IMCO

Power. Precision. Performance.

SHEAR IT. CLEAR IT.

STREAKERS® END MILLS

M2 SERIES

FRACTIONAL AND METRIC CATALOG

Put aluminum in its place.

Shear through aluminum at higher feeds with the STREAKERS® M2 Series from IMCO.

Because of the STREAKERS' unique design, you can take more aggressive chip loads without gumming up the works. Rough it out and finish it with one tool, even at low horsepower.

IMCO

Power. Precision. Performance.

CONTENTS:

M2 SERIES

Shear it and clear it.

The STREAKERS® M2 Series makes chips move aside so you can get the job done. IMCO's unique design makes the entire STREAKERS M2 Series first-rate roughers as well as excellent finishers:

- High-volume metal removal without maxing out horsepower; sheds chips as fast as you can make them.
- Reduced chatter over a broad range of speeds. Powerful performance at speeds as low as 3,000 RPM; excels in performance at speeds well above 10,000 RPM.
- Less spindle drag draws less power while removing more metal.

Excellent performance in aluminum and non-ferrous metals.

The one-tool choice for roughing and finishing in these materials:

- Aluminum alloys
- Magnesium and copper alloys
- High silicon, die cast and extruded aluminum parts
- Composites

STREAKERS M2 Series Features

45° helix creates a high shear plane in the cutting zone, resulting in more efficient chip formation and evacuation.

Unique cutting-edge geometry carves out more metal per minute. STREAKERS are designed especially for really aggressive chip loads.

Special flute design helps curl and evacuate even large chips and keeps STREAKERS running clog free.

Cylindrical land for superior finishes.

High-end substrate of ultra fine-grain carbide stays cooler at very high spindle speeds –10,000 RPM and higher. Tough core runs at higher speeds without tool distortion.

Options

Neck relief

Better clearance in deep cavities and easier machining against tight walls.

End designs

Range of corner radii – Ideal for aerospace and other industrial uses. Helps prevent cutting-end chipping.

Square end – Routine machining and finishing.

Ball end – Minimizes tool deflection and increases productivity when contouring in deep cavities.

Shank designs

H6 tolerance shanks – Fit all collets and conform to shrink-fit requirements.

Flats – Available on many sizes for end mill holders.

Choose the length for the job.

Extra rigidity – Choose stub length.

Medium-to-deep cuts – Order standard, long or extra-long flute length and reach.

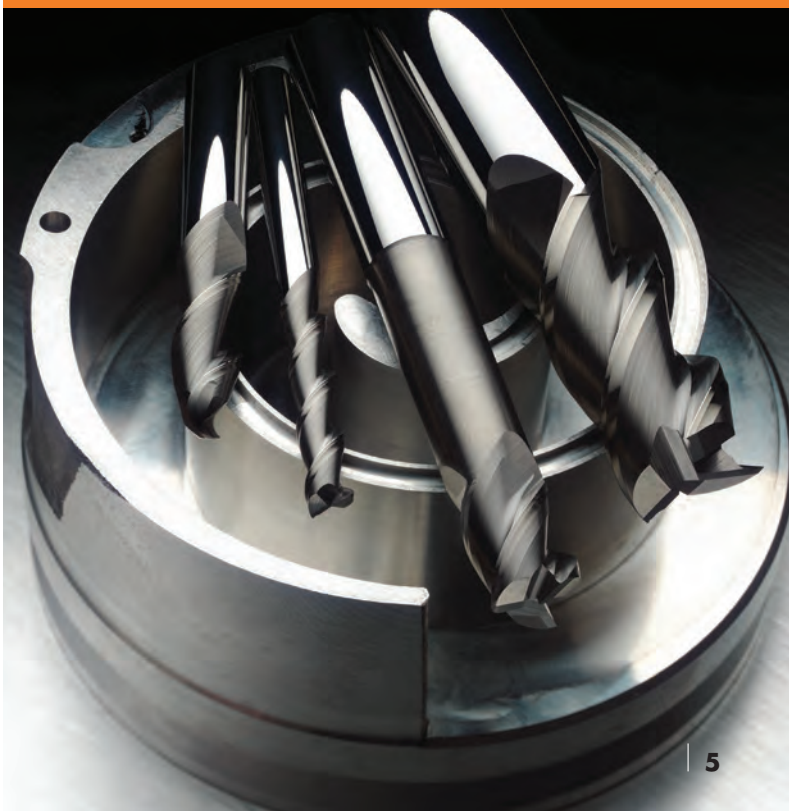
Extra rigidity in deep pockets and cavities – Choose short flute length.

Finishing passes – Order extra-long flute length.

Deep cavity work – Use stub-length flutes.

Improved Productivity and Surface Finish.

Cycle time was a critical problem for a customer machining aluminum using a competitor's 3-flute end mill at 1,300 SFM and 60 IPM with an axial and radial cut of .125". Switching to a STREAKERS end mill allowed running at 90 IPM and increasing the axial and radial depths of cut to .265". That cut cycle time by 15 minutes – a 50% feed rate increase.

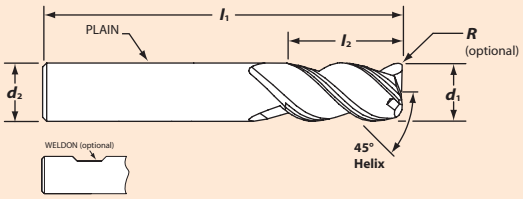


M203

Square End and Corner Radius

3-FLUTE

For high-performance milling in all types of aluminum and non-ferrous metals. Superior roughing tool and finisher, even on lower horsepower machinery.



Optional coatings for aluminum machining (ZrN, TiCN, TiB2, DLC) are available by special order

in d_1 +0.000 / -0.002 d_2 h6

Coatings:
None (MG)

Model Code: M203
3-Flute with Square End

P W

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M203 - xxxx - xxxx - SQ d1 l2
1/8	1/8	1/4	1-1/2	Plain	32520	M203-0125-0250-SQ
		3/8		Plain	33246	M203-0125-0375-SQ
3/16	3/16	5/16	2	Plain	32521	M203-0187-0312-SQ
		9/16		Plain	33248	M203-0187-0562-SQ
1/4	1/4	3/8	2-1/2	Plain	32986	M203-0250-0375-SQ
		3/4		Plain	32992	M203-0250-0750-SQ
				Weldon	32634	M203-0250-0750-SQ-W
		1-1/4	3	Plain	33009	M203-0250-1250-SQ
				Weldon	33011	M203-0250-1250-SQ-W
5/16	5/16	7/16	2-1/2	Plain	32987	M203-0312-0437-SQ
		13/16		Plain	33250	M203-0312-0812-SQ
				Weldon	32736	M203-0312-0812-SQ-W
		1-3/8	3	Plain	34454	M203-0312-1375-SQ
				Weldon	34455	M203-0312-1375-SQ-W
3/8	3/8	1/2	2-1/2	Plain	32988	M203-0375-0500-SQ
		7/8		Weldon	32635	M203-0375-0875-SQ-W
		1		Plain	32993	M203-0375-1000-SQ
		1-1/2	3-1/4	Plain	32998	M203-0375-1500-SQ
				Weldon	32702	M203-0375-1500-SQ-W
		2	4	Plain	33003	M203-0375-2000-SQ
				Weldon	32716	M203-0375-2000-SQ-W
1/2	1/2	5/8	3	Plain	32989	M203-0500-0625-SQ
		1-1/4		Plain	32994	M203-0500-1250-SQ
			3-1/4	Weldon	32637	M203-0500-1250-SQ-W
		2	4	Plain	32999	M203-0500-2000-SQ
				Weldon	32703	M203-0500-2000-SQ-W
		2-1/2	5	Plain	33004	M203-0500-2500-SQ
				Weldon	32718	M203-0500-2500-SQ-W
		3-1/8	6	Plain	33013	M203-0500-3125-SQ
				Weldon	32830	M203-0500-3125-SQ-W
5/8	5/8	3/4	3-1/2	Plain	32990	M203-0625-0750-SQ
		1-1/4		Weldon	32638	M203-0625-1250-SQ-W
		1-5/8		Plain	32995	M203-0625-1625-SQ
		2-1/2	5	Plain	33006	M203-0625-2500-SQ
				Weldon	32720	M203-0625-2500-SQ-W
		3-3/4	6	Plain	33015	M203-0625-3750-SQ
				Weldon	32835	M203-0625-3750-SQ-W
3/4	3/4	1	4	Plain	32991	M203-0750-1000-SQ
		1-5/8		Plain	32996	M203-0750-1625-SQ
				Weldon	32639	M203-0750-1625-SQ-W
		2-1/2	5	Plain	33001	M203-0750-2500-SQ
				Weldon	32704	M203-0750-2500-SQ-W
		3-1/4	6	Plain	33007	M203-0750-3250-SQ
				Weldon	32724	M203-0750-3250-SQ-W
		4	6-1/2	Plain	33010	M203-0750-4000-SQ
				Weldon	32728	M203-0750-4000-SQ-W
1	1	1-1/4	4	Plain	33137	M203-1000-1250-SQ
		2		Plain	32997	M203-1000-2000-SQ
			4-1/2	Weldon	32701	M203-1000-2000-SQ-W
		2-5/8	5	Plain	33002	M203-1000-2625-SQ
				Weldon	32714	M203-1000-2625-SQ-W
		3-1/4	6	Plain	33008	M203-1000-3250-SQ
				Weldon	32726	M203-1000-3250-SQ-W
		4-1/8	7	Plain	33012	M203-1000-4125-SQ
				Weldon	32735	M203-1000-4125-SQ-W

Model Code: M203
3-Flute with Square End

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M203 - xxx - xxx - SQ d1 l2
3	3	5	38	Plain	32522	M203-030-005-SQ
4	4	6	50	Plain	32524	M203-040-006-SQ
		11		Plain	33167	M203-040-011-SQ
5	5	6		Plain	32525	M203-050-006-SQ
		13		Plain	33169	M203-050-013-SQ
6	6	7	54	Plain	32526	M203-060-007-SQ
		16	57	Plain	33170	M203-060-016-SQ
		29	75	Plain	34302	M203-060-029-SQ
8	8	9	58	Plain	32527	M203-080-009-SQ
		19	63	Plain	33172	M203-080-019-SQ
		29	75	Plain	34303	M203-080-029-SQ
10	10	11	66	Plain	32528	M203-100-011-SQ
		22	72	Plain	33174	M203-100-022-SQ
		40	88	Plain	34311	M203-100-040-SQ
12	12	12	73	Plain	32529	M203-120-012-SQ
		26	83	Plain	33175	M203-120-026-SQ
		50	100	Plain	34305	M203-120-050-SQ
14	14	26	83	Plain	33176	M203-140-026-SQ
16	16	16	82	Plain	32530	M203-160-016-SQ
		32	92	Plain	33177	M203-160-032-SQ
		57	125	Plain	34306	M203-160-057-SQ
20	20	20	92	Plain	32502	M203-200-020-SQ
		38	104	Plain	33179	M203-200-038-SQ
		57	125	Plain	34307	M203-200-057-SQ

TOOL TIP

Choose the Right Tool Holder

IMCO's tools are designed and tested in all types of holders to meet the needs of our customers' shops. The h6 shank tolerances meet the requirements for press-fit and shrink-fit systems and eliminate run-out issues when using milling chucks and collets. Most IMCO tools are also offered with precision-ground flats to improve performance when the tool is used in an end mill holder with a side-locking set screw.

Whatever your choice in holders, it is important to always take the time to indicate a new tool in the spindle to ensure the total indicator run-out (TIR) is minimized, so you get maximum performance from our tools.

Model Code: M203
3-Flute with Corner Radius

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) .015 CR	.030 CR	.060 CR	.090 CR	.125 CR	.156 CR	.190 CR	.250 CR	EZ-ID Number M203 - xxxx - xxxx - xxx d1 l2 R
1/8	1/8	3/8	1-1/2	Plain	34384								M203-0125-0375-xxx
3/16	3/16	9/16	2	Plain	34385								M203-0187-0562-xxx
1/4	1/4	3/8	2-1/2	Plain	33601	33602							M203-0250-0375-xxx
		3/4	2-1/2	Plain	34386	34388							M203-0250-0750-xxx
		3/4	2-1/2	Weldon	34387	34389							M203-0250-0750-xxx-W
		1-1/4	3	Plain	34435	34438							M203-0250-1250-xxx
		1-1/4	3	Weldon	34437	34447							M203-0250-1250-xxx-W
5/16	5/16	13/16	2-1/2	Plain	34450	34452	38258						M203-0312-0812-xxx
		13/16	2-1/2	Weldon	34451	34453	38318						M203-0312-0812-xxx-W
		1-3/8	3	Plain		38031	38260						M203-0312-1375-xxx
		1-3/8	3	Weldon		38319	38056						M203-0312-1375-xxxW
3/8	3/8	1/2	2-1/2	Plain	33603	33604	33605						M203-0375-0500-xxx
		7/8	2-1/2	Weldon	34459	34461	38320						M203-0375-0875-xxx-W
		1	2-1/2	Plain	34458	34460	38261						M203-0375-1000-xxx
		1-1/2	3-1/4	Plain	34462	34480	38262						M203-0375-1500-xxx
		1-1/2	3-1/4	Weldon	34463	34482	38321						M203-0375-1500-xxx-W
		2	4	Plain	34484	34488	38263						M203-0375-2000-xxx
		2	4	Weldon	34486	34490	38322						M203-0375-2000-xxx-W
1/2	1/2	5/8	3	Plain	33606	33607	33608	33609	33610				M203-0500-0625-xxx
		1-1/4	3	Plain	34492	34522	34526	38022	38025				M203-0500-1250-xxx
		1-1/4	3-1/4	Weldon	34494	34523	34527	38050	38051				M203-0500-1250-xxx-W
		2	4	Plain	34531	34534	34537	38032	38033				M203-0500-2000-xxx
		2	4	Weldon	34533	34535	34538	38057	38058				M203-0500-2000-xxx-W
		2-1/2	5	Plain		34539	38038	38039	38040				M203-0500-2500-xxx
		2-1/2	5	Weldon		34541	38063	38064	38065				M203-0500-2500-xxx-W
		3-1/8	6	Plain		34543	38045	38046	38047				M203-0500-3125-xxx
		3-1/8	6	Weldon		34544	38070	38071	38072				M203-0500-3125-xxx-W
5/8	5/8	1-1/4	3-1/2	Weldon		34546	38323	38324	38325				M203-0625-1250-xxx-W
		1-5/8	3-1/2	Plain		34545	38264	38265	38266				M203-0625-1625-xxx
		2-1/2	5	Plain		34549	38267	38268	38269				M203-0625-2500-xxx
		2-1/2	5	Weldon		34550	38328	38329	38330				M203-0625-2500-xxx-W
		3-3/4	6	Plain		34551	38270	38271	38272				M203-0625-3750-xxx
		3-3/4	6	Weldon		34552	38332	38333	38335				M203-0625-3750-xxx-W
3/4	3/4	1	4	Plain		33611	33612	33613	33614	33615	33616		M203-0750-1000-xxx
		1-5/8	4	Plain		34553	34555	38027	38028	38273	38274		M203-0750-1625-xxx
		1-5/8	4	Weldon		34554	34557	38052	38053	38336	38337		M203-0750-1625-xxx-W
		2-1/2	5	Plain		34558	38034	38035	38036	38275	38276		M203-0750-2500-xxx
		2-1/2	5	Weldon		34559	38059	38060	38061	38338	38340		M203-0750-2500-xxx-W
		3-1/4	6	Plain		34560	38041	38042	38043	38277	38278		M203-0750-3250-xxx
		3-1/4	6	Weldon		34561	38066	38067	38068	38341	38345		M203-0750-3250-xxx-W
1	1	2	4	Plain		34562	34563	38029	38030	38279	38280	38281	M203-1000-2000-xxx
		2	4-1/2	Weldon		38054	38055	38376	38377	38378	38379	38380	M203-1000-2000-xxx-W
		2-5/8	5	Plain		34568	38037	38282	38283	38284	38285	38286	M203-1000-2625-xxx
		2-5/8	5	Weldon		34569	38062	38346	38347	38348	38349	38350	M203-1000-2625-xxx-W
		3-1/4	6	Plain		34584	38044	38287	38288	38289	38290	38291	M203-1000-3250-xxx
		3-1/4	6	Weldon		34586	38069	38351	38352	38353	38354	38355	M203-1000-3250-xxx-W
		4-1/8	7	Plain		38048	38049	38292	38293	38294	38295	38296	M203-1000-4125-xxx
		4-1/8	7	Weldon		38073	38074	38356	38357	38358	38359	38360	M203-1000-4125-xxx-W

Model Code: M203
3-Flute with Corner Radius

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) 0,3 CR	0,5 CR	0,75 CR	1,0 CR	EZ-ID Number M203 - xxx - xxx - xxx d1 l2 R
3	3	5	38	Plain	34857				M203-030-005-xxx
4	4	11	50	Plain	34858				M203-040-011-xxx
5	5	13	50	Plain	34859				M203-050-013-xxx
6	6	16	57	Plain	34860	34862			M203-060-016-xxx
		29	75	Plain	34864	34866			M203-060-029-xxx
8	8	19	63	Plain	34868	34870			M203-080-019-xxx
		29	75	Plain		34872			M203-080-029-xxx
10	10	22	72	Plain	34874	34876			M203-100-022-xxx
		40	88	Plain	34878	34880			M203-100-040-xxx
12	12	26	83	Plain		34882	34884	34886	M203-120-026-xxx
		50	100	Plain		34888		34890	M203-120-050-xxx
16	16	32	92	Plain			34892	34894	M203-160-032-xxx
		57	125	Plain				34896	M203-160-057-xxx
20	20	38	104	Plain			34898	34900	M203-200-038-xxx
		57	125	Plain				36583	M203-200-057-xxx

TOOL TIP

3-FLUTE STREAKERS:

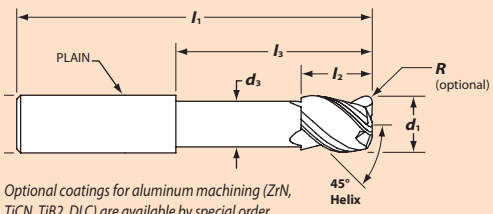
3's a Charm.

There are several reasons to use the 3-flute version of STREAKERS end mills: more stability in the cut, less power draw through the spindle and a great finish. The center-cutting design allows the 3-flute STREAKERS to ramp and plunge into parts, and it works great in many non-ferrous materials.

Square End and Corner Radius w/Neck Relief

3-FLUTE

M203N permits clearance in deeper cavities and easier machining against tight walls. Neck relief and short flute length combine to increase end mill stability in the cut for more precise tolerances.



Optional coatings for aluminum machining (ZrN, TiCN, TiB2, DLC) are available by special order

in d_1 +0.000 / -0.002 d_2 h6

Coatings:
None (MG)

Model Code: M203N
3-Flute with Square End and Neck Relief

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Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Order Code	EZ-ID Number M203 - xxxx - xxxx - Nxxxx - SQ d1 l2 l3
1/4	1/4	3/8	1-1/8	2-1/2	33034	M203-0250-0375-N1125-SQ
			1-5/8	3	33121	M203-0250-0375-N1625-SQ
			2-1/4	4	33110	M203-0250-0375-N2250-SQ
3/8	3/8	1/2	1-1/8	2-1/2	33035	M203-0375-0500-N1125-SQ
			1-3/4	3	33122	M203-0375-0500-N1750-SQ
			2-1/4	4	33112	M203-0375-0500-N2250-SQ
1/2	1/2	5/8	1-3/8	3	33036	M203-0500-0625-N1375-SQ
			2-1/4	4	33123	M203-0500-0625-N2250-SQ
			2-3/8	5	33114	M203-0500-0625-N2375-SQ
			3-3/8	6	33048	M203-0500-0625-N3375-SQ
5/8	5/8	3/4	1-1/2	3-1/2	33038	M203-0625-0750-N1500-SQ
			2-1/4	5	33124	M203-0625-0750-N2250-SQ
			3-3/8	6	33116	M203-0625-0750-N3375-SQ
3/4	3/4	1	1-3/4	4	33039	M203-0750-1000-N1750-SQ
			2-1/4	5	33125	M203-0750-1000-N2250-SQ
			3-3/8	6	33118	M203-0750-1000-N3375-SQ
1	1	1-1/8	1-7/8	4	33040	M203-1000-1125-N1875-SQ
		1-1/4	2-1/4	5	33126	M203-1000-1250-N2250-SQ
			3-3/8	6	33120	M203-1000-1250-N3375-SQ
			4-3/8	7	33049	M203-1000-1250-N4375-SQ

Model Code: M203N
3-Flute with Square End and Neck Relief

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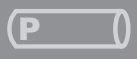
Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Order Code	EZ-ID Number M203 - xxx - xxx - Nxxx - SQ d1 l2 l3
6	6	8	20	57	33041	M203-060-008-N020-SQ
			40	75	37262	M203-060-008-N040-SQ
8	8	10	26	63	33042	M203-080-010-N026-SQ
10	10	12	31	72	33043	M203-100-012-N031-SQ
			50	100	33128	M203-100-012-N050-SQ
12	12	14	37	83	33044	M203-120-014-N037-SQ
			70	125	33129	M203-120-014-N070-SQ
16	16	18	41	92	33045	M203-160-018-N041-SQ
			90	150	33131	M203-160-018-N090-SQ
20	20	24	47	104	33046	M203-200-024-N047-SQ
			90	150	37302	M203-200-024-N090-SQ

Model Code: M203N
3-Flute with Corner Radius and Neck Relief



Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Order Code by Corner Radius (R) .015 CR	.030 CR	.060 CR	.090 CR	.125 CR	.156 CR	.190 CR	.250 CR	EZ-ID Number M203 - xxxx (d1) - xxxx (l2) - Nxxxx (l3) - xxx (R)
1/4	1/4	3/8	1-1/8	2-1/2	34782	34784							M203-0250-0375-N1125-xxx
			1-5/8	3	34786	34788							M203-0250-0375-N1625-xxx
			2-1/4	4	34790	34792							M203-0250-0375-N2250-xxx
3/8	3/8	1/2	1-1/8	2-1/2	34794	34796	38111						M203-0375-0500-N1125-xxx
			1-3/4	3	34797	34798	38112						M203-0375-0500-N1750-xxx
			2-1/4	4	34799	34800	38113						M203-0375-0500-N2250-xxx
1/2	1/2	5/8	1-3/8	3	34801	34802	38114	38115	38116				M203-0500-0625-N1375-xxx
			2-1/4	4	34803	34804	38117	38118	38119				M203-0500-0625-N2250-xxx
			2-3/8	5	34805	34806	38120	38121	38122				M203-0500-0625-N2375-xxx
			3-3/8	6	34826	34827	38123	38124	38125				M203-0500-0625-N3375-xxx
5/8	5/8	3/4	1-1/2	3-1/2		34828	38126	38127	38128				M203-0625-0750-N1500-xxx
			2-1/4	5		34829	38129	38130	38131				M203-0625-0750-N2250-xxx
			3-3/8	6		34830	38132	38133	38134				M203-0625-0750-N3375-xxx
3/4	3/4	1	1-3/4	4		34837	38135	38136	38137	38138	38139		M203-0750-1000-N1750-xxx
			2-1/4	5		34838	38140	38141	38142	38143	38144		M203-0750-1000-N2250-xxx
			3-3/8	6		34839	38145	38146	38147	38148	38149		M203-0750-1000-N3375-xxx
1	1	1-1/8	1-7/8	4		34840	38150	38151	38152	38153	38154	38155	M203-1000-1125-N1875-xxx
		1-1/4	2-1/4	5		34847	38156	38157	38158	38159	38160	38161	M203-1000-1250-N2250-xxx
			3-3/8	6		34848	38162	38163	38164	38165	38166	38167	M203-1000-1250-N3375-xxx
			4-3/8	7		34849	38168	38169	38170	38171	38172	38173	M203-1000-1250-N4375-xxx

Model Code: M203N
3-Flute with Corner Radius and Neck Relief

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Order Code by Corner Radius (R) 0,3 CR	0,5 CR	1,0 CR	EZ-ID Number M203 - xxx (d1) - xxx (l2) - Nxxx (R) - xxx (l1)
6	6	8	20	57	37261			M203-060-008-N020-030
			40	75	37264			M203-060-008-N040-030
8	8	10	26	63		37266		M203-080-010-N026-050
10	10	12	31	72		37268		M203-100-012-N031-050
			50	100		37274		M203-100-012-N050-050
12	12	14	37	83			37276	M203-120-014-N037-100
			70	125			37278	M203-120-014-N070-100
16	16	18	41	92			37280	M203-160-018-N041-100
			90	150			37281	M203-160-018-N090-100
20	20	24	47	104			37301	M203-200-024-N047-100
			90	150			37328	M203-200-024-N090-100

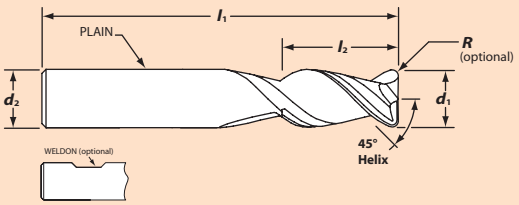
M202

Square End and Corner Radius

2-FLUTE

For high-performance milling in all types of aluminum including high silicon, die cast and extruded aluminum parts.

The 2-flute design allows maximum flute-to-flute spacing for greater stock removal and effective chip evacuation – ideal when you're going deep into the metal to remove material incrementally.



Optional coatings for aluminum machining (ZrN, TiCN, TiB2, DLC) are available by special order

in d_1 +0.000 / -0.002 d_2 h6

Coatings:
None (MG)

Model Code: M202
2-Flute with Square End

P W

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M202 - xxxx - xxxx - SQ d1 l2
1/8	1/8	1/4	1-1/2	Plain	32941	M202-0125-0250-SQ
		3/8	1-1/2	Plain	32949	M202-0125-0375-SQ
3/16	3/16	5/16	2	Plain	32942	M202-0187-0312-SQ
		9/16	2	Plain	32950	M202-0187-0562-SQ
1/4	1/4	3/8	2-1/2	Plain	32943	M202-0250-0375-SQ
		3/4	2-1/2	Plain	32951	M202-0250-0750-SQ
		3/4	2-1/2	Weldon	32430	M202-0250-0750-SQ-W
		1-1/4	3	Plain	32957	M202-0250-1250-SQ
		1-1/4	3	Weldon	32444	M202-0250-1250-SQ-W
5/16	5/16	7/16	2-1/2	Plain	32944	M202-0312-0437-SQ
		13/16	2-1/2	Plain	32952	M202-0312-0812-SQ
		13/16	2-1/2	Weldon	32431	M202-0312-0812-SQ-W
		1-3/8	3	Plain	32958	M202-0312-1375-SQ
		1-3/8	3	Weldon	32445	M202-0312-1375-SQ-W
3/8	3/8	1/2	2-1/2	Plain	32945	M202-0375-0500-SQ
		1	2-1/2	Plain	32953	M202-0375-1000-SQ
		7/8	2-1/2	Weldon	32432	M202-0375-0875-SQ-W
		1-1/2	3-1/4	Plain	32959	M202-0375-1500-SQ
		1-1/2	3-1/4	Weldon	32446	M202-0375-1500-SQ-W
		2	4	Plain	32964	M202-0375-2000-SQ
		2	4	Weldon	32510	M202-0375-2000-SQ-W
1/2	1/2	5/8	3	Plain	32946	M202-0500-0625-SQ
		1	3	Weldon	32434	M202-0500-1000-SQ-W
		1-1/4	3	Plain	90358	M202-0500-1250-SQ
		1-1/4	3-1/4	Weldon	32606	M202-0500-1250-SQ-W
		2	4	Plain	32960	M202-0500-2000-SQ
		2	4	Weldon	32447	M202-0500-2000-SQ-W
		2-1/2	5	Plain	32965	M202-0500-2500-SQ
		2-1/2	5	Weldon	32512	M202-0500-2500-SQ-W
		3-1/8	6	Plain	38390	M202-0500-3125-SQ
		3-1/8	6	Weldon	38391	M202-0500-3125-SQ-W
5/8	5/8	3/4	3-1/2	Plain	32947	M202-0625-0750-SQ
		1-1/4	3-1/2	Weldon	32436	M202-0625-1250-SQ-W
		1-5/8	3-1/2	Plain	32954	M202-0625-1625-SQ
		2-1/2	5	Plain	32966	M202-0625-2500-SQ
		2-1/2	5	Weldon	32514	M202-0625-2500-SQ-W
		3-3/4	6	Plain	38504	M202-0625-3750-SQ
		3-3/4	6	Weldon	38505	M202-0625-3750-SQ-W
3/4	3/4	1	4	Plain	32948	M202-0750-1000-SQ
		1-5/8	4	Plain	32955	M202-0750-1625-SQ
		1-5/8	4	Weldon	32504	M202-0750-1625-SQ-W
		2-1/2	5	Plain	32962	M202-0750-2500-SQ
		2-1/2	5	Weldon	32506	M202-0750-2500-SQ-W
		3-1/4	6	Plain	32968	M202-0750-3250-SQ
		3-1/4	6	Weldon	32516	M202-0750-3250-SQ-W
1	1	1-1/4	4	Plain	33143	M202-1000-1250-SQ
		2	4	Plain	32956	M202-1000-2000-SQ
		2	4-1/2	Weldon	32450	M202-1000-2000-SQ-W
		2-5/8	5	Plain	32963	M202-1000-2625-SQ
		2-5/8	5	Weldon	32508	M202-1000-2625-SQ-W
		3-1/4	6	Plain	32969	M202-1000-3250-SQ
		3-1/4	6	Weldon	32518	M202-1000-3250-SQ-W

Model Code: M202
2-Flute with Square End

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M202 - xxx - xxx - SQ d1 l2
3	3	5	38	Plain	32971	M202-030-005-SQ
4	4	6	50	Plain	32972	M202-040-006-SQ
		11	50	Plain	36974	M202-040-011-SQ
5	5	6	50	Plain	32973	M202-050-006-SQ
		13	50	Plain	36976	M202-050-013-SQ
6	6	7	54	Plain	32974	M202-060-007-SQ
		16	57	Plain	62402	M202-060-016-SQ
8	8	9	58	Plain	32975	M202-080-009-SQ
		19	63	Plain	62403	M202-080-019-SQ
10	10	11	66	Plain	32976	M202-100-011-SQ
		22	72	Plain	62404	M202-100-022-SQ
12	12	12	73	Plain	32977	M202-120-012-SQ
		26	83	Plain	62406	M202-120-026-SQ
14	14	26	83	Plain	62407	M202-140-026-SQ
16	16	16	82	Plain	32978	M202-160-016-SQ
		32	92	Plain	62408	M202-160-032-SQ
20	20	20	92	Plain	32979	M202-200-020-SQ
		38	104	Plain	62410	M202-200-038-SQ

TOOL TIP

Request a FREE Tool Test.

Getting maximum productivity and speed with your current tool? There's one way to find out.

Let us test our tool against the tool you're using now – on your shop floor or at a testing facility – and compare results. Just contact your IMCO representative to arrange for your FREE Tool Test today.

Model Code: M202
2-Flute with Corner Radius

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) .015 CR	.030 CR	.060 CR	.090 CR	.125 CR	.156 CR	.190 CR	.250 CR	EZ-ID Number M202 - xxxx - xxxx - xxx d1 l2 R
1/8	1/8	3/8	1-1/2	Plain	33526								M202-0125-0375-xxx
3/16	3/16	9/16	2	Plain	33542								M202-0187-0562-xxx
1/4	1/4	3/4	2-1/2	Plain	33544	33548							M202-0250-0750-xxx
		3/4	2-1/2	Weldon	33546	33550							M202-0250-0750-xxx-W
		1-1/4	3	Plain	33552	34382							M202-0250-1250-xxx
		1-1/4	3	Weldon	33566	34383							M202-0250-1250-xxx-W
5/16	5/16	13/16	2-1/2	Plain	33629	34362	38381						M202-0312-0812-xxx
		13/16	2-1/2	Weldon	33630	34363	38382						M202-0312-0812-xxx
		1-3/8	3	Plain		38079	38383						M202-0312-1375-xxx
		1-3/8	3	Weldon		38098	38384						M202-0312-1375-xxx-W
3/8	3/8	7/8	2-1/2	Weldon	33649	33691	33692						M202-0375-0875-xxx-W
		1	2-1/2	Plain	33648	33689	38385						M202-0375-1000-xxx
		1-1/2	3-1/4	Plain	33693	33886	38386						M202-0375-1500-xxx
		1-1/2	3-1/4	Weldon	33694	33887	38387						M202-0375-1500-xxx-W
		2	4	Plain	34100	34144	38388						M202-0375-2000-xxx
		2	4	Weldon	34101	34145	38389						M202-0375-2000-xxx-W
1/2	1/2	1	3	Weldon		34359							M202-0500-1000-xxx-W
		1-1/4	3	Plain	34146	34161	34196	38075	38076				M202-0500-1250-xxx
		1-1/4	3-1/4	Weldon	34147	34162	34197	38092					M202-0500-1250-xxx-W
		2	4	Plain	34198	34204	34206	38080	38081				M202-0500-2000-xxx
		2	4	Weldon	34199	34205	34207	38099	38100				M202-0500-2000-xxx-W
		2-1/2	5	Plain		34235	38085	38086	38087				M202-0500-2500-xxx
		2-1/2	5	Weldon		34236	38104	38105	38106				M202-0500-2500-xxx-W
		3-1/8	6	Plain		38392	38394	38397	38399				M202-0500-3125-xxx
		3-1/8	6	Weldon		38393	38395	38398	38400				M202-0500-3125-xxx-W
5/8	5/8	1-1/4	3-1/2	Weldon		34238	38485	38487	38489				M202-0625-1250-xxx-W
		1-5/8	3-1/2	Plain		34237	38490	38492	38494				M202-0625-1625-xxx
		2-1/2	5	Plain		34243	38496	38500	38502				M202-0625-2500-xxx
		2-1/2	5	Weldon		34244	38498	38501	38503				M202-0625-2500-xxx-W
		3-3/4	6	Plain		38506	38508	38510	38512				M202-0625-3750-xxx
		3-3/4	6	Weldon		38507	38509	38511	38513				M202-0625-3750-xxx-W
3/4	3/4	1-5/8	4	Plain		34245	34262	38077	38078	38514	38516		M202-0750-1625-xxx
		1-5/8	4	Weldon		34246	34263	38094	38095	38515	38517		M202-0750-1625-xxx-W
		2-1/2	5	Plain		34343	38082	38083	38084	38518	38520		M202-0750-2500-xxx
		2-1/2	5	Weldon		34344	38101	38102	38103	38519	38521		M202-0750-2500-xxx-W
		3-1/4	6	Plain		34345	38088	38089	38090	38522	38524		M202-0750-3250-xxx
		3-1/4	6	Weldon		34346	38107	38108	38109	38523	38525		M202-0750-3250-xxx-W
1	1	2	4	Plain		34351	34353	38526	38528	38530	38532	38534	M202-1000-2000-xxx
		2	4-1/2	Weldon		38096	38097	38527	38529	38531	38533	38535	M202-1000-2000-xxx-W
		2-5/8	5	Plain		34352	34355	38536	38538	38540	38542	38544	M202-1000-2625-xxx
		2-5/8	5	Weldon		34354	34356	38537	38539	38541	38543	38545	M202-1000-2625-xxx-W
		3-1/4	6	Plain		34357	38091	38546	38548	38550	38552	38554	M202-1000-3250-xxx
		3-1/4	6	Weldon		34358	38110	38547	38549	38551	38553	38555	M202-1000-3250-xxx-W

Model Code: M202
2-Flute with Corner Radius

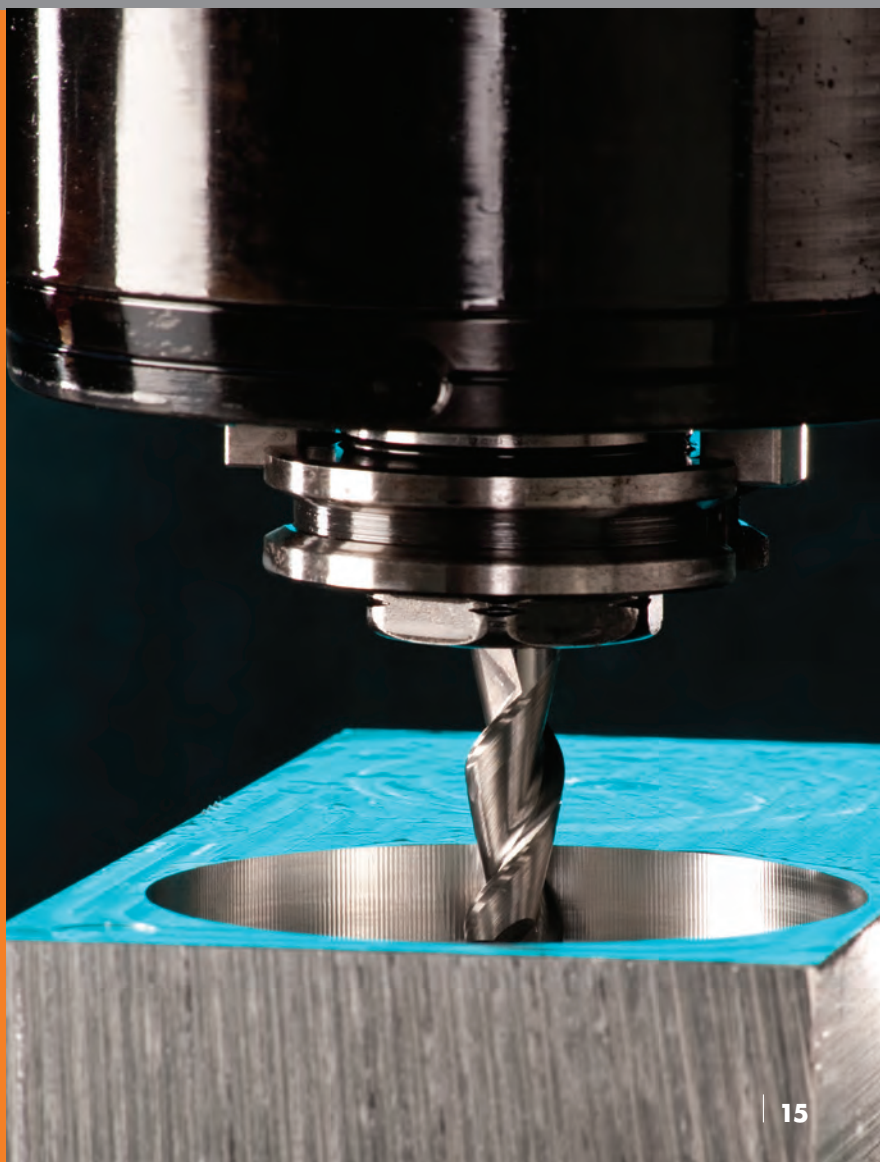
P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code by Corner Radius (R) 0,3 CR	0,5 CR	0,75 CR	1,0 CR	EZ-ID Number M202 - xxx - xxx - xxx d1 l2 R
3	3	5	38	Plain	36973				M202-030-005-xxx
4	4	11	50	Plain	36975				M202-040-011-xxx
5	5	13	50	Plain	36977				M202-050-013-xxx
6	6	16	57	Plain	36978	36980			M202-060-016-xxx
8	8	19	63	Plain	36982	36984			M202-080-019-xxx
10	10	22	72	Plain	37043	37047			M202-100-022-xxx
12	12	26	83	Plain		37049	37052	37084	M202-120-026-xxx
16	16	32	92	Plain			37101	37161	M202-160-032-xxx
20	20	38	104	Plain			37170	37180	M202-200-038-xxx

TOOL TIP

Use a Mill to Make Holes.

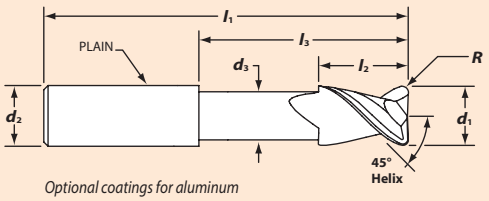
In most materials, helical plunging moves can save money when machining holes. Helical plunging moves eliminate the need for a tool change and the expense of buying many drills for a variety of hole diameters. All STREAKERS M2 Series end mills are center cutting and can run straight plunge (Z-axis) moves or helical interpolation tool paths.



Square End and Corner Radius w/Neck Relief

2-FLUTE

M202N permits clearance in deeper cavities and easier machining against tight walls. Neck relief and short flute length combine to increase end mill stability in the cut for more precise tolerances.



Optional coatings for aluminum machining (ZrN, TiCN, TiB2, DLC) are available by special order

in d_1 +0.000 / -0.002 d_2 h6

Coatings:
None (MG)

Model Code: M202N
2-Flute with Square End and Neck Relief

P

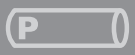
Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach LBS l3	Overall Length l1	Order Code	EZ-ID Number M202 - xxxx - xxxx - Nxxxx - SQ d1 l2 l3
1/4	1/4	3/8	1-1/8	2-1/2	32935	M202-0250-0375-N1125-SQ
			1-5/8	3	33016	M202-0250-0375-N1625-SQ
			2-1/4	4	33023	M202-0250-0375-N2250-SQ
3/8	3/8	1/2	1-1/8	2-1/2	32936	M202-0375-0500-N1125-SQ
			1-3/4	3	33018	M202-0375-0500-N1750-SQ
			2-1/4	4	33024	M202-0375-0500-N2250-SQ
1/2	1/2	5/8	1-3/8	3	32937	M202-0500-0625-N1375-SQ
			2-1/4	4	33019	M202-0500-0625-N2250-SQ
			2-3/8	5	33025	M202-0500-0625-N2375-SQ
			3-3/8	6	33032	M202-0500-0625-N3375-SQ
5/8	5/8	3/4	1-1/2	3-1/2	32938	M202-0625-0750-N1500-SQ
			2-1/4	5	33020	M202-0625-0750-N2250-SQ
			3-3/8	6	33026	M202-0625-0750-N3375-SQ
3/4	3/4	1	1-3/4	4	32939	M202-0750-1000-N1750-SQ
			2-1/4	5	33021	M202-0750-1000-N2250-SQ
			3-3/8	6	33027	M202-0750-1000-N3375-SQ
1	1	1-1/8	1-7/8	4	32940	M202-1000-1125-N1875-SQ
		1-1/4	2-1/4	5	33022	M202-1000-1250-N2250-SQ
			3-3/8	6	33028	M202-1000-1250-N3375-SQ
			4-3/8	7	33033	M202-1000-1250-N4375-SQ

Model Code: M202N
2-Flute with Square End and Neck Relief

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Order Code	EZ-ID Number M202 - xxx - xxx - Nxxx - SQ d1 l2 l3
6	6	8	20	57	32402	M202-060-008-N020-SQ
			40	75	37201	M202-060-008-N040-SQ
8	8	10	26	63	32404	M202-080-010-N026-SQ
10	10	12	31	72	32406	M202-100-012-N031-SQ
			50	100	33029	M202-100-012-N050-SQ
12	12	14	37	83	32408	M202-120-014-N037-SQ
			70	125	33030	M202-120-014-N070-SQ
16	16	18	41	92	32410	M202-160-018-N041-SQ
			90	150	33031	M202-160-018-N090-SQ
20	20	24	47	104	32412	M202-200-024-N047-SQ
			90	150	37228	M202-200-024-N090-SQ

Model Code: M202N
2-Flute with Corner Radius and Neck Relief



Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Order Code by Corner Radius (R) .015 CR	.030 CR	.060 CR	.090 CR	.125 CR	.156 CR	.190 CR	.250 CR	EZ-ID Number M202 - xxxx - xxxx - Nxxxx - xxx d1 l2 l3 R
1/4	1/4	3/8	1-1/8	2-1/2	34622	34623							M202-0250-0375-N1125-xxx
			1-5/8	3	34626	34627							M202-0250-0375-N1625-xxx
			2-1/4	4	34631	34633							M202-0250-0375-N2250-xxx
3/8	3/8	1/2	1-1/8	2-1/2	34634	34635	38194						M202-0375-0500-N1125-xxx
			1-3/4	3	34637	34638	38195						M202-0375-0500-N1750-xxx
			2-1/4	4	34639	34643	38196						M202-0375-0500-N2250-xxx
1/2	1/2	5/8	1-3/8	3	34644	34645	38197	38198	38199				M202-0500-0625-N1375-xxx
			2-1/4	4	34646	34647	38200	38201	38202				M202-0500-0625-N2250-xxx
			2-3/8	5	34649	34650	38203	38204	38205				M202-0500-0625-N2375-xxx
			3-3/8	6	34651	34652	38206	38207	38208				M202-0500-0625-N3375-xxx
5/8	5/8	3/4	1-1/2	3-1/2		34653	38209	38210	38211				M202-0625-0750-N1500-xxx
			2-1/4	5		34654	38212	38213	38214				M202-0625-0750-N2250-xxx
			3-3/8	6		34655	38215	38216	38217				M202-0625-0750-N3375-xxx
3/4	3/4	1	1-3/4	4		34657	38218	38219	38220	38221	38222		M202-0750-1000-N1750-xxx
			2-1/4	5		34658	38223	38224	38225	38226	38227		M202-0750-1000-N2250-xxx
			3-3/8	6		34659	38228	38229	38230	38231	38232		M202-0750-1000-N3375-xxx
1	1	1-1/8	1-7/8	4		34660	38233	38234	38235	38236	38237	38238	M202-1000-1125-N1875-xxx
		1-1/4	2-1/4	5		34661	38239	38240	38241	38242	38243	38245	M202-1000-1250-N2250-xxx
			3-3/8	6		34662	38246	38247	38248	38249	38250	38251	M202-1000-1250-N3375-xxx
			4-3/8	7		34663	38252	38253	38254	38255	38256	38257	M202-1000-1250-N4375-xxx

Model Code: M202N
2-Flute with Corner Radius and Neck Relief

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Reach/ LBS l3	Overall Length l1	Order Code by Corner Radius (R) 0,3 CR	0,5 CR	1,0 CR	EZ-ID Number M202 - xxx - xxx - Nxxx - xxx d1 l2 l3 R
6	6	8	20	57	37200			M202-060-008-N020-030
			40	75	37202			M202-060-008-N040-030
8	8	10	26	63		37212		M202-080-010-N026-050
10	10	12	31	72		37214		M202-100-012-N031-050
			50	100		37216		M202-100-012-N050-050
12	12	14	37	83			37218	M202-120-014-N037-100
			70	125			37220	M202-120-014-N070-100
16	16	18	41	92			37222	M202-160-018-N041-100
			90	150			37224	M202-160-018-N090-100
20	20	24	47	104			37226	M202-200-024-N047-100
			90	150			37230	M202-200-024-N090-100

Ball End

2 - FLUTE

The M202B ball end is excellent for contouring applications in a variety of materials. Based on the same high-performance design as the M202 series, but with a full end radius.

Model Code: M202B 2-Flute with Ball End

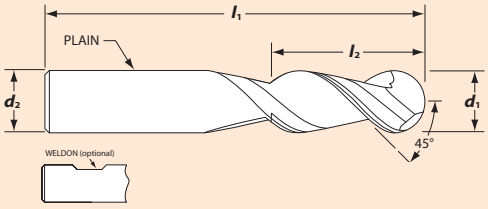
P W

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M202 - xxxx - xxxx - BN d1 l2
1/8	1/8	3/8	1-1/2	Plain	33446	M202-0125-0375-BN
3/16	3/16	9/16	2	Plain	33448	M202-0187-0562-BN
1/4	1/4	3/4	2-1/2	Plain	32980	M202-0250-0750-BN
		3/4	2-1/2	Weldon	32595	M202-0250-0750-BN-W
5/16	5/16	13/16	2-1/2	Plain	32981	M202-0312-0812-BN
		13/16	2-1/2	Weldon	32596	M202-0312-0812-BN-W
3/8	3/8	7/8	2-1/2	Weldon	32597	M202-0375-0875-BN-W
		1	2-1/2	Plain	32982	M202-0375-1000-BN
1/2	1/2	1-1/4	3	Plain	32983	M202-0500-1250-BN
		1-1/4	3-1/4	Weldon	32598	M202-0500-1250-BN-W
5/8	5/8	1-1/4	3-1/2	Weldon	32599	M202-0625-1250-BN-W
		1-5/8	3-1/2	Plain	32984	M202-0625-1625-BN
3/4	3/4	1-5/8	4	Plain	32985	M202-0750-1625-BN
		1-5/8	4	Weldon	32608	M202-0750-1625-BN-W

Model Code: M202B 2-Flute with Ball End

P

Cutter Dia d1	Shank Dia d2	Length of Cut l2	Overall Length l1	Shank Style	Order Code	EZ-ID Number M202 - xxx - xxx - BN d1 l2
6	6	16	57	Plain	62412	M202-060-016-BN
8	8	19	63	Plain	62413	M202-080-019-BN
10	10	22	72	Plain	62414	M202-100-022-BN
12	12	26	83	Plain	62416	M202-120-026-BN
16	16	32	92	Plain	62418	M202-160-032-BN
20	20	38	104	Plain	62420	M202-200-038-BN



Optional coatings for aluminum machining (ZrN, TiCN, TiB2, DLC) are available by special order

in d_1 +0.000 / -0.002 d_2 h6

Coatings:
None (MG)

PROFILE

Hardrocker Racing Team

Every year, the South Dakota School of Mines & Technology Hardrocker Racing Team designs and builds a Formula SAE racecar from scratch. Making over 2,000 parts – at least 500 of them major components – in just three months, they needed cutting tools they could count on. IMCO stepped up with everything they needed.

Team leader Jordan Krell said, "It was awesome. It was like Christmas." IMCO sent STREAKERS® M2, POW•R•FEED® M904 and enDURO® M525 end mills, along with IMCO FR10 routers and prototype tools for cutting carbon fiber.

"They all worked great," said Evan Hogland, the only team member with machining experience. Aside from body panels, the parts are mostly aluminum; each wheel is hogged from a 22 lb. work piece to just 1.2 lbs. finished. "We're still using that first STREAKERS tool. It's still in great shape."

"Power. Precision. Performance. That's what we do. This project is an excellent example of the application of all three."

– Matt Osburn, IMCO Vice President/Technical Director

Most components, like this wheel, are aluminum, all cut with a single STREAKERS M2 end mill.

The results

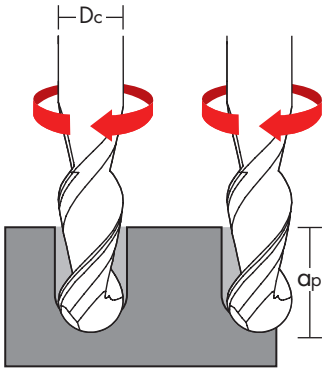
The Hardrocker Racing Team's work was impressive. Their student-built car took 11th place in design, 5th in autocross and 4th in skidpad, out of 120 teams.

IMCO's Matt Osburn (second from right), Application Support Team Leader Steve Avers (back, second from left) and the Hardrocker Racing Team surround the 2012 Formula SAE racecar built using IMCO tools.

STREAKERS Application Guide (inch) • Speed & Feed

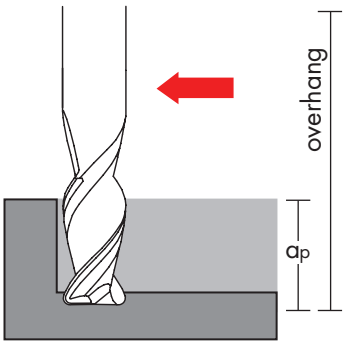
ISO Classification	Work Material	Type of Cut	Axial DOC	Radial DOC	Number of Flutes	Speed (SFM)	Feed (Inch per Tooth) 1/8	1/4	3/8	1/2	5/8	3/4	1
N	Aluminum Alloys 2024, 6061, 7075	Slotting	1 x D	1 x D	2	800	.0018	.0036	.0054	.0072	.0090	.0108	.0144
			.75 x D	1 x D	3	800	.0015	.0030	.0045	.0060	.0075	.0090	.0120
		Peripheral - Rough	1 x D	.75 x D	2	1000	.0025	.0050	.0075	.0100	.0125	.0150	.0200
					3	1000	.0020	.0040	.0060	.0080	.0100	.0120	.0160
		Peripheral - Finish	1.5 x D	.01 x D	2	1200	.0030	.0060	.0090	.0120	.0150	.0210	.0240
					3	1200	.0025	.0050	.0075	.0100	.0125	.0150	.0200
	High Silicon-Aluminum A380, A390	Slotting	.75 x D	1 x D	2	500	.0013	.0026	.0039	.0052	.0065	.0078	.0104
			.5 x D	1 x D	3	500	.0011	.0022	.0033	.0044	.0055	.0066	.0088
		Peripheral - Rough	1 x D	.5 x D	2	700	.0016	.0033	.0049	.0065	.0081	.0098	.0130
					3	700	.0014	.0028	.0041	.0055	.0069	.0083	.0110
		Peripheral - Finish	1.5 x D	.01 x D	2	900	.0020	.0041	.0061	.0082	.0102	.0122	.0163
					3	900	.0017	.0035	.0052	.0069	.0086	.0104	.0138
	Magnesium Alloys	Slotting	1 x D	1 x D	2	800	.0018	.0036	.0054	.0072	.0090	.0108	.0144
			.75 x D	1 x D	3	800	.0015	.0030	.0045	.0060	.0075	.0090	.0120
		Peripheral - Rough	1 x D	.75 x D	2	1000	.0025	.0050	.0075	.0100	.0125	.0150	.0200
					3	1000	.0020	.0040	.0060	.0080	.0100	.0120	.0160
		Peripheral - Finish	1.5 x D	.01 x D	2	1200	.0030	.0060	.0090	.0120	.0150	.0210	.0240
					3	1200	.0025	.0050	.0075	.0100	.0125	.0150	.0200
	Copper Alloys, Brass, Bronze	Slotting	.75 x D	1 x D	2	500	.0011	.0022	.0033	.0044	.0055	.0066	.0088
					3	500	.0009	.0018	.0027	.0036	.0045	.0054	.0072
		Peripheral - Rough	1 x D	.75 x D	2	575	.0011	.0022	.0033	.0044	.0055	.0066	.0088
					3	575	.0013	.0026	.0039	.0052	.0065	.0078	.0104
		Peripheral - Finish	1.5 x D	.01 x D	2	650	.0018	.0036	.0054	.0072	.0090	.0108	.0144
					3	650	.0015	.0030	.0045	.0060	.0075	.0090	.0120
	Composites, Plastics, Fiberglass	Slotting	1 x D	1 x D	2	500	.0013	.0026	.0039	.0052	.0065	.0078	.0104
					3	500	.0011	.0022	.0033	.0044	.0055	.0066	.0088
		Peripheral - Rough	1 x D	.75 x D	2	700	.0016	.0033	.0049	.0065	.0081	.0098	.0130
					3	700	.0014	.0028	.0041	.0055	.0069	.0083	.0110
		Peripheral - Finish	1.5 x D	.01 x D	2	900	.0020	.0041	.0061	.0082	.0102	.0122	.0163
					3	900	.0017	.0035	.0052	.0069	.0086	.0104	.0138

Adjustments – Apply these adjustments when programming the following applications.



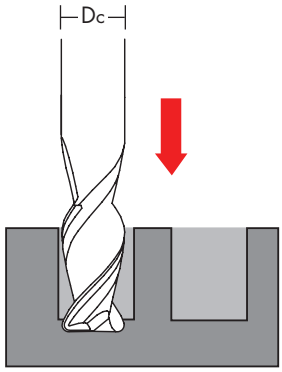
1. Ball-nose end mills

- Reduce chip load by 25% from roughing/slotting recommendation when axial DOC (ap) exceeds 75% of Dc



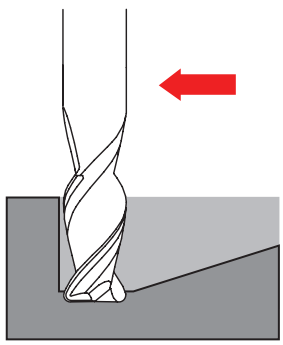
2. Long reach mills with large overhang

- Reduce speed rate and chip load by 10%



3. Plunge entry into work piece

- Reduce chip load by 80% of recommended slotting rate
- Peck mill if axial DOC (ap) exceeds 50% of Dc



4. Ramp entry into work piece

- Ramp at 1.5°–2.5° angle
- Reduce chip load by 20% of recommended slotting rate

STREAKERS Application Guide (metric) • Speed & Feed

ISO Classification	Work Material	Type of Cut	Axial DOC	Radial DOC	Number of Flutes	Speed (M/Min)	Feed (MM per Tooth) 3,0	6,0	10,0	12,0	16,0	20,0
N	Aluminum Alloys 2024, 6061, 7075	Slotting	1 x D	1 x D	2	244	0.0431	0.0862	0.1437	0.1724	0.2299	0.2873
			.75 x D	1 x D	3	244	0.0360	0.0720	0.1200	0.1440	0.1920	0.2400
		Peripheral - Rough	1 x D	.75 x D	2	305	0.0599	0.1198	0.1997	0.2396	0.3195	0.3993
					3	305	0.0480	0.0960	0.1600	0.1920	0.2560	0.3200
		Peripheral - Finish	1.5 x D	.01 x D	2	365	0.0719	0.1438	0.2397	0.2876	0.3835	0.4793
					3	365	0.0599	0.1198	0.1997	0.2396	0.3195	0.3993
	High Silicon-Aluminum A380, A390	Slotting	.75 x D	1 x D	2	153	0.0312	0.0624	0.1040	0.1248	0.1664	0.2080
			.5 x D	1 x D	3	153	0.0264	0.0528	0.0880	0.1056	0.1408	0.1760
		Peripheral - Rough	1 x D	.5 x D	2	213	0.0383	0.0766	0.1277	0.1532	0.2043	0.2553
					3	213	0.0335	0.0670	0.1117	0.1340	0.1787	0.2233
		Peripheral - Finish	1.5 x D	.01 x D	2	274	0.0480	0.0960	0.1600	0.1920	0.2560	0.3200
					3	274	0.0408	0.0816	0.1360	0.1632	0.2176	0.2720
	Magnesium Alloys	Slotting	1 x D	1 x D	2	244	0.0431	0.0862	0.1437	0.1724	0.2299	0.2873
			.75 x D	1 x D	3	244	0.0360	0.0720	0.1200	0.1440	0.1920	0.2400
		Peripheral - Rough	1 x D	.75 x D	2	305	0.0599	0.1198	0.1997	0.2396	0.3195	0.3993
					3	305	0.0480	0.0960	0.1600	0.1920	0.2560	0.3200
		Peripheral - Finish	1.5 x D	.01 x D	2	365	0.0719	0.1438	0.2397	0.2876	0.3835	0.4793
					3	365	0.0599	0.1198	0.1997	0.2396	0.3195	0.3993
	Copper Alloys, Brass, Bronze	Slotting	.75 x D	1 x D	2	153	0.0239	0.0478	0.0797	0.0956	0.1275	0.1593
					3	153	0.0216	0.0432	0.0720	0.0864	0.1152	0.1440
		Peripheral - Rough	1 x D	.75 x D	2	175	0.0264	0.0528	0.0880	0.1056	0.1408	0.1760
					3	175	0.0312	0.0624	0.1040	0.1248	0.1664	0.2080
		Peripheral - Finish	1.5 x D	.01 x D	2	198	0.0431	0.0862	0.1437	0.1724	0.2299	0.2873
					3	198	0.0360	0.0720	0.1200	0.1440	0.1920	0.2400
	Composites, Plastics, Fiberglass	Slotting	1 x D	1 x D	2	153	0.0312	0.0624	0.1040	0.1248	0.1664	0.2080
					3	153	0.0264	0.0528	0.0880	0.1056	0.1408	0.1760
		Peripheral - Rough	1 x D	.75 x D	2	213	0.0383	0.0766	0.1277	0.1532	0.2043	0.2553
					3	213	0.0335	0.0670	0.1117	0.1340	0.1787	0.2233
		Peripheral - Finish	1.5 x D	.01 x D	2	274	0.0480	0.0960	0.1600	0.1920	0.2560	0.3200
					3	274	0.0408	0.0816	0.1360	0.1632	0.2176	0.2720

Adjustments – Apply these adjustments when programming a light radial stepover.

When using a light radial stepover, the chipload-per-tooth thickness (CLPT) becomes thinner when radial depth (RDOC) is less than half the diameter (D) of the end mill (see illustration).

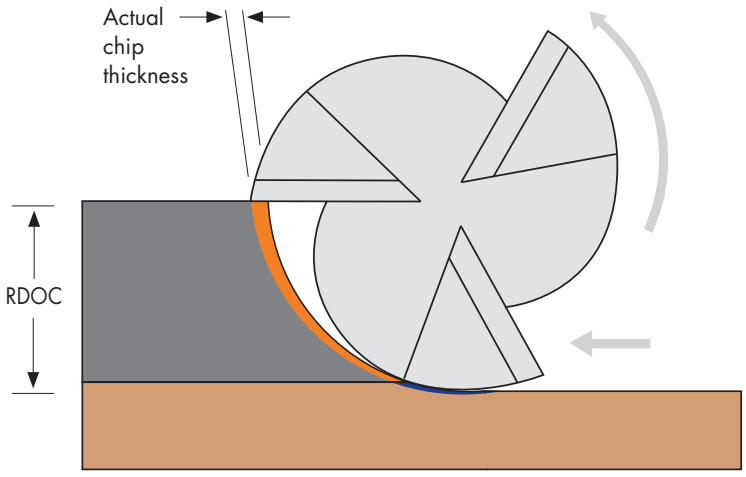
Use this **radial chip thinning formula** to calculate the adjusted feed per tooth (FPT) necessary to maintain the optimal chip thickness.

$$FPT_{adj} = \frac{CLPT \times (D/2)}{\sqrt{(D \times RDOC) - RDOC^2}}$$

TRADITIONAL MACHINING

Deeper cut – Up to 1/2 the diameter of the end mill

Shallow cut – Chip is much thinner



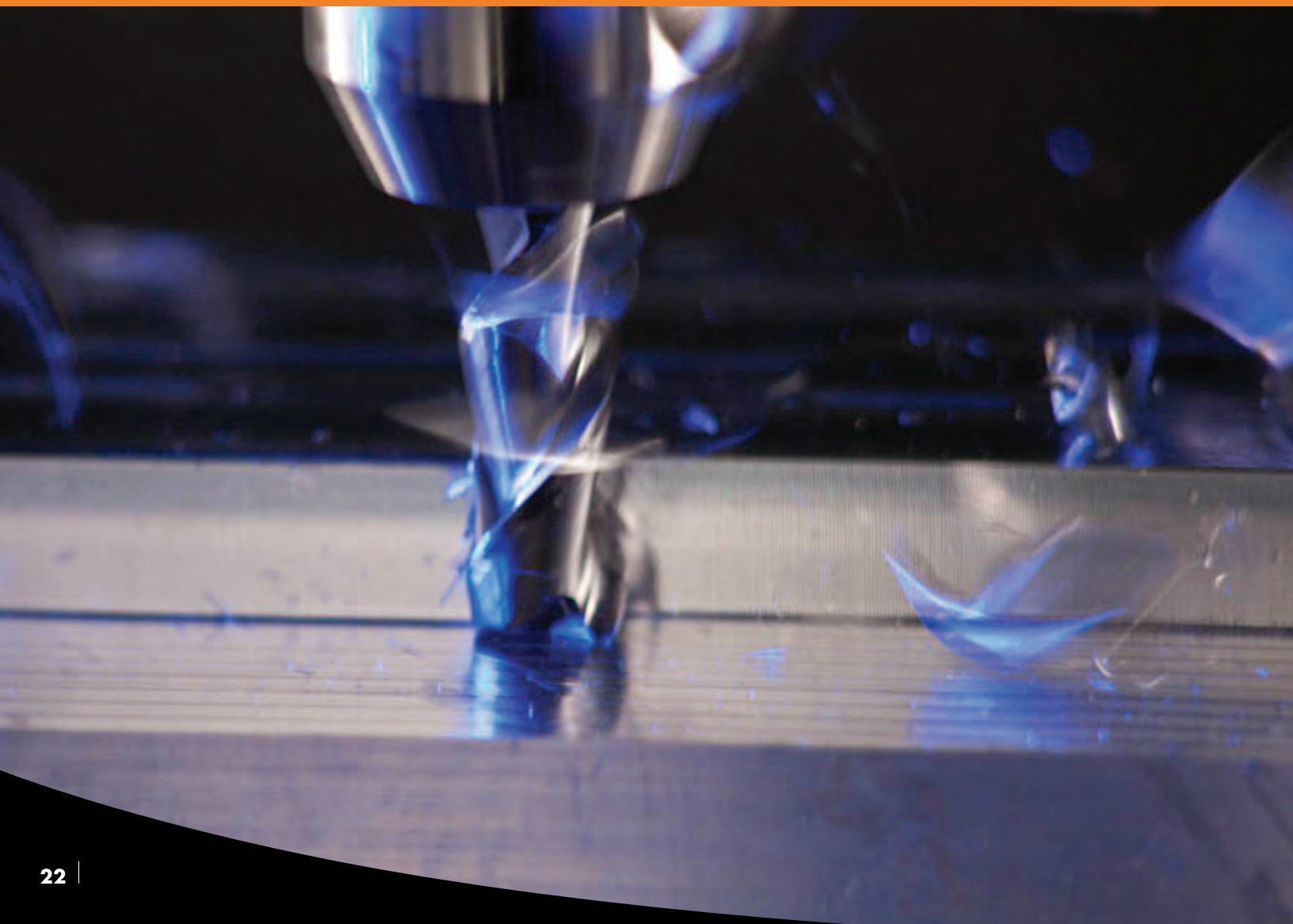
Apply formula when taking shallow cuts to reach optimum chipload

Streaking Through Aluminum.

The unique design of STREAKERS® M2 series end mills allows taking heavy chip loads without packing up the flutes. The result? High output can be achieved on smaller machines as well as machines equipped with high-speed spindles. Keep the chip load within the horsepower limits of the machine and watch the aluminum chips fly.

Factor: CURL

The goal is to create chips with consistent size and shape, easily evacuated, with a smooth curl like a 6 or 9. Choosing the right tool with the right number of flutes, the right flute shape and the right hot hardness is critical.



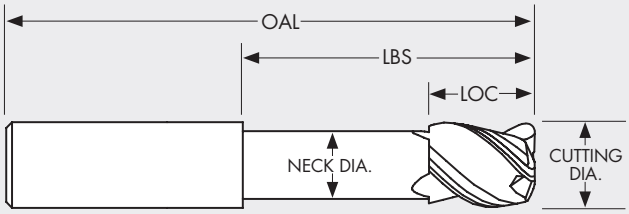
EZ-ID

How to build the EZ-ID code

IMCO's smart coding system saves you time locating part numbers. Just use the specifics of the tool you need, "plug" them into the coding system, and you're there!

How EZ-ID works.

Each EZ-ID part number actually describes the tool itself. It starts with general information (type of tool and tool family) and gets more specific as you go.



Building the EZ-ID code, step by step.

Insert the numbers in the segments as indicated here. If a certain segment doesn't apply (neck dimension, nonstandard length or special shank), just skip it. Separate the segments with hyphens.

1 **Enter the model number.**
For example, the model number for a 3-Flute STREAKERS end mill would be M203.

2 Enter the **tool diameter** (always to three decimal places). Include the leading zero for diameters less than 1 in. or 10 mm.

3 Enter the **length of cut (LOC).** Include the leading zero for an LOC less than 1 in. or 10mm.

4 Enter the **length below shank (LBS) or reach**. Include the leading zero for an LBS less than 1 in. or 100mm. Indicate that this is a neck dimension by placing an N before the number. (If the tool has no neck, you can skip this segment altogether.)

5 Enter the **end/corner** type or size. Include the leading zero for corner radii less than 1 in. or 1 mm. For any other end/corner type, just indicate the type: SQ = square end, BN = ball nose, CC = corner chamfer.

6 If the **overall length** you need is not the standard length for the combination of tool diameter, LOC and LBS, then enter the overall length **(OAL)** here. Indicate that this is an overall length by placing an L before the number. If you do not specify an overall length, we will assume it is standard length.

7 Enter the code for the **type of shank** you need (W = Weldon flat, WN = whistle notch, P = plain). If you do not specify a shank style, we will assume it is a plain shank.

	1 MODEL	2 TOOL DIAMETER	3 LENGTH OF CUT (LOC)	4 LENGTH BELOW SHANK (LBS)	5 END	6 OVERALL LENGTH	7 SHANK
INCH	M202	–0375	–0500	– N1125	–030	– L25	– W
METRIC	M203	– 060	– 008	– N020	–050	–L075	– W

Segments highlighted in white may be omitted.

Put aluminum in its place.

See a video of STREAKERS® M2 Series end mills in action at:

www.imcousa.com/content/videos

Test STREAKERS M2 Series tools for yourself. To order, or for more information:

In USA call **1-800-765-4626**

International **419-661-6313**

Fax **419-661-6314** (Made in U.S.A.)

Visit **www.imcousa.com** by scanning this code with a QR code reader.

IMCO

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05-2014