NEW

There are hundreds of end mills
But only one
MULTI-CUT™

16 *cubic inch per minute material removal in P-20, with a 3/8" tool*

Multi-Use
Materials and Applications

Structural steels up to 44 HRC, stainless, cast iron, copper alloys, brass, bronze and titanium.

MULTI-CUT

Other Tools

Up to 10 x More Productive

Outstanding Performance *Guaranteed!*

See it cut online.

Introducing the most versatile, productive solid carbide end mill ever made!

Finally with one tool you can achieve the highest removal rates on a full range of materials. Multi-Cut can achieve material removal rates 5 to 10 times that of conventional end mills. With its progressive edge profile, variable helix and flute technology, Multi-Cut totally redefines high performance milling. But don't just take our word. **Put it to the test yourself.** If Multi-Cut doesn't out-perform your end mill by far, Emuge will refund your money. **Plus you can watch it cut online at www.emuge.com/multicut.**

Try Multi-Cut today. Seeing is believing.

EMUGE

HIGH PERFORMANCE TOOLS

800-323-3013 ▲ www.emuge.com

Introducing MULTI-CUT™ High-Performance End Mills Designed for Universal Milling Applications.

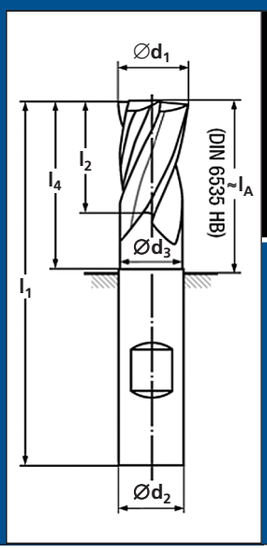
Multi-Cut Tools are made from select micro-grain carbide to provide maximum cutting performance and tool life. They feature variable flute spacing and pitch to minimize vibrations, even at high speeds and aggressive cutting depths. The unique chip-breaker technology provides optimum chip evacuation and a patented roughing profile enables short-duration chip contact. A flattened shank design ensures stability in tool clamping, for enhanced process safety.

High Productivity Cutting Parameters

Under optimum operating conditions, Multi-Cut End Mills can remove material at an exceptional rate. To insure process safety, we recommend initial operational parameters using the low range speed and feed values shown in the chart below. Once stable cutting conditions are realized, both speed and feed values may be incrementally increased. At maximum speed, **the chip load per tooth (f_z) may be increased by up to 60% to achieve maximum material removal.**

Material Group			Cutting Speed	Factor to Calculate Chip Load per Tooth (f_z) (Divide End Mill Diameter Ød_1 by Factor)		Maximum Cutting Depth		Cooling / Lubrication
						Axial	Radial	
Catalog	Hardness	Material Examples	SFM Range	Factor for Inch Tools	Factor for Metric Tools	ap x d_1	ae x d_1	
1.1 - 1.3	≤ 25 HRC	1008 / 1010 / 1018 / 1045 / A36 / T1 / 12L14	525 - 660	200	5000	1.5	1	Air / Cold air
1.4 - 1.5	≤ 44 HRC	A2 / A7 / D2 / H13 / P20 / 4130 / 4140 / 8620	400 - 525	250	6500	1	1	Air / Cold air
1.10	≤ 25 HRC	303SS / 304SS / 316SS / 416SS / 420SS	260 - 330	250	6500	1	1	Coolant
1.11	≤ 35 HRC	13-8PH / 15-5PH / 17-4PH	150 - 210	275	6500	1	1	Coolant
2.1 - 2.2	≤ 280 BHN	ASTM A48 class 20 / 30 / 40	525 - 725	170	4500	1.5	1	Air / Cold air
2.3 - 2.4	≤ 280 BHN	ASTM A47 class 32510 / 35018	400 - 525	200	5000	1	1	Air / Cold air
3.1 - 3.3	≤ 150 BHN	Pure Copper / Cu Zn Alloys	400 - 525	200	5000	1	1	Coolant
3.4 - 3.5	≤ 240 BHN	Copper Al Sn Alloys	325 - 460	200	5000	1	1	Coolant
7.1 - 7.2	≤ 40 HRC	Pure Titanium / Ti Alloys / 6Al4V	200 - 260	330	8500	1	1	Coolant

Formula: Tool Diameter Ød_1 ÷ Factor (from chart) = f_z (chip load per tooth)
Examples: 3/8" diameter in P20 (Material Group 1.4) .375 ÷ 250 = .0015" f_z
12mm diameter in 1010 (Material Group 1.1) 12 ÷ 5000 = .0024" f_z



	Ød_1 h11	l_2	l_1	d_3	l_4	Ød_2 h6	l_A	Z (No./flutes)	EDP No.	List Price
Inch Tools	1/8	3/16	2-1/2	.118	7/8	3/8	9/16	3	**2869A.0125**	$87.00
	3/16	9/32	2-1/2	.177	7/8	3/8	5/8	3	**2869A.01875**	84.00
	1/4	3/8	2-1/2	.236	7/8	3/8	3/4	4	**2869A.0250**	82.50
	5/16	7/16	2-1/2	.295	7/8	3/8	3/4	4	**2869A.03125**	81.00
	3/8	9/16	2-1/2	.358	7/8	3/8	7/8	4	**2869A.0375**	79.50
	1/2	3/4	3	.480	1-1/8	1/2	1-1/8	4	**2869A.0500**	110.25
	5/8	7/8	3-1/2	.605	1-1/2	5/8	1-1/2	4	**2869A.0625**	165.00
	3/4	1-1/8	4	.730	1-7/8	3/4	1-7/8	4	**2869A.0750**	210.00
	1	1-1/2	5	.969	2-5/8	1	2-5/8	5	**2869A.1000**	313.50
Metric Tools	1	1.5	38	0.9	5	3	9	3	**2869A.001**	$72.00
	2	3	57	1.9	8	6	15	3	**2869A.002**	72.70
	3	5	57	2.9	14	6	18	3	**2869A.003**	69.00
	4	8	57	3.8	18	6	20	3	**2869A.004**	68.20
	5	9	57	4.8	20	6	21	3	**2869A.005**	66.70
	6	10	57	5.8	20	6	21	4	**2869A.006**	65.20
	8	12	63	7.7	25	8	27	4	**2869A.008**	72.70
	10	15	72	9.5	30	10	32	4	**2869A.010**	81.70
	12	18	83	11.5	35	12	38	4	**2869A.012**	102.70
	14	21	83	13.5	35	14	38	4	**2869A.014**	122.20
	16	24	92	15.5	40	16	44	4	**2869A.016**	169.50
	20	30	104	19.5	50	20	54	4	**2869A.020**	224.20

Prices and specifications are subject to change without notice.

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