

# NON FERROUS MILLING

Cut faster with cleaner, controlled swarf removal

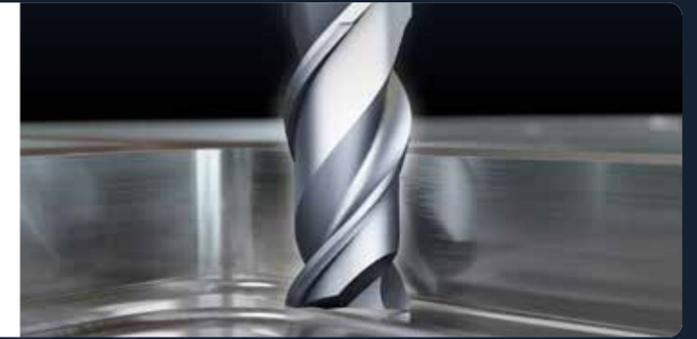
1 Flute	P 64-65	Ball Nose	P 76-77
2 Flute	P 66-69	Rippers	P 78-79
3 Flute	P 70-75		

- ✓ Maintain stable cutting by controlling long, sticky aluminium swarf
- ✓ Non-ferrous geometries increase tool life & maintain a high cutting accuracy
- ✓ Ultra high performance options available for the highest feed rates, largest cut depths & a superior chip flow

## NON-FERROUS MILLING HIGHLIGHTS

### **WIG** ALU-POWER

Smooth and controlled aluminium machining with the chip-handling design of Alu-Power.



### **KORLOY** A+ ENDMILL

Delivers the best surface finish on aluminium with zero tool marks, built up edge or vibration.



### **WIG** ALU-POWER HPC

High-speed aluminium removal keeps precision and control with Alu-Power HPC geometry.



### **ALU-POWER HPC** THE ANATOMY OF EFFICIENCY

#### SPECIALISED DESIGN OF CORNER GASH

- Unique flute design and superior corner protection adds both tool life and protection against catastrophic failure in high feed applications
- Polished flutes for excellent chip flow

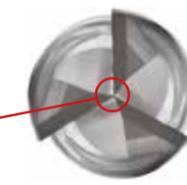
#### DLC DIAMOND-LIKE CARBON

- Excels in hard aluminium & high speeds
- Provides edge strength and unsurpassed tool life



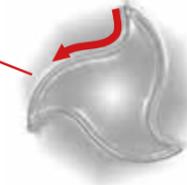
#### CYLINDRICAL LAND

- Increased performance in a variety of cutting conditions
- Also helps reduce vibration & chatter



#### IDEAL SYMMETRICAL SHAPE

- 3-flute design "to the center" (all 3 flutes come to center)
- Designed for high spindle speeds
- Highly effective in vertical ramping up to 20 degrees and step-over plunging applications



#### ENGINEERED FLUTE DESIGN

- Effective chip evacuation at high feed rates with lower cutting forces than competitors products

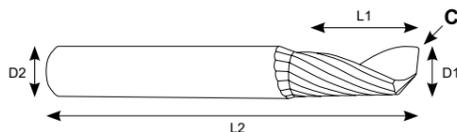
### ALU-POWER

Advanced Performance

#### 1 FLUTE UP CUT PLASTIC-CUT LAPPED CHAMFER PREP

Uncoated Solid Carbide Milling Cutters of Aluminium, Plastic & Non-Ferrous Metals

- 1 flute allows for excellent workpiece finishes and chip evacuation
- Wide cut geometry, ideal for plastic such as ABS, acrylic and non-ferrous metal
- Drawing cut (up cut)



D1	D2	L1	L2	C	Order Code	List Price	Offer Price
0.5	4	1	40	-	E5E88005	£28.30	£24.06
0.6	4	1.2	40	-	E5E88006	£28.30	£24.06
0.7	4	1.4	40	-	E5E88007	£28.30	£24.06
0.8	4	1.6	40	-	E5E88008	£28.30	£24.06
0.9	4	1.8	40	-	E5E88009	£28.30	£24.06
1	6	3	50	-	E5E88010	£26.59	£22.60
1	6	6	50	-	E5E8801006	£26.59	£22.60
1.5	6	4	50	-	E5E88015	£26.59	£22.60
1.5	6	8	50	-	E5E8801508	£26.59	£22.60
2	3	8	50	0.04	E5E47020	£13.80	£12.42
2	6	8	50	-	E5E8802008	£26.59	£22.60
2	6	12	50	-	E5E8802012	£26.59	£22.60
2.5	6	8	50	-	E5E8802508	£26.59	£22.60
2.5	6	12	50	-	E5E8802512	£26.59	£22.60
3	3	12	50	0.05	E5E47030	£14.17	£12.75
3	6	26	60	-	E5E8803026	£27.59	£23.46
4	4	15	60	0.07	E5E47040	£15.84	£14.26
4	6	37	75	-	E5E8804037	£29.23	£24.85
5	5	17	60	0.09	E5E47050	£19.06	£17.16
5	6	28	70	-	E5E8805028	£28.77	£24.45
6	6	20	65	0.1	E5E47060	£19.98	£17.99
6	6	55	120	-	E5E8806055	£44.44	£37.77
8	8	22	65	0.14	E5E47080	£42.78	£38.50
8	8	32	70	-	E5E8808032	£47.32	£40.22
10	10	25	75	0.14	E5E47100	£85.25	£76.72
10	10	35	75	-	E5E8810030	£62.13	£52.81
12	12	30	80	0.14	E5E47120	£106.13	£95.51
12	12	35	80	-	E5E8812035	£79.88	£67.89

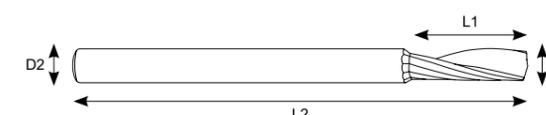
High Performance

### Karnasch

#### 1 FLUTE UP CUT PLASTIC-CUT LAPPED

Uncoated Solid Carbide Milling Cutters for Mirror Finish Machining of Plastic Metals

- 1 flute allows for excellent workpiece finishes and chip evacuation
- First choice for mirror finish machining of plastic including acrylic, ABS, PMMA, PE, PP etc
- Drawing cut (up cut)
- Mirror finish machining



D1	D2	L1	L2	Order Code	List Price	Offer Price
0.1		0.3		291652001000303030	£56.83	£51.14
0.2		0.6		291652002000603030	£42.96	£38.66
0.3		1		291652003001003030	£36.62	£32.96
0.4		1		291652004001003030	£36.62	£32.96
0.5	3	1.5	30	291652005001503030	£80.95	£72.85
0.6		3		291652006003003030	£34.10	£30.69
0.8		5		291652008005003030	£34.10	£30.69
1		4		291652010004003030	£36.37	£32.73
1.5		6		291652015006003030	£36.37	£32.73
2	3	6	30	291652020006003030	£36.37	£32.73
2	4	6	50	291652020006004050	£44.48	£40.04
2	6	6	50	291652020006006050	£46.73	£42.06
2	3	8	30	291652020008003030	£34.10	£30.69
2	3	11	38	291652020011003038	£41.70	£37.53
3	3	6	30	291652030006003030	£34.10	£30.69
3	6	6	50	291652030006006050	£50.53	£45.48
3	4	11	50	291652030011004050	£50.53	£45.48
3	6	11	50	291652030011006050	£55.57	£50.01
3	6	22	60	291652030022006060	£75.20	£67.68
4	4	8	50	291652040008004050	£44.22	£39.80
4	6	8	50	291652040008006050	£51.79	£46.61
4	4	12	50	291652040012004050	£44.22	£39.80
4	6	12	50	291652040012006050	£51.79	£46.61
4	4	14	50	291652040014004050	£44.22	£39.80
4	6	14	50	291652040014006050	£51.79	£46.61
4	4	22	50	291652040022004050	£48.00	£43.20
4	6	22	50	291652040022006050	£55.57	£50.01
4	4	32	64	291652040032004064	£50.53	£45.48
5	6	12	50	291652050012006050	£54.32	£48.89
5	6	16	50	291652050016006050	£54.32	£48.89
5	6	22	50	291652050022006050	£54.32	£48.89
6	6	12	50	291652060012006050	£51.79	£46.61
6	6	22	50	291652060022006050	£56.83	£51.14
6	6	22	58	291652060022006058	£52.62	£47.36
6	6	32	64	291652060032006064	£69.45	£62.51
6	6	32	100	291652060032006100	£61.90	£55.71
8	8	22	64	291652080022008064	£65.69	£59.12
8	8	32	64	291652080032008064	£72.01	£64.81
8	8	42	75	291652080042008075	£77.18	£69.46
8	8	42	100	291652080042008100	£89.68	£80.71
8	8	55	100	291652080055008100	£94.73	£85.26
10	10	22	64	291652100022010064	£97.28	£87.56
10	10	32	75	291652100032010075	£104.83	£94.35
10	10	55	100	291652100055010100	£115.00	£103.50

NON-FERROUS MILLING

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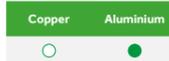
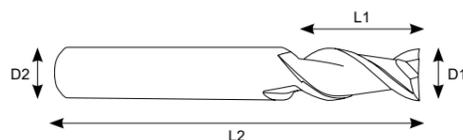
### MG ALU-POWER

Advanced Performance

#### 2 FLUTE 45° HELIX UNCOATED CARBIDE

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Wide cut geometry, ideal for plastics such as ABS, acrylic and non-ferrous material
- Mirror finish machining
- Superior chip evacuation
- Cylindrical relief reduces chipping of corner edges



D1	D2	L1	L2	Order Code	List Price	Offer Price
1	6	3	50	E5E48010	£13.91	£11.13
		6	60	E5E48901	£15.63	£12.50
2	6	5	50	E5E48015	£13.91	£11.13
		8	60	E5E48902	£14.51	£11.61
		6	50	E5E48020	£13.91	£11.13
3	6	10	60	E5E48903	£14.51	£11.61
		8	55	E5E48025	£14.51	£11.61
		5	50	E5E48030	£11.93	£9.54
4	6	8	54	E5E48040	£16.23	£12.98
5	6	9	54	E5E48050	£16.23	£12.98
6	6	10	54	E5E48060	£16.23	£12.98
8	8	12	58	E5E48080	£27.00	£21.60
10	10	14	66	E5E48100	£42.56	£34.05
12	12	16	73	E5E48120	£58.29	£46.63
14	14	18	75	E5E48140	£81.97	£65.57
16	16	22	82	E5E48160	£103.48	£82.78
18	18	24	84	E5E48180	£134.47	£107.57
20	20	26	92	E5E48200	£173.31	£138.64

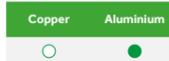
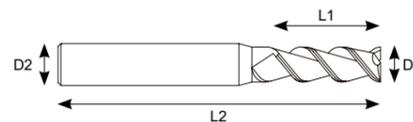
### KORLOY A+ ENDMILL

High Performance

#### 2 FLUTE 50° HELIX UNCOATED CARBIDE

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Uncoated micrograin carbide
- Excellent chip evacuation even in high feed machining
- U-Shaped flute design for extreme quality surface finish
- High rigidity of the cutting edge ensures high productivity
- Not suitable for plunging



D1	D2	L1	L2	Order Code	List Price	Offer Price
2.5	6	8	50	APFE2025-050	£24.70	£19.76
3	6	9	50	APFE2030-050	£24.70	£19.76
		12	60	APLFE2030-060	£27.18	£21.74
4	6	12	50	APFE2040-050	£24.70	£19.76
		16	60	APLFE2040-060	£30.64	£24.51
5	6	15	50	APFE2050-050	£25.91	£20.73
		20	60	APLFE2050-060	£33.69	£26.95
6	6	18	50	APFE2060-050	£29.19	£23.35
		25	75	APLFE2060-075	£40.02	£32.02
8	8	20	60	APFE2080-060	£37.11	£29.69
		32	75	APLFE2080-075	£50.94	£40.75
10	10	30	75	APFE2100-075	£48.97	£39.18
		45	100	APLFE2100-100	£79.77	£63.82
12	12	32	75	APFE2120-075	£72.62	£58.10
		45	100	APLFE2120-100	£99.62	£79.70
16	16	45	100	APFE2160-100	£119.12	£95.30
		65	150	APLFE2160-150	£153.89	£123.11
20	20	45	100	APFE2200-100	£212.10	£169.68
		75	150	APLFE2200-150	£275.73	£220.58

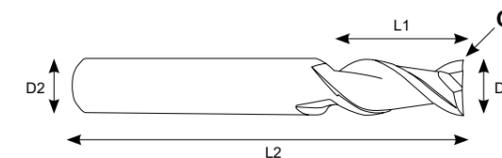
### MG ALU-POWER

Advanced Performance

#### 2 FLUTE 45° HELIX UNCOATED CARBIDE, CHAMFER PREP

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Suitable for high speed machining in aluminium and other non-ferrous material
- Provides mirror surface finishes
- Superior chip evacuation
- Cylindrical relief reduces chipping of corner edges
- Chamfer corner prep prevents tool chipping



D1	D2	L1	L2	C	Order Code		List Price	Offer Price
					Plain Shank	Weldon Shank		
3	6	8	57	0.05	E5522030	E5521030	£13.74	£10.99
		11	55		-	-	£14.51	£11.61
		15	65		-	-	£15.63	£12.50
4	6	11	57		E5522040	E5521040	£18.78	£15.02
		13	55		-	-	£20.04	£16.04
		16	65		-	-	£20.04	£16.04
5	6	13	57		E5522050	E5521050	£18.78	£15.02
		17	55		-	-	£20.04	£16.04
		22	60		-	-	£20.04	£16.04
6	6	13	57		E5522060	E5521060	£18.78	£15.02
		17	60		-	-	£22.72	£18.18
		25	70		-	-	£23.66	£18.93
7	8	22	65		E5522909	-	£29.96	£23.96
		19	63		E5522080	E5521080	£29.94	£23.95
		22	70		E5522910	-	£34.53	£27.63
8	8	30	80	E5522911	-	£38.86	£31.09	
		22	72	E5522100	E5521100	£45.15	£36.12	
		27	75	E5522912	-	£45.16	£36.13	
10	10	35	90	E5522913	-	£55.85	£44.68	
		26	83	E5522120	E5521120	£63.33	£50.66	
		32	80	E5522914	-	£63.33	£50.66	
12	12	40	95	E5522915	-	£82.83	£66.27	
		26	83	E5522140	E5521140	£75.95	£60.76	
		37	90	E5522916	-	£92.32	£73.86	
14	14	32	92	E5522160	E5521160	£95.80	£76.64	
		42	100	E5522917	-	£115.51	£92.41	
		52	110	E5522918	-	£129.46	£103.57	
16	16	32	92	E5522180	E5521180	£124.55	£99.64	
		48	100	E5522919	-	£155.83	£124.66	
		38	104	E5522200	E5521200	£161.23	£128.98	
18	18	48	100	E5522920	-	£183.21	£146.57	
		55	110	E5522921	-	£195.92	£156.73	
		48	100	E5522920	-	£183.21	£146.57	

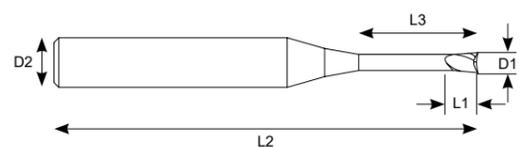
### ALU-POWER

Advanced Performance

#### 2 FLUTE UNCOATED CARBIDE LONG NECK

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium, copper and plastic
- Provides mirror surface finishes
- Long neck design for deep pocket machining



D1	D2	L1	L2	L3	Order Code	List Price	Offer Price
0.5	4	1	45	5	E5E8500505	£30.11	£25.60
			45	10	E5E8500510	£30.11	£25.60
			45	16	E5E8500516	£36.17	£30.75
1	4	2	50	3	E5E8501003	£26.59	£22.60
			50	8	E5E8501008	£26.59	£22.60
			50	16	E5E8501016	£26.59	£22.60
1.5	4	3	60	26	E5E8501026	£33.27	£28.28
			50	4	E5E8501504	£26.59	£22.60
			50	10	E5E8501510	£26.59	£22.60
2	4	4	50	20	E5E8501520	£26.59	£22.60
			70	30	E5E8501530	£31.41	£26.70
			50	6	E5E8502006	£26.59	£22.60
2.5	4	5	50	10	E5E8502010	£26.59	£22.60
			50	20	E5E8502020	£26.59	£22.60
			80	40	E5E8502040	£35.22	£29.94
3	6	6	50	20	E5E8502520	£26.59	£22.60
			80	40	E5E8502540	£26.59	£22.60
			60	20	E5E8503020	£31.07	£26.41
4	6	8	80	40	E5E8503040	£43.82	£37.25
			50	10	E5E8504010	£30.11	£25.60
			60	20	E5E8504020	£36.20	£30.77
			80	40	E5E8504040	£42.06	£35.75

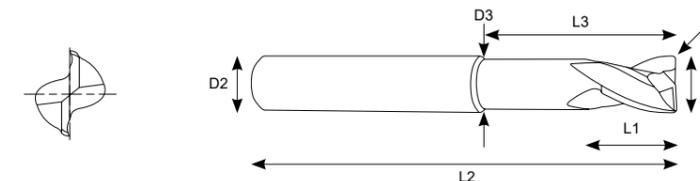
### ALU-POWER

Advanced Performance

#### 2 FLUTE UNCOATED CARBIDE CORNER RADIUS, NECKED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish
- Reduced neck diameter



D1	R	D2	D3	L1	L2	L3	Order Code	List Price	Offer Price
4	0.3	6	3.6	5	50	10	E5909040	£23.29	£19.80
6	0.5	6	5.4	8	60	20	E5909060	£23.29	£19.80
8	0.6	8	7.2	10	70	30	E5909080	£31.73	£26.97
10	0.8	10	9	12	80	36	E5909100	£48.99	£41.64
12	1	12	11	14	90	40	E5909120	£77.71	£66.05
16	1.3	16	14.5	18	100	45	E5909160	£110.45	£93.88
20	1.6	20	18	24	100	45	E5909200	£173.93	£147.84

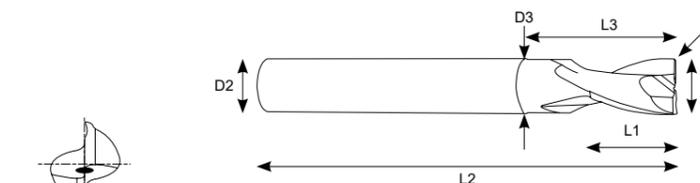
### ALU-POWER

Advanced Performance

#### 2 FLUTE UNCOATED CARBIDE CORNER RADIUS 25° HELIX

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Increased tool life and higher cutting accuracy
- High metal removal rate
- Superior chip evacuation
- Corner radius edge prep to prevent tool chipping
- Provides mirror surface finish



D1	R	D2	D3	L1	L2	L3	Order Code	List Price	Offer Price
2		3	1.9	3	40	6	E5930020	£14.96	£12.72
3		3	2.9	4	40	8	E5930030	£14.96	£12.72
4		4	3.8	5	50	12	E5930040	£16.65	£14.15
5		5	4.8	8	50	14	E5930050	£17.41	£14.80
6	0.2	6	5.7	8	65	18	E5930060	£27.38	£23.27
8		8	7.7	10	70	22	E5930080	£31.15	£26.48
10		10	9.7	14	80	28	E5930100	£47.42	£40.30
12		12	11.5	16	90	35	E5930120	£66.65	£56.65
16		16	15.5	20	90	40	E5930160	£101.27	£86.08
20		20	19.5	25	100	50	E5930200	£163.63	£139.08

NON-FERROUS MILLING

NON-FERROUS MILLING

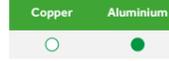
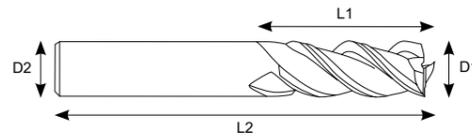
### ALU-POWER

Advanced Performance

#### 3 FLUTE UNCOATED CARBIDE 45° HELIX

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Cylindrical relief reduces chipping of corner edges
- Superior chip evacuation
- Provides mirror surface finish



D1	D2	L1	L2	Order Code	List Price	Offer Price	D1	D2	L1	L2	Order Code	List Price	Offer Price
1	6	2	40	E5E49010	£13.44	£10.75	6	6	20	65	E5E49060	£22.73	£18.18
		4	60	E5E49902	£14.51	£11.61			30	75	E5E49945	£27.43	£21.95
		6	60	E5E49904	£15.63	£12.50			42	90	E5E49947	£32.75	£26.20
1.5	6	3	40	E5E49015	£13.44	£10.75	7	8	22	65	E5E49070	£34.53	£27.63
		5	50	E5E49906	£13.91	£11.13			19	60	E5E49949	£34.53	£27.63
		8	60	E5E49908	£14.51	£11.61			22	65	E5E49080	£34.52	£27.61
2	6	10	60	E5E49909	£15.63	£12.50	8	8	30	80	E5E49951	£38.86	£31.09
		3	40	E5E49020	£11.83	£9.46			40	90	E5E49953	£47.17	£37.73
		6	50	E5E49911	£13.91	£11.13			50	100	E5E49955	£52.77	£42.21
2.5	6	8	60	E5E49913	£14.51	£11.61	9	10	65	110	E5E49958	£58.50	£46.80
		12	60	E5E49915	£15.63	£12.50			27	70	E5E49090	£45.16	£36.13
		4	40	E5E49025	£11.83	£9.46			22	65	E5E49959	£42.72	£34.18
3	6	10	55	E5E49917	£14.51	£11.61	10	10	25	75	E5E49100	£45.15	£36.12
		15	60	E5E49919	£15.63	£12.50			35	90	E5E49961	£55.85	£44.68
		4	45	E5E49920	£11.83	£9.46			55	110	E5E49965	£69.15	£55.32
3.5	6	11	55	E5E49922	£14.51	£11.61	12	12	65	120	E5E49967	£77.19	£61.75
		12	57	E5E49030	£14.51	£11.61			25	75	E5E49120	£63.27	£50.61
		20	70	E5E49924	£17.63	£14.11			35	80	E5E49969	£63.28	£50.63
4	6	30	80	E5E49926	£20.87	£16.70	14	14	45	100	E5E49971	£82.83	£66.27
		12	55	E5E49035	£20.04	£16.04			65	120	E5E49975	£91.06	£72.85
		5	45	E5E49927	£15.71	£12.57			75	135	E5E49977	£111.34	£89.07
4.5	6	11	45	E5E49929	£18.15	£14.52	16	16	90	150	E5E49979	£119.33	£95.46
		15	57	E5E49040	£20.04	£16.03			37	90	E5E49140	£92.32	£73.86
		26	75	E5E49932	£24.26	£19.41			35	90	E5E49160	£95.80	£76.64
5	6	30	80	E5E49933	£27.52	£22.02	18	18	55	110	E5E49982	£113.93	£91.14
		13	50	E5E49934	£18.62	£14.89			75	150	E5E49984	£161.33	£129.06
		20	57	E5E49050	£20.04	£16.03			95	180	E5E49986	£190.38	£152.30
5.5	6	25	70	E5E49937	£22.61	£18.09	20	20	115	200	E5E49988	£214.72	£171.77
		35	80	E5E49939	£25.87	£20.70			48	100	E5E49180	£137.13	£109.70
		45	90	E5E49941	£30.67	£24.54			40	100	E5E49200	£161.23	£128.98
6	6	13	50	E5E49942	£21.14	£16.91	20	20	65	130	E5E49991	£213.97	£171.18
6	6	17	55	E5E49055	£22.72	£18.18			85	160	E5E49993	£272.96	£218.37
		6	6	6	6	E5E49942			£21.14	£16.91	105	190	E5E49995
		105	190	E5E49995	£317.90	£254.32	125	220	E5E49997	£375.10	£300.08		

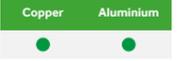
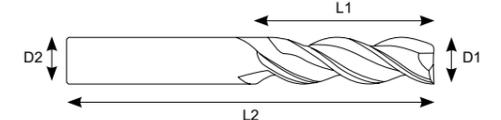
### ALU-POWER HPC

High Performance

#### 3 FLUTE UNCOATED & DLC COATED CARBIDE 37° HELIX

Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- 3 flute 'centre match' HPC geometry for high feed rates & large depth of cut
- Extreme metal removal rates
- Superior chip evacuation
- Available with lapped finish or DLC (diamond like carbon) coating for aerospace aluminium alloy
- Recommended for use with high performance tool holders



D1	D2	L1	L2	Uncoated			DLC Coated		
				Order Code	List Price	Offer Price	Order Code	List Price	Offer Price
3	6	8	52	E5H22030	£15.03	£12.77	JAH22030	£21.78	£18.52
		11	55	E5H22040	£22.07	£18.76	JAH22040	£28.82	£24.50
		13	57	E5H22050	£22.07	£18.76	JAH22050	£28.82	£24.50
6	6	13	57	E5H22060	£23.54	£20.01	JAH22060	£30.28	£25.74
		13	72	E5H22901	£26.62	£22.63	JAH22901	£33.36	£28.35
		24	75	E5H22902	£31.91	£27.12	JAH22902	£38.67	£32.87
8	8	19	63	E5H22080	£35.53	£30.20	JAH22080	£45.49	£38.67
		32	75	E5H22903	£47.04	£39.99	JAH22903	£57.00	£48.45
		22	72	E5H22100	£49.65	£42.20	JAH22100	£66.70	£56.69
10	10	40	100	E5H22904	£65.71	£55.85	JAH22904	£82.74	£70.33
		26	83	E5H22120	£74.18	£63.05	JAH22120	£95.71	£81.36
		48	100	E5H22905	£115.93	£98.54	JAH22905	£137.47	£116.85
14	14	30	89	E5H22140	£131.64	£111.90	JAH22140	£161.56	£137.33
		32	92	E5H22160	£137.08	£116.52	JAH22160	£178.84	£152.01
		64	125	E5H22906	£173.80	£147.73	JAH22906	£217.17	£184.59
16	16	38	104	E5H22200	£239.92	£203.93	JAH22200	£297.15	£252.58
		80	150	E5H22907	£328.22	£278.99	JAH22907	£385.41	£327.60
		50	125	E5H22250	£434.38	£369.23	JAH22250	£497.05	£422.49

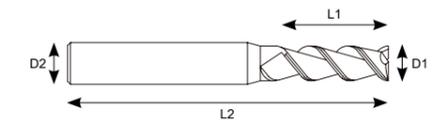
### KORLOY A+ ENDMILL

High Performance

#### 3 FLUTE UNCOATED CARBIDE 50° HELIX

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Uncoated micrograin carbide
- Excellent chip evacuation even in high feed machining
- U-Shaped flute design for extreme quality surface finish
- High rigidity of the cutting edge ensures high productivity
- Not suitable for plunging



D1	D2	L1	L2	Order Code	List Price	Offer Price
2.5	6	8	50	APFE3025-050	£24.70	£19.76
3	6	9	50	APFE3030-050	£24.70	£19.76
		12	60	APFE3030-060	£27.18	£21.74
4	6	12	50	APFE3040-050	£24.70	£19.76
		16	60	APFE3040-060	£30.64	£24.51
5	6	15	50	APFE3050-050	£25.91	£20.73
		20	60	APFE3050-060	£33.69	£26.95
6	6	18	50	APFE3060-050	£29.19	£23.35
		25	75	APFE3060-075	£40.02	£32.02
8	8	20	60	APFE3080-060	£37.11	£29.69
		32	75	APFE3080-075	£50.94	£40.75
10	10	30	75	APFE3100-075	£48.97	£39.18
		45	100	APFE3100-100	£79.77	£63.82
12	12	32	75	APFE3120-075	£72.62	£58.10
		45	100	APFE3120-100	£99.62	£79.70
16	16	45	100	APFE3160-100	£119.12	£95.30
		65	150	APFE3160-150	£153.89	£123.11
20	20	45	100	APFE3200-100	£212.10	£169.68
		75	150	APFE3200-150	£275.73	£220.58

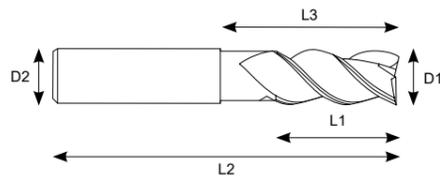
### ALU-POWER

Advanced Performance

#### 3 FLUTE UNCOATED CARBIDE, 45° HELIX, NECKED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- High metal removal rate
- Superior chip evacuation
- Provides mirror surface finish



D1	D2	L1	L2	L3	Order Code	List Price	Offer Price
1	4	2.5	60	3	E5E50010	£13.73	£11.67
				4	E5E50901	£13.73	£11.67
				6	E5E50902	£14.82	£12.60
				8	E5E50903	£14.82	£12.60
1.5	4	4	60	10	E5E50904	£14.82	£12.60
				6	E5E50015	£13.73	£11.67
				8	E5E50905	£13.73	£11.67
				10	E5E50906	£14.82	£12.60
2	4	6	60	12	E5E50907	£14.82	£12.60
				16	E5E50908	£14.82	£12.60
				8	E5E50020	£13.73	£11.67
				10	E5E50909	£13.73	£11.67
2.5	6	7	60	12	E5E50910	£14.82	£12.60
				16	E5E50911	£14.82	£12.60
				10	E5E50025	£17.28	£14.69
				12	E5E50912	£17.75	£15.08
3	6	8	60	16	E5E50913	£17.75	£15.08
				20	E5E50914	£18.82	£15.99
				12	E5E50030	£17.27	£14.68
				16	E5E50915	£17.75	£15.08
4	6	11	60	20	E5E50916	£17.75	£15.08
				26	E5E50917	£18.91	£16.07
				30	E5E50918	£22.50	£19.13
				18	E5E50040	£23.50	£19.98
5	6	13	60	20	E5E50919	£24.93	£21.19
				26	E5E50920	£26.23	£22.29
				30	E5E50921	£29.82	£25.35
				18	E5E50050	£23.50	£19.98
6	6	13	60	18	E5E50060	£23.50	£19.98
				25	E5E50922	£35.42	£30.11
				35	E5E50923	£38.08	£32.37
				45	E5E50924	£40.74	£34.63
8	8	21	60	25	E5E50080	£37.49	£31.86
				30	E5E50925	£56.94	£48.40
				40	E5E50926	£61.14	£51.97
				50	E5E50927	£65.33	£55.53
10	10	22	60	30	E5E50100	£54.24	£46.11
				35	E5E50928	£66.92	£56.88
				45	E5E50929	£71.47	£60.75
				55	E5E50930	£76.05	£64.64
12	12	26	60	36	E5E50120	£82.28	£69.94
				40	E5E50931	£99.06	£84.20
				50	E5E50932	£105.83	£89.95
				60	E5E50933	£112.66	£95.76
16	16	36	60	E5E50160	£114.95	£97.71	
20	20	41	104	E5E50200	£193.45	£164.43	

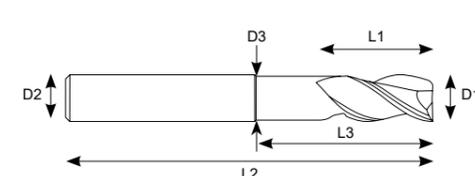
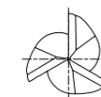
### ALU-POWER HPC

High Performance

#### 3 FLUTE UNCOATED & DLC COATED CARBIDE 37° HELIX, NECKED

Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- 3 flute 'centre match' HPC geometry for high feed rates & large depth of cut
- Extreme metal removal rates
- Superior chip evacuation
- Available with lapped finish or DLC (diamond like carbon) coating for aerospace aluminium alloy



D1	D2	D3	L1	L2	L3	Uncoated			DLC Coated		
						Order Code	List Price	Offer Price	Order Code	List Price	Offer Price
6	6	5.7	10	75	20	E5H23060	£28.57	£24.28	JAH23060	£35.32	£30.02
8	8	7.4	12	75	25	E5H23080	£50.53	£42.95	JAH23080	£60.49	£51.41
10	10	9.2	14	100	35	E5H23100	£69.84	£59.36	JAH23100	£86.87	£73.84
12	12	11	16	100	40	E5H23120	£124.03	£105.43	JAH23120	£145.58	£123.74
16	16	15	20	125	50	E5H23160	£184.10	£156.48	JAH23160	£232.94	£198.00
20	20	19	25	150	65	E5H23200	£346.62	£294.63	JAH23200	£403.84	£343.27

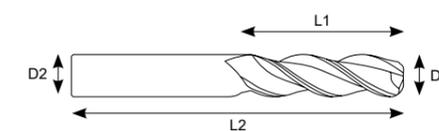
### ALU-POWER HPC

High Performance

#### 3 FLUTE UNCOATED CARBIDE, CHIP SPLITTER

Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- Unique geometry provides the balance cutting with less vibration during the high speed machining
- Provides long tool life and high productivity on aluminum by chip breaker releasing stresses on the tool and prevents acceleration rate of wear on the cutting edge
- Chip breaker Improves chip evacuation by shortening the chip length during the high speed machining



D1	R	D2	L1	L2	Order Code		List Price	Offer Price
					Plain Shank	Weldon Shank		
6	0.25	6	13	57	E5186060	E5187060	£29.05	£24.69
	0.25		24	75	E5186902	E5187902	£39.56	£33.63
	1		13	57	E5186901	E5187901	£29.05	£24.69
8	1	8	24	75	E5186903	E5187903	£39.56	£33.63
	0.25		19	63	E5186080	E5187080	£43.59	£37.05
	0.25		32	75	E5186905	E5187905	£57.88	£49.20
10	2	10	19	63	E5186904	E5187904	£43.59	£37.05
	2		32	75	E5186906	E5187906	£57.88	£49.20
	0.5		22	72	E5186100	E5187100	£59.96	£50.97
12	0.5	12	40	100	E5186908	E5187908	£79.35	£67.45
	2		22	72	E5186907	E5187907	£59.96	£50.97
	2		40	100	E5186909	E5187909	£79.35	£67.45
16	0.5	16	26	83	E5186120	E5187120	£89.71	£76.26
	0.5		48	100	E5186911	E5187911	£141.70	£120.44
	3		26	83	E5186910	E5187910	£89.71	£76.26
20	3	20	48	100	E5186912	E5187912	£141.70	£120.44
	1		32	92	E5186160	E5187160	£163.12	£138.65
	1		64	125	E5186914	E5187914	£208.40	£177.14
20	4	20	32	92	E5186913	E5187913	£163.12	£138.65
	4		64	125	E5186915	E5187915	£208.40	£177.14
	1		38	104	E5186200	E5187200	£288.11	£244.89
20	1	20	80	150	E5186917	E5187917	£391.34	£332.64
	4		38	104	E5186916	E5187916	£288.11	£244.89
	4		80	150	E5186918	E5187918	£391.34	£332.64

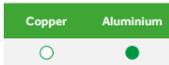
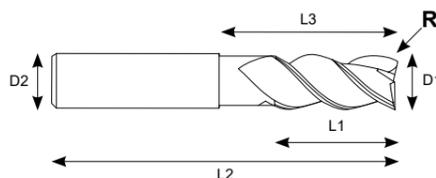
### ALU-POWER

Advanced Performance

#### 3 FLUTE UNCOATED CARBIDE, CORNER RADIUS 45° HELIX

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- High metal removal rate
- Superior chip evacuation
- Provides mirror surface finish



D1	R	D2	L1	L2	L3	Order Code	List Price	Offer Price
4	0.5 1	6	15	57	-	E5E51040 E5E51902	£21.89 £21.89	£18.61 £18.61
5	0.5 1	6	20	57	-	E5E51050 E5E51903	£21.89 £21.89	£18.61 £18.61
6	0.5 1	6	20	65	-	E5E51060 E5E51904	£25.82 £25.82	£21.94 £21.94
	0.5 1	6	10	70	20	E5D7206005 E5D7206010	£49.13 £49.13	£41.76 £41.76
8	0.5 1	8	22	65	-	E5E51080 E5E51905	£41.34 £41.34	£35.14 £35.14
	0.5 1 2	8	12	80	25	E5D7208005 E5D7208010 E5D7208020	£49.13 £49.13 £49.13	£41.76 £41.76 £41.76
10	0.5 1 2	10	25	70	-	E5E51100 E5E51906 E5E51907	£50.53 £50.53 £50.53	£42.95 £42.95 £42.95
	1 2 3	10	15	100	30	E5D7210010 E5D7210020 E5D7210030	£66.71 £66.71 £66.71	£56.70 £56.70 £56.70
12	0.5 1 2	12	25	75	-	E5E51120 E5E51908 E5E51909	£70.67 £70.67 £70.67	£60.07 £60.07 £60.07
	0.5 1 2 3	12	20	110	35	E5D7212005 E5D7212010 E5D7212020 E5D7212030	£75.45 £75.45 £75.45 £75.45	£64.13 £64.13 £64.13 £64.13
16	0.5 1 2	16	35	90	-	E5E51160 E5E51910 E5E51911	£118.20 £118.20 £118.20	£100.47 £100.47 £100.47
	0.5 1 2	20	40	100	-	E5E51200 E5E51912 E5E51913	£200.45 £200.45 £200.45	£170.38 £170.38 £170.38

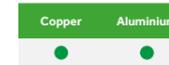
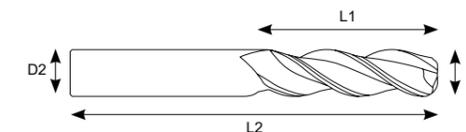
### ALU-POWER HPC

High Performance

#### 3 FLUTE UNCOATED & DLC COATED CARBIDE 37° HELIX, CORNER RAD

Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- 3 flute 'centre match' HPC geometry for high feed rates & large depth of cut
- Extreme metal removal rates
- Superior chip evacuation
- Available with lapped finish or DLC (diamond like carbon) coating for aerospace aluminium alloy



D1	R	D2	L1	L2	Order Code					
					Uncoated	List Price	Offer Price	DLC Coated	List Price	Offer Price
6	0.5	6	13	57	E5H24060	£27.10	£23.04	JAH24060	£33.86	£28.78
	1.0				E5H24901	£27.10	£23.04	JAH24901	£33.86	£28.78
	1.5				E5H24902	£27.10	£23.04	JAH24902	£33.86	£28.78
	0.8				E5H24903	£30.48	£25.91	JAH24903	£37.24	£31.66
	1.2				E5H24904	£30.48	£25.91	JAH24904	£37.24	£31.66
8	0.5	8	19	63	E5H24905	£36.90	£31.37	JAH24905	£43.65	£37.10
	1				E5H24906	£36.90	£31.37	JAH24906	£43.65	£37.10
	0.3				E5H24080	£40.66	£34.56	JAH24080	£50.64	£43.04
	0.5				E5H24907	£40.66	£34.56	JAH24907	£50.64	£43.04
	1				E5H24908	£40.66	£34.56	JAH24908	£50.64	£43.04
10	0.5	10	22	72	E5H24910	£53.99	£45.89	JAH24910	£63.96	£54.36
	1				E5H24911	£53.99	£45.89	JAH24911	£63.96	£54.36
	1.5				E5H24912	£53.99	£45.89	JAH24912	£63.96	£54.36
	2				E5H24913	£53.99	£45.89	JAH24913	£63.96	£54.36
	0.3				E5H24100	£55.94	£47.55	JAH24100	£72.95	£62.00
12	0.5	12	26	83	E5H24914	£55.94	£47.55	JAH24914	£72.95	£62.00
	1				E5H24915	£55.94	£47.55	JAH24915	£72.95	£62.00
	1.5				E5H24916	£55.94	£47.55	JAH24916	£72.95	£62.00
	0.5				E5H24917	£74.01	£62.91	JAH24917	£91.03	£77.37
	1				E5H24918	£74.01	£62.91	JAH24918	£91.03	£77.37
14	0.5	14	30	89	E5H24919	£74.01	£62.91	JAH24919	£91.03	£77.37
	1.5				E5H24920	£74.01	£62.91	JAH24920	£91.03	£77.37
	2				E5H24120	£83.68	£71.13	JAH24120	£105.23	£89.44
	2				E5H24921	£83.68	£71.13	JAH24921	£105.23	£89.44
	2.5				E5H24922	£83.68	£71.13	JAH24922	£105.23	£89.44
16	0.5	16	32	92	E5H24923	£83.68	£71.13	JAH24923	£105.23	£89.44
	1				E5H24924	£132.16	£112.33	JAH24924	£153.69	£130.64
	1.5				E5H24925	£132.16	£112.33	JAH24925	£153.69	£130.64
	2				E5H24926	£132.16	£112.33	JAH24926	£153.69	£130.64
	2.5				E5H24927	£132.16	£112.33	JAH24927	£153.69	£130.64
18	0.5	18	38	104	E5H24928	£132.16	£112.33	JAH24928	£153.69	£130.64
	1				E5H24929	£132.16	£112.33	JAH24929	£153.69	£130.64
	1.5				E5H24140	£140.16	£119.13	JAH24140	£170.05	£144.55
	2				E5H24930	£140.16	£119.13	JAH24930	£170.05	£144.55
	3				E5H24931	£140.16	£119.13	JAH24931	£170.05	£144.55
20	1.5	20	40	104	E5H24160	£152.15	£129.32	JAH24160	£193.92	£164.83
	2				E5H24932	£152.15	£129.32	JAH24932	£193.92	£164.83
	2.5				E5H24933	£152.15	£129.32	JAH24933	£193.92	£164.83
	3				E5H24934	£152.15	£129.32	JAH24934	£193.92	£164.83
	4				E5H24935	£152.15	£129.32	JAH24935	£193.92	£164.83
22	0.5	22	48	100	E5H24936	£194.39	£165.23	JAH24936	£243.22	£206.73
	1				E5H24937	£194.39	£165.23	JAH24937	£243.22	£206.73
	1.5				E5H24938	£194.39	£165.23	JAH24938	£243.22	£206.73
	2				E5H24939	£194.39	£165.23	JAH24939	£243.22	£206.73
	2.5				E5H24940	£194.39	£165.23	JAH24940	£243.22	£206.73
24	0.5	24	56	100	E5H24941	£194.39	£165.23	JAH24941	£243.22	£206.73
	1				E5H24942	£194.39	£165.23	JAH24942	£243.22	£206.73
	1.5				E5H24200	£268.73	£228.42	JAH24200	£325.93	£277.04
	2				E5H24943	£268.73	£228.42	JAH24943	£325.93	£277.04
	3				E5H24944	£268.73	£228.42	JAH24944	£325.93	£277.04
26	0.5	26	64	125	E5H24945	£268.73	£228.42	JAH24945	£325.93	£277.04
	1				E5H24946	£365.02	£310.26	JAH24946	£422.23	£358.90
	1.5				E5H24947	£365.02	£310.26	JAH24947	£422.23	£358.90
	2				E5H24948	£365.02	£310.26	JAH24948	£422.23	£358.90
	2.5				E5H24949	£365.02	£310.26	JAH24949	£422.23	£358.90
28	0.5	28	80	150	E5H24950	£365.02	£310.26	JAH24950	£422.23	£358.90
	1				E5H24951	£365.02	£310.26	JAH24951	£422.23	£358.90
	1.5				E5H24952	£365.02	£310.26	JAH24952	£422.23	£358.90
	2				E5H24953	£365.02	£310.26	JAH24953	£422.23	£358.90
	2.5				E5H24954	£365.02	£310.26	JAH24954	£422.23	£358.90

NON-FERROUS MILLING

NON-FERROUS MILLING

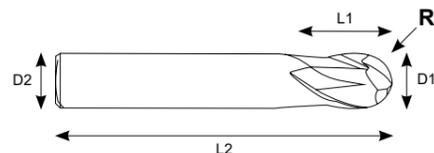
### ALU-POWER

Advanced Performance

#### 2 FLUTE UNCOATED CARBIDE BALL NOSE 50° HELIX

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish



D1	R	D2	L1	L2	Order Code	List Price	Offer Price
0.5	0.25	6	1	40	E5D80005	£23.54	£20.01
1	0.5	3	2.5	50	E5D800103S	£17.28	£14.69
		6	6		E5D8001006	£19.82	£16.85
1.5	0.75	3	4	50	E5D800153S	£17.28	£14.69
		6	8		E5D8001508	£19.82	£16.85
2	1	3	5		E5D800203S	£17.28	£14.69
		6	5	50	E5D80020	£19.82	£16.85
3	1.5	6	10		E5D8002010	£19.82	£16.85
		3	8		E5D800303S	£18.38	£15.62
4	2	6	8	60	E5D80030	£20.70	£17.60
		6	12		E5D8003012	£20.70	£17.60
6	3	4	10	70	E5D800404S	£21.07	£17.91
		6	16		E5D8004016	£23.54	£20.01
8	4	8	14	100	E5D80060	£23.54	£20.01
10	5	10	18	100	E5D80080	£27.86	£23.68
12	6	10	18	100	E5D80100	£44.78	£38.06
		12	22	110	E5D80120	£60.84	£51.71

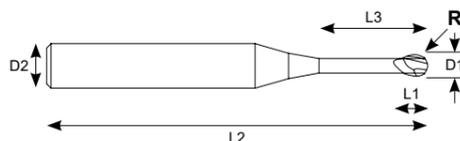
### ALU-POWER

Advanced Performance

#### 2 FLUTE BALL NOSE UNCOATED CARBIDE LONG NECK

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Metals

- Designed for machining aluminium, copper and plastic
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish
- Long neck design for deep pocket machining



D1	R	D2	L1	L2	L3	Order Code	List Price	Offer Price
0.5	0.25	4	1	45	5	E5E9000505	£39.50	£33.57
					10	E5E9000510	£39.50	£33.57
1	0.5	4	2	50	3	E5E9001003	£34.66	£29.46
					8	E5E9001008	£34.66	£29.46
					16	E5E9001016	£34.66	£29.46
					26	E5E9001026	£42.16	£35.84
1.5	0.75	4	3	50	4	E5E9001504	£34.66	£29.46
					10	E5E9001510	£34.66	£29.46
					20	E5E9001520	£34.66	£29.46
2	1	4	4	50	6	E5E9002006	£34.66	£29.46
					10	E5E9002010	£34.66	£29.46
					20	E5E9002020	£34.66	£29.46

D1	R	D2	L1	L2	L3	Order Code	List Price	Offer Price
2	1	4	4	80	40	E5E9002040	£44.83	£38.10
				110	60	E5E9002060	£56.39	£47.93
2.5	1.25	4	5	50	10	E5E9002510	£34.66	£29.46
				70	30	E5E9002530	£40.33	£34.28
3	1.5	6	6	50	8	E5E9003008	£39.35	£33.45
				60	20	E5E9003020	£40.48	£34.40
				80	40	E5E9003040	£53.87	£45.79
4	2	6	8	50	10	E5E9004010	£39.35	£33.45
				60	20	E5E9004020	£40.48	£34.40
				80	40	E5E9004040	£53.87	£45.79
				100	60	E5E9004060	£67.63	£57.49

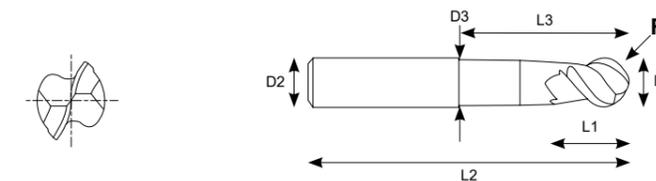
### ALU-POWER

Advanced Performance

#### 2 FLUTE UNCOATED CARBIDE BALL NOSE 50° HELIX, NECKED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish



D1	R	D2	D3	L1	L2	L3	Order Code	List Price	Offer Price
6	3	6	5.4	5.5	55	25	E5910060	£25.60	£21.76
8	4	8	7.2	7	65	30	E5910080	£39.99	£33.99
10	5	10	9	8.5	75	35	E5910100	£60.49	£51.41
12	6	12	11	10.5	75	40	E5910120	£78.75	£66.94
16	8	16	14.5	14	90	50	E5910160	£116.57	£99.08
20	10	20	18	17	100	50	E5910200	£166.77	£141.75

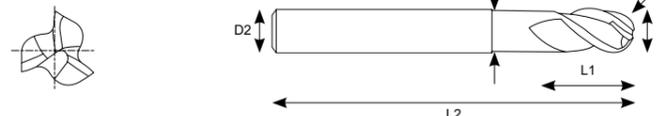
### ALU-POWER

Advanced Performance

#### 3 FLUTE UNCOATED CARBIDE BALL NOSE, NECKED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish



D1	R	D2	D3	L1	L2	L3	Order Code	List Price	Offer Price
2	1	6	1.9	3	60	5	E5908020	£28.05	£23.84
2.5	1.25	6	2.4	4	60	6	E5908025	£28.05	£23.84
3	1.5	6	2.8	4.5	60	6.5	E5908030	£28.05	£23.84
3.5	1.75	6	3.2	5	65	7	E5908035	£28.22	£23.99
4	2	6	3.7	6	65	8	E5908040	£28.22	£23.99
5	2.5	6	4.6	7.5	65	10	E5908050	£28.22	£23.99
6	3	6	5.6	9	75	12	E5908060	£28.22	£23.99
8	4	8	7.4	12	75	25	E5908080	£42.17	£35.84
10	5	10	9.4	15	80	30	E5908100	£64.13	£54.51
12	6	12	11.4	18	90	36	E5908120	£79.70	£67.75
16	8	16	15.4	24	100	40	E5908160	£117.47	£99.85

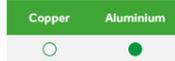
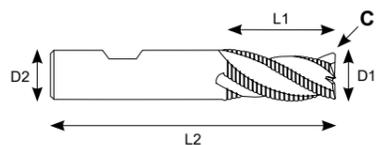
### ALU-POWER

Advanced Performance

#### 3 FLUTE UNCOATED CARBIDE RIPPER

Uncoated Carbide Ripper for Rough Machining Of Aluminum & Non-Ferrous Metals

- Designed for machining aluminium and copper
- Superior chip evacuation
- Aluminium pitch prevents built up edge
- Chamfer corner prep prevents tool chipping



D1	D2	L1	L2	C	Order Code		List Price	Offer Price
					Plain Shank	Weldon Shank		
6	6	16	57	0.6	E5742060	E5711060	£33.86	£28.78
7	8	16	63		E5742070	E5711070	£36.41	£30.95
8	8	16	63		E5742080	E5711080	£36.41	£30.95
9	10	19	72		E5742090	E5711090	£58.29	£49.54
10	10	22	72		E5742100	E5711100	£58.29	£49.54
12	12	26	83		E5742120	E5711120	£76.69	£65.19
14	14	26	83	0.91	E5742140	E5711140	£82.48	£70.10
16	16	32	92		E5742160	E5711160	£113.59	£96.55
18	18	32	92		E5742180	E5711180	£146.58	£124.60
20	20	38	104		E5742200	E5711200	£179.57	£152.64
25	25	45	121		E5742250	E5711250	£332.30	£282.45

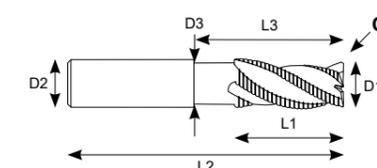
### ALU-POWER

Advanced Performance

#### 3 FLUTE UNCOATED CARBIDE RIPPER, NECKED

Uncoated Carbide Ripper for Rough Machining Of Aluminum & Non-Ferrous Metals

- Designed for machining aluminium and copper
- Superior chip evacuation
- Aluminium pitch prevents built up edge
- Reduced neck diameter for deep pocket machining
- Chamfer corner prep prevents tool chipping



D1	D2	D3	L1	L2	L3	C	Order Code	List Price	Offer Price
8	8	7	16	63	25	0.6	E5E39080	£44.83	£38.11
10	10	9	22	72	30		E5E39100	£71.02	£60.37
12	12	10.5	26	83	36		E5E39120	£90.69	£77.08
16	16	14.5	32	92	42		E5E39160	£133.56	£113.53
20	20	18.5	38	104	52	0.91	E5E39200	£211.48	£179.75

NON-FERROUS MILLING

NON-FERROUS MILLING