

Merlin Tools Ltd



**PCD & CVD Crystalline
Diamond Coated Range
For Machining Graphite
Glass and Carbon Fibre
and Composites**

Manufactured in the USA
Distributed in the UK

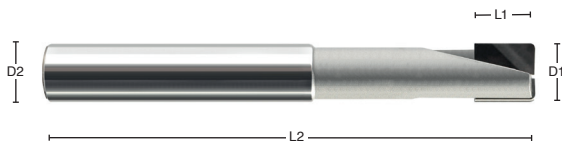


**NEW
PRODUCT
LINES**

Solid Carbide PCD Range

Series 800

Extreme Performance PCD For Machining Graphite & Metal Matrix
Solid Carbide Body - **Corner Radius**



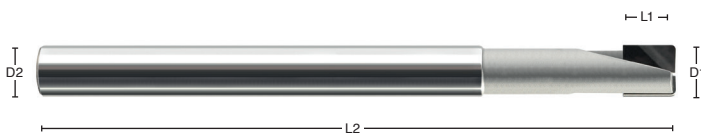
Tolerances: D1 +0.00/-0.051mm D2 h6

*All PCD tools
can be re-conditioned
and re-tipped*

Cutter Dia-D1	Shank Dia-D2	FL L1	Reach	No. of Teeth	Radius	OAL L2	Part Number
2	6	2	10	1	0.2	75	800-20103
3	6	3	15	2	0.2	75	800-20105
4	6	4	20	2	0.2	75	800-20107
5	6	5	25	2	0.2	75	800-20109
5	6	5	25	2	0.5	75	800-20209
5	6	5	25	2	1.0	75	800-20309
6	6	8	30	2	0.2	100	800-20110
6	6	8	30	2	0.3	100	800-20210
6	6	8	30	2	0.5	100	800-20310
6	6	8	30	2	1.0	100	800-20410
8	8	10	40	2	0.2	100	800-20112
8	8	10	40	2	0.5	100	800-20212
8	8	10	40	2	1.0	100	800-20312
8	8	10	40	2	2.0	100	800-20412
10	10	12	45	2	0.2	100	800-20114
10	10	12	45	2	0.5	100	800-20214
10	10	12	45	2	1.0	100	800-20314
10	10	12	45	2	3.0	100	800-20414
12	12	12	45	2	0.2	100	800-20116
12	12	12	45	2	0.5	100	800-20216
12	12	12	45	2	1.0	100	800-20316
12	12	12	45	2	4.0	100	800-20416
16	16	16	50	2	5.0	150	800-20120
20	20	20	50	2	6.0	150	800-20124

Series 801

Extreme Performance PCD For Machining Graphite & Metal Matrix
Solid Carbide Body 2-Flute - **Extra Long Corner Radius**

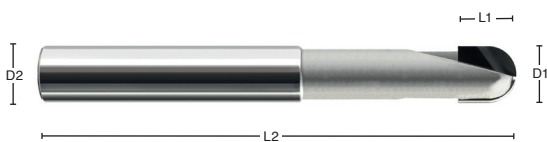


Tolerances: D1 +0.00/-0.051mm D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	Reach	Radius	OAL L2	Part Number
8	8	10	40	0.2	150	801-30112
8	8	10	40	0.5	150	801-30212
8	8	10	40	1.0	150	801-30312
10	10	12	45	0.2	150	801-30114
10	10	12	45	0.5	150	801-30214
10	10	12	45	1.0	150	801-30314
12	12	12	45	0.2	150	801-30116
12	12	12	45	0.5	150	801-30216
12	12	12	45	1.0	150	801-30316

Series 802

Extreme Performance PCD For Machining Graphite & Metal Matrix
Solid Carbide Body - **Ball Nosed**

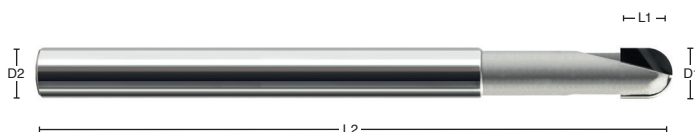


Tolerances: D1 +0.00/-0.051mm D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	Reach	No. of Teeth	OAL L2	Part Number
2	6	2	10	1	75	802-40103
3	6	3	15	2	75	802-40105
4	6	4	20	2	75	802-40107
5	6	5	25	2	75	802-40109
6	6	8	30	2	100	802-40110
8	8	10	40	2	100	802-40112
10	10	12	45	2	100	802-40114
12	12	12	45	2	100	802-40116
16	16	16	50	2	150	802-40120
20	20	20	50	2	150	802-40124

Series 803

Extreme Performance PCD For Machining Graphite & Metal Matrix
Solid Carbide Body - **Extra Long Ball Nosed**



Tolerances: D1 +0.00/-0.051mm D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	Reach	OAL L2	Part Number
8	8	10	40	150	803-50112
10	10	12	45	150	803-50114
12	12	12	45	150	803-50116

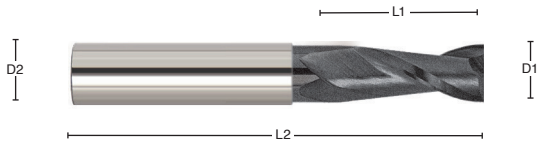
Solid Carbide Graphite Machining Range

CVD Nano Crystalline Diamond Coated

Series 804

Extreme Performance Solid Carbide For Machining Graphite

Micro-grain K20/K30 - 30° Helix 2-Flute



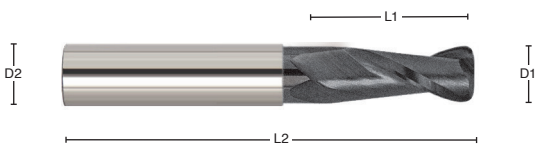
Tolerances: D1 +0.00/-0.051mm D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	Reach	OAL L2	Coating Thickness	Part Number
2	6	7	8	75	8µm	804-60103
3	6	8	9	75	8µm	804-60105
4	6	11	15	75	8µm	804-60107
5	6	13	18	75	8µm	804-60109
6	6	13	20	100	8µm	804-60110
8	8	20	25	100	12µm	804-60112
10	10	22	30	100	12µm	804-60114
12	12	25	40	150	12µm	804-60116

Series 805

Extreme Performance Solid Carbide For Machining Graphite

Micro-grain K20/K30 - 30° Helix 2-Flute **Corner Radius**



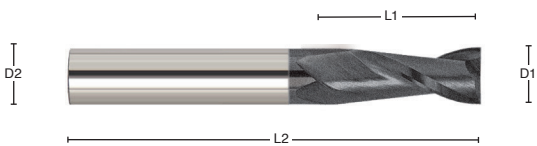
Tolerances: D1 +0.00/-0.051mm D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	Reach	Radius	OAL L2	Coating Thickness	Part Number
6	6	13	20	1.0	100	8µm	805-70110
8	8	20	25	1.0	100	12µm	805-70112
10	10	22	30	1.0	100	12µm	805-70114
12	12	25	40	1.0	100	12µm	805-70116

Series 806

Extreme Performance Solid Carbide For Machining Graphite

Micro-grain K20/K30 - 30° Helix 2-Flute



Tolerances: D1 +0.00/-0.051mm D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	OAL L2	Coating Thickness	Part Number
2	3	7	75	8µm	806-80103
3	3	8	75	8µm	806-80105
4	4	11	75	8µm	806-80107
5	5	13	75	8µm	806-80109

Series 807

Extreme Performance Solid Carbide For Machining Graphite

Micro-grain K20/K30 - 30° Helix 4-Flute - **Ball Nosed**



Tolerances: D1 +0.00/-0.051mm D2 h6

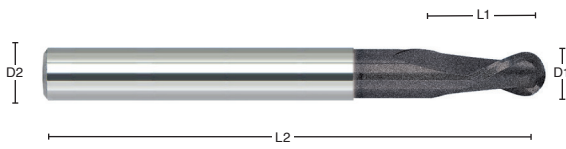
Cutter Dia-D1	Shank Dia-D2	FL L1	Reach	OAL L2	Coating Thickness	Part Number
2	3	4	8	75	8µm	807-90103
3	3	5	9	75	8µm	807-90105
4	4	6	15	75	8µm	807-90107
5	5	7	18	75	8µm	807-90109
6	6	8	20	100	8µm	807-90110
8	8	10	25	100	12µm	807-90112
10	10	12	30	100	12µm	807-90114
12	12	16	40	150	12µm	807-90116

Solid Carbide Graphite Machining Range

CVD Nano Crystalline Diamond Coated

Series 809

Extreme Performance Solid Carbide For Machining Graphite
Micro-grain K20/K30 - 30° Helix 2-Flute - **Ball Nosed**

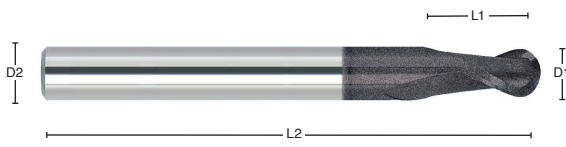


Tolerances: D1 +0.00/-0.051mm D2 h6

DIA	SHANK DIA	LENGTH OF CUT	OAL	PART NUM
2	3	4	75	810 -1
3	3	5	75	810 -1
4	4	6	75	810 -1
5	5	7	75	810 -1

Series 810

Extreme Performance Solid Carbide For Machining Graphite
Micro-grain K20/K30 - 30° Helix 2-Flute - **Ball Nosed**

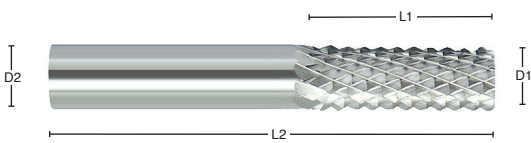


Tolerances: D1 +0.00/-0.051mm D2 h6

Solid Carbide Diamond Cut Fibreglass Routers

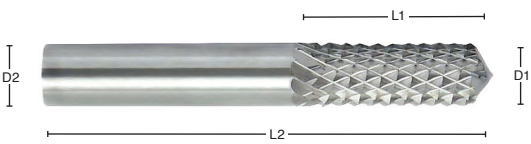
Series FG

Solid Carbide Diamond Cut - Fibreglass Routers
Good Surface Finish on Both Hand & CNC Applications



Tolerances: D1 +0.00/-0.127mm D2 h6

Head Dia-D1	Shank Dia-D2	FL L1	OAL L2	No End Cut		Drill Point		End Mill Cut		Burr End Cut	
				Part Number	Part Number	Part Number	Part Number	Part Number	Part Number		
1.5	3	5	38	FG1 -80100	FG1 -80101	FG1 -80102	FG1 -80103				
2	3	10	38	FG2 -80200	FG2 -80201	FG2 -80202	FG2 -80203				
3	3	12	38	FG3 -80300	FG3 -80301	FG3 -80302	FG3 -80303				
5	5	16	50	FG4 -80400	FG4 -80401	FG4 -80402	FG4 -80403				
5	6	16	50	FG5 -80500	FG5 -80501	FG5 -80502	FG5 -80503				
6	6	18	50	FG6 -80600	FG6 -80601	FG6 -80602	FG6 -80603				
6	6	18	63	FG7 -80700	FG7 -80701	FG7 -80702	FG7 -80703				
6	6	25	63	FG8 -80800	FG8 -80801	FG8 -80802	FG8 -80803				
6	6	18	75	FG9 -80900	FG9 -80901	FG9 -80902	FG9 -80903				
6	6	25	75	FG10 -81000	FG10 -81001	FG10 -81002	FG10 -81003				
6	6	38	75	FG11 -81100	FG11 -81101	FG11 -81102	FG11 -81103				
8	8	25	63	FG12 -81200	FG12 -81201	FG12 -81202	FG12 -81203				
10	10	25	63	FG13 -81300	FG13 -81301	FG13 -81302	FG13 -81303				
12	12	25	75	FG14 -81400	FG14 -81401	FG14 -81402	FG14 -81403				



Tolerances: D1 +0.00/-0.005" D2 h6

Head Dia-D1	Shank Dia-D2	FL L1	OAL L2	No End Cut		Drill Point		End Mill Cut		Burr End Cut	
				Part Number	Part Number	Part Number	Part Number	Part Number	Part Number		
1/16"	1/8"	3/16"	1-1/2"	FG1 -70100	FG1 -70101	FG1 -70102	FG1 -70103				
3/32"	1/8"	3/8"	1-1/2"	FG2 -70200	FG2 -70201	FG2 -70202	FG2 -70203				
1/8"	1/8"	1/2"	1-1/2"	FG3 -70300	FG3 -70301	FG3 -70302	FG3 -70303				
3/16"	3/16"	5/8"	2"	FG4 -70400	FG4 -70401	FG4 -70402	FG4 -70403				
3/16"	1/4"	5/8"	2"	FG5 -70500	FG5 -70501	FG5 -70502	FG5 -70503				
1/4"	1/4"	3/4"	2"	FG6 -70600	FG6 -70601	FG6 -70602	FG6 -70603				
1/4"	1/4"	3/4"	2-1/2"	FG7 -70700	FG7 -70701	FG7 -70702	FG7 -70703				
1/4"	1/4"	1"	2-1/2"	FG8 -70800	FG8 -70801	FG8 -70802	FG8 -70803				
1/4"	1/4"	3/4"	3"	FG9 -70900	FG9 -70901	FG9 -70902	FG9 -70903				
1/4"	1/4"	1"	3"	FG10 -71000	FG10 -71001	FG10 -71002	FG10 -71003				
1/4"	1/4"	1-1/2"	3"	FG11 -71100	FG11 -71101	FG11 -71102	FG11 -71103				
5/16"	5/16"	1"	2-1/2"	FG12 -71200	FG12 -71201	FG12 -71202	FG12 -71203				
3/8"	3/8"	1"	2-1/2"	FG13 -71300	FG13 -71301	FG13 -71302	FG13 -71303				
1/2"	1/2"	1"	3"	FG14 -71400	FG14 -71401	FG14 -71402	FG14 -71403				



Solid Carbide Composite Router Range

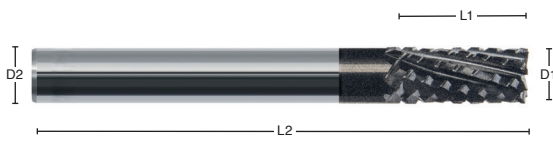
CVD Nano Crystalline Diamond Coated



Series 811
812 & 813

Extreme Performance Solid Carbide Fine Pitched Nicked Router

Composite Trimming - Micro-grain K20/K30 - Multi-Flute



Tolerances: D1 +0.00/-0.0002" D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	OAL L2	Number of Flutes	Coating Thickness	Burr End Cut End Mill Cut No End Cut		
						Part Number	Part Number	Part Number
1/8"	1/8"	1/4"	1-1/2"	6	12µm	811-00608	~	~
1/8"	1/8"	3/8"	1-1/2"	6	12µm	~	812-00608	~
1/8"	1/8"	1/2"	1-1/2"	8	12µm	~	812-00808	~
3/16"	3/16"	3/8"	2"	6	12µm	811-00632	~	~
3/16"	3/16"	9/16"	2"	6	12µm	~	812-00632	~
3/16"	3/16"	3/4"	2"	8	12µm	~	812-00832	~
1/4"	1/4"	1/2"	2-1/2"	8	12µm	811-00816	~	~
1/4"	1/4"	3/4"	2-1/2"	10	12µm	~	812-01016	~
1/4"	1/4"	3/4"	2-1/2"	10	12µm	811-01016	~	~
1/4"	1/4"	1"	3"	10	12µm	~	812-11016	~
1/4"	1/4"	1"	3"	10	12µm	811-11016	~	~
1/4"	1/4"	1-1/4"	4"	12	12µm	~	~	813-01216
5/16"	5/16"	1"	2-1/2"	10	12µm	~	812-01020	~
3/8"	3/8"	3/4"	2-1/2"	12	12µm	811-01224	~	~
3/8"	3/8"	1-1/8"	3"	12	12µm	~	812-01224	~
3/8"	3/8"	1-1/8"	3"	12	12µm	811-11224	~	~
3/8"	3/8"	1-1/2"	4"	12	12µm	~	812-11224	~
3/8"	3/8"	1-1/2"	4"	12	12µm	811-12324	~	~
3/8"	3/8"	2"	4"	12	12µm	~	~	813-01224
1/2"	1/2"	1"	3"	14	12µm	~	812-01432	~
1/2"	1/2"	1"	3"	14	12µm	811-01432	~	~
1/2"	1/2"	2"	4"	16	12µm	811-01632	~	~



Series 815

Extreme Performance Solid Carbide Herringbone Router

Composite Surface Finisher - Micro-grain K20/K30 - 4-Flute



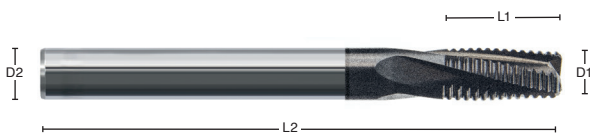
Tolerances: D1 +0.00/-0.0002" D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	Compression Length	OAL L2	Coating Thickness	Part Number
1/8"	1/8"	3/8"	0.125	1-1/2"	12µm	815-00408
1/4"	1/4"	3/4"	0.250	2-1/2"	12µm	815-00416
3/8"	3/8"	1-1/8"	0.375	3"	12µm	815-00424
1/2"	1/2"	1-1/8"	0.500	3"	12µm	815-00432

Series 816

Extreme Performance Solid Carbide Roughing Router

Composite Semi Finishing - Micro-grain K20/K30 - Multi-Flute



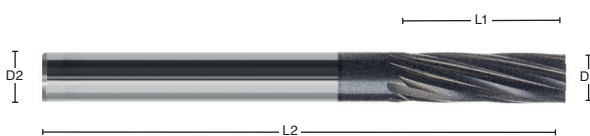
Tolerances: D1 +0.00/-0.0002" D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	OAL L2	Number of Flutes	Coating Thickness	Part Number
15/64"	1/4"	3/4"	2-1/2"	4	12µm	816-00410
1/4"	1/4"	1/2"	2-1/2"	4	12µm	816-00416
1/4"	1/4"	3/4"	2-1/2"	4	12µm	816-01416
5/16"	3/8"	15/16"	3"	6	12µm	816-00612
23/64"	3/8"	1-1/8"	3"	6	12µm	816-00613
3/8"	3/8"	3/4"	3"	6	12µm	816-00624
3/8"	3/8"	1-1/2"	3"	6	12µm	816-01624
7/16"	1/2"	1-1/2"	3"	8	12µm	816-00828
31/64"	1/2"	1-1/2"	3"	8	12µm	816-00831
1/2"	1/2"	1"	3"	8	12µm	816-00832
1/2"	1/2"	1-1/2"	3"	8	12µm	816-01832

Series 817

Extreme Performance Solid Carbide Finishing Router

Composite High Accuracy Finisher - Micro-grain K20/K30 - Multi-Flute



Tolerances: D1 +0.00/-0.0002" D2 h6

Cutter Dia-D1	Shank Dia-D2	FL L1	OAL L2	Number of Flutes	Coating Thickness	Part Number
1/4"	1/4"	3/4"	2-1/2"	8	12µm	817-00816
1/4"	1/4"	1"	3"	8	12µm	817-01816
3/8"	3/8"	1-1/8"	3"	12	12µm	817-01224
3/8"	3/8"	1-1/2"	3"	12	12µm	817-11224
1/2"	1/2"	1-1/2"	4"	14	12µm	817-01432
1/2"	1/2"	2"	4"	14	12µm	817-11432

Merlin Tools Ltd



Technical Information

Suggested Technical Information PCD & CVD Coated

									
Series	800, 802	801, 803	804, 805 806, 809, 810	807	FG	811	815	816	817
Material Group	Surface Speed vc m/min								
Fiberglass			400-1000	400-1000	200-300	130-250	130-250	130-250	
Graphite	600-1200	600-1200	600-1200	600-1200	200-300	130-250			130-250
Composite	450-100	450-100	450-100	450-100	200-300		130-250	130-250	
Metal Matrix	450-100	450-100	450-100	450-100		130-250		130-250	
Carbon Fibre	600-1200	600-1200	600-1200	600-1200		130-250			130-250
Plastics	450-100	450-100	450-100	450-100	200-300	130-250		130-250	130-250
Carbon & Honeycombe			400-1000	400-1000		130-250	130-250		130-250

Suggested Technical Information PCD & CVD Coated

Material Group	Feed per tooth chart (fz)										
	0.4-1 mm	1-2mm	3mm	4mm	5mm	6mm	7-8mm	9-10mm	11-15mm	16-20mm	25mm
Fiberglass	0.010	0.014	0.017	0.021	0.025	0.030	0.045	0.055	0.070	0.090	0.130
Graphite	0.010	0.014	0.017	0.021	0.025	0.030	0.045	0.055	0.070	0.090	0.130
Composite	0.010	0.014	0.017	0.021	0.025	0.030	0.045	0.055	0.070	0.090	0.130
Metal Matrix	0.010	0.014	0.017	0.021	0.025	0.030	0.045	0.055	0.070	0.090	0.130
Carbon Fibre	0.008	0.010	0.013	0.016	0.018	0.022	0.030	0.038	0.052	0.060	0.100
Plastics	0.008	0.010	0.013	0.016	0.018	0.022	0.030	0.038	0.052	0.060	0.100
Carbon & Honeycombe	0.008	0.010	0.013	0.016	0.018	0.022	0.030	0.038	0.052	0.060	0.100



Merlin Tools Ltd

Call us now for your
FREE 300 page Product Catalogue!

01509 610300

**Solid Carbide Endmills • Ultra High Performance
PCD & CVD Diamond Range • Drills & Application Tools
Powder Metal ASP52 & HSSE 8% Cobalt • Tungsten Carbide Burrs
Threadmills & Machine Taps • ER Collets & Toolholders**