



M.A. FORD EUROPE LTD

Where **high performance** is the **standard***



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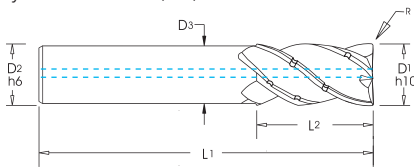
APG
ADVANCED PRODUCT GROUP

TuffCut® X-AL Series 137V5

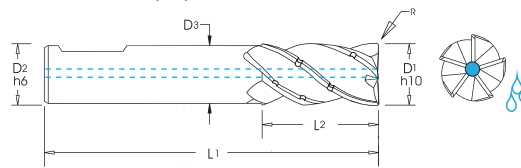
High Efficiency Milling in Aluminium



Cylindrical Shank (HA)



Weldon Shank (HB)



Features

- Vari-Helix 5 flute design
- Fordlube coating
- Chipbreaker technology
- Through coolant feature

Benefits

- High feed rates with reduced vibration for stable machining
- Prevents built up edge and increases tool-life
- Excellent chip management and safer process
- Rapid chip evacuation in pocketing applications



Cylindrical Shank (HA)



Tool Number	D1	D2	L1	L2	R
137V5 1003-ALCC	10.0	10.0	75.0	32.0	-
137V5 1003-1.0RALCC	10.0	10.0	75.0	32.0	1.0
137V5 1203-ALCC	12.0	12.0	87.0	38.0	-
137V5 1203-1.0RALCC	12.0	12.0	87.0	38.0	1.0
137V5 1603-ALCC	16.0	16.0	104.0	50.0	-
137V5 1603-1.0RALCC	16.0	16.0	104.0	50.0	1.0
137V5 2003-ALCC	20.0	20.0	120.0	62.0	-
137V5 2003-1.0RALCC	20.0	20.0	120.0	62.0	1.0

Weldon Shank (HB)

Tool Number	D1	D2	L1	L2	R
137V5 1003-ALCCW	10.0	10.0	75.0	32.0	-
137V5 1003-1.0RALCCW	10.0	10.0	75.0	32.0	1.0
137V5 1203-ALCCW	12.0	12.0	87.0	38.0	-
137V5 1203-1.0RALCCW	12.0	12.0	87.0	38.0	1.0
137V5 1603-ALCCW	16.0	16.0	104.0	50.0	-
137V5 1603-1.0RALCCW	16.0	16.0	104.0	50.0	1.0
137V5 2003-ALCCW	20.0	20.0	120.0	62.0	-
137V5 2003-1.0RALCCW	20.0	20.0	120.0	62.0	1.0

TuffCut® X-AL Series 137V5 High Efficiency Milling in Aluminum

Recommended cutting data

Series	Type of cut	Vc	Diameter - mm					
			M/Min		ø 10.0	ø 12.0	ø 16.0	ø 20.0
			Ae	Ap	fz	fz	fz	fz
137V5 3 x D		300-1000	0.1 x D	3 x D	0.1	0.12	0.16	0.2
		300-1000	0.15 x D	3 x D	0.1	0.12	0.16	0.2
		300-1000	0.2 x D	3 x D	0.1	0.12	0.16	0.2
		300-1000	0.3 x D	2 x D	0.1	0.12	0.16	0.2
		300-1000	1 x D	1 X D Max	0.05	0.06	0.08	0.1

Note:

Ramping (10° max) to 3 x D at slotting feed rates.

To achieve the highest torque when using this tool on low powered machines, the rpm may need to be adjusted.

During profile milling less than 50% of the cutter diameter radial width, the actual chip thickness at the cutting edge is less than the programmed chipload. The accompanying table shows the increase in tooth load by given radial percentage engagement. Multiply your feed per tooth by the factor before finalising your table feed.

Radial Cut (Ae)	Chip thickness Compensation factor
30%	1.10
20%	1.20
15%	1.40
10%	1.80
5%	2.30
1%	5.00