	SE-45°Helix	+0.0000/-0.0010	P61-100001-1	
0.2500	1/4	3/8	2-1/8	4	1/4	3	SE-45°Helix	+0.0000/-0.0010	P61-100002-1	
0.3750	3/8	1/2	1-1/8	2-1/2	3/8	3	SE-45°Helix	+0.0000/-0.0010	P61-100003-1	
0.3750	3/8	1/2	2-1/8	4	3/8	3	SE-45°Helix	+0.0000/-0.0010	P61-100004-1	
0.5000	1/2	5/8	1-3/8	3	1/2	3	SE-45°Helix	+0.0000/-0.0010	P61-100005-1	
0.5000	1/2	5/8	3-3/8	6	1/2	3	SE-45°Helix	+0.0000/-0.0010	P61-100006-1	
High Performance End Mills										
0.1250	1/8	1/2	1-1/2	1/8	2	SE-45°Helix	+0.0000/-0.0010	P61-100007-1		
0.1875	3/16	5/8	2	3/16	2	SE-45°Helix	+0.0000/-0.0010	P61-100008-1		
0.2500	1/4	1	2-1/2	1/4	2	SE-45°Helix	+0.0000/-0.0010	P61-100009-1		
0.3750	3/8	1	2-1/2	3/8	2	SE-45°Helix	+0.0000/-0.0010	P61-100010-1		
0.5000	1/2	1	3	1/2	2	SE-45°Helix	+0.0000/-0.0010	P61-100011-1		
Automotive Contour Profilers										
0.5000	1/2	1/2	6	1/2	4	LollyPop Cutter	+0.0000/-0.0010	P61-100012-1		

Notes: The Shank Tolerance is held to $-.0001/-0.0003$ and the OAL Tolerance is held to $-.000/+0.030$

General Machining Guidelines

Workpiece Material	Application	Cutting Speed fpm (m/min)	Chip Load ipt (mm/tooth)
Aluminum Wrought (2024, 6061, 7075)	Roughing	1000 (305)	0.002-0.008 (.050-.200)
Aluminum Wrought (2024, 6061, 7075)	Finishing	3000 (915)	0.002-0.006 (.050-.150)
Aluminum Cast (308, 356, 380)	Roughing	1000 (305)	0.002-0.008 (.050-.200)
Aluminum Cast (308, 356, 380)	Finishing	3000 (915)	0.002-0.006 (.050-.150)
Aluminum Cast (390)	Roughing	500 (150)	0.002-0.008 (.050-.200)
Aluminum Cast (390)	Finishing	1500 (450)	0.002-0.006 (.050-.150)
Copper (OFHC)	Roughing	350 (105)	0.002-0.008 (.050-.200)
Copper (OFHC)	Finishing	600 (180)	0.002-0.006 (.050-.150)
Brass	Roughing	450 (135)	0.002-0.008 (.050-.200)
Brass	Finishing	750 (225)	0.002-0.006 (.050-.150)