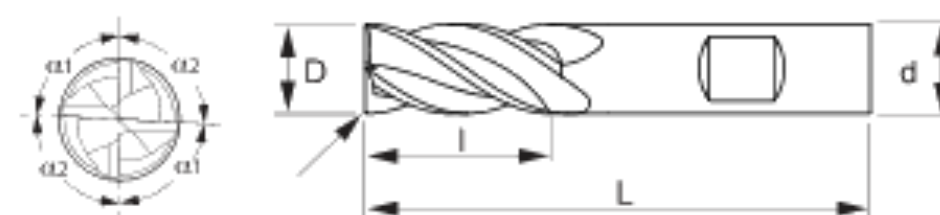


WIDIA HANITA END MILLS VARIABLE PITCH LONG SERIES Z4



ITEM: A4051

Material Micro-grain Integral hard metal
Standard Factory standard
Tolerance e8
Shank Weldon
Helix Right-hand 38° variable pitch
Surface treatment TiAlN
Application Roughing and finishing on all materials



< 500	< 850	< 1200	< 600	< 850	Duplex	< 240	< 300	< 10% Si	> 10% Si	Brass Copper	Ti6Al4V	HTA	< 45	< 60	< 65
●	●	●	●	●	○	●	●				○		●	○	

FACTORY STANDARD

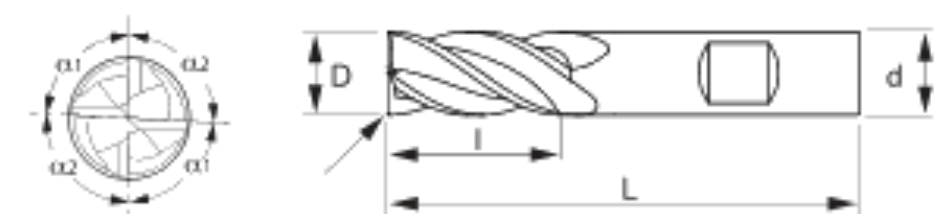
A4051	Tech. Code	D mm	L mm	I mm	ch 45° mm	d mm	Z	
4T - 36°	A405106	6	76	32	0,40	6	4	1
	A405108	8	87			8		
	A405110	10	89	38	10			
	A405112	12	100	51	12			
	A405116	16	125	57	16			
	A405120	20			20			

WIDIA HANITA END MILLS VARIABLE PITCH SERIES EXTRA LONG Z4



ITEM: A4052

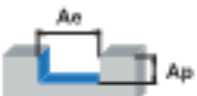
Material Micro-grain Integral hard metal
Standard Factory standard
Tolerance e8
Shank Weldon
Helix Right-hand 38° variable pitch
Surface treatment TiAlN
Application Roughing and finishing on all materials



< 500	< 850	< 1200	< 600	< 850	Duplex	< 240	< 300	< 10% Si	> 10% Si	Brass Copper	Ti6Al4V	HTA	< 45	< 60	< 65
●	●	●	●	●	○	●	●				○		●	○	

FACTORY STANDARD

A4052	Tech. Code	D mm	L mm	I mm	ch 45° mm	d mm	Z	
4T - 38°	A405212	12	125	76	0,50	12	4	1
	A405216	16	150			16		
	A405220	20	175	102		20		

		Side Milling		Slotting	RANGE								
				A4051					A4052				
Material	Feature	Ap	Ae	Ap	Vc m/min. min.	Vc m/min. max.	mm	D/mm 6	D/mm 8	D/mm 10	D/mm 12	D/mm 16	D/mm 20
CARBON STEEL	< 500 N/mm²	4 x D	0.05 x D	-	300	400	fz/mm	0.044	0.060	0.072	0.083	0.092	0.114
	< 850 N/mm²	4 x D	0.05 x D	-	240	320	fz/mm	0.036	0.050	0.061	0.070	0.079	0.101
	< 1200 N/mm²	4 x D	0.05 x D	-	120	200	fz/mm	0.029	0.040	0.048	0.056	0.063	0.081
STAINLESS STEEL	< 600 N/mm²	4 x D	0.05 x D	-	180	230	fz/mm	0.036	0.050	0.061	0.070	0.079	0.101
	< 800 N/mm²	4 x D	0.05 x D	-	120	160	fz/mm	0.029	0.040	0.048	0.056	0.063	0.081
CAST IRON	< 240 HB	4 x D	0.05 x D	-	240	300	fz/mm	0.044	0.060	0.072	0.083	0.092	0.114
	< 300 HB	4 x D	0.05 x D	-	200	260	fz/mm	0.029	0.040	0.048	0.056	0.063	0.081
SUPER ALLOY	Ti64AlV	4 x D	0.05 x D	-	100	180	fz/mm	0.036	0.050	0.061	0.070	0.079	0.101
	HTA	4 x D	0.05 x D	-	50	80	fz/mm	0.019	0.026	0.032	0.037	0.042	0.054
HARDENED	< 45 HRC	4 x D	0.05 x D	-	160	280	fz/mm	0.033	0.045	0.054	0.062	0.070	0.088

Recommended "fz" values for side milling.
For slotting, adjust the cutting parameters. (ex: fz x 0.8)