

5PC VARIABLE HELIX CARBIDE END MILL SET

- 4 Flute
- Small corner radius for added strength and smoother cutting action
- AlTiN coated for improved tool life and increased production output

Set Includes:

Cutting Dia. (in.)	With Radius Code No.	Price \$
3/16	153-002	13.80
1/4	153-006	19.00
5/16	153-012	26.40
3/8	153-018	27.10
1/2	153-027	49.60



NEW

**CODE:
153-005**

\$139.90

Variable Helix Carbide End Mills

4 Flute Variable Helix Carbide End Mill - Typhoon

- Helix changes along flutes
- Increased stability during cutting action
- Substantial increase in speed
- Small corner radius for added strength and smoother cutting action
- AlTiN coated for improved tool life and increased production output
- Made from premium submicron grain carbide



Cutting Dia. (in.)	Shank Dia. (in.)	Flute Length (in.)	Overall Length (in.)	Corner Radius	With Radius Code No.	Price \$
1/8	1/8	1/2	1-1/2	.010-.015	153-000	11.20
3/16	3/16	3/8	1-1/2	.010-.015	153-001	13.80
3/16	3/16	5/8	2	.015-.020	153-002	13.80
1/4	1/4	3/4	2-1/2	.015-.020	153-006	19.00
5/16	5/16	13/16	2-1/2	.015-.020	153-012	26.40
3/8	3/8	5/8	2	.015-.020	153-016	27.60
3/8	3/8	1	2-1/2	.015-.020	153-018	27.10
1/2	1/2	1-1/4	3	.025-.030	153-027	49.60

Speeds & Feeds 4 Flute Variable Helix End Mills

Material	SFM	1/8"	1/4"	1/2"	1"
Aluminum Alloys	1120	0.0010	0.0020	0.0040	0.0080
Carbon Steel	300-600	0.0010	0.0015	0.0030	0.0060
Cast Iron	350-550	0.0010	0.0015	0.0030	0.0060
Copper Alloys	500-900	0.0010	0.0020	0.0030	0.0060
Steel - Annealed	350-500	0.0010	0.0020	0.0030	0.0050
Steel - Rc 18-24	150-500	0.0004	0.0008	0.0015	0.0045
Steel - Rc 25-37	125-200	0.0003	0.0005	0.0010	0.0030
Stainless Steel - Free Machining	250-400	0.0005	0.0010	0.0020	0.0030
Stainless Steel - Other	150-300	0.0005	0.0010	0.0020	0.0030
Inconel/Monel	60-100	0.0005	0.0010	0.0015	0.0030
Titanium	175-300	0.0005	0.0008	0.0015	0.0030

* All speeds and feeds are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc.

2 Flute Regular Length Carbide End Mills

A general purpose carbide end mill with maximum chip clearance added.

For: End milling Slotting Sinking

On: Variety of Steels, Cast Iron

Non-Ferrous metals, Plastics, Abrasive type materials



103-846

Inch

Cutting Dia.	Shank Dia.	Flute Length	Overall Length	Bright Code No.	Price \$	TiAlN Code No.	Price \$
1/32	1/8	1/8	1-1/2	103-770	7.70	102-677	10.10
3/64	1/8	9/64	1-1/2	103-772	5.50	102-799	10.60
1/16	1/8	3/16	1-1/2	103-848	5.00	102-800	7.90
5/64	1/8	1/4	1-1/2	103-773	5.00	102-801	9.60
3/32	1/8	5/16	1-1/2	103-849	5.00	102-802	7.90
7/64	1/8	3/8	1-1/2	103-775	5.00	102-803	9.60
1/8	1/8	1/2	1-1/2	103-850	5.00	102-804	7.70
9/64	3/16	1/2	2	103-776	6.20	102-805	9.60
5/32	3/16	9/16	2	103-851	6.20	102-806	14.90
11/64	3/16	9/16	2	103-777	6.90	102-807	14.90
3/16	3/16	5/8	2	103-852	6.90	102-808	9.40
13/64	1/4	5/8	2-1/2	103-778	8.70	102-809	19.60
7/32	1/4	5/8	2-1/2	103-853	8.70	102-811	17.20
1/4	1/4	3/4	2-1/2	103-854	8.70	102-810	10.90
9/32	5/16	3/4	2-1/2	103-855	11.30	102-813	22.50
5/16	5/16	13/16	2-1/2	103-856	11.30	102-812	15.70
11/32	3/8	7/8	2-1/2	103-779	14.20	102-815	29.10
3/8	3/8	1	2-1/2	103-857	14.20	102-814	18.70
13/32	7/16	1	2-3/4	103-780	21.70	102-817	39.50
7/16	7/16	1	2-3/4	103-858	21.70	102-816	25.60
1/2	1/2	1	3	103-859	26.20	102-818	31.10
9/16	9/16	1-1/8	3-1/2	103-886	37.70	102-820	42.70
5/8	5/8	1-1/4	3-1/2	103-887	47.00	102-822	48.80
11/16	3/4	1-3/8	4	103-888	66.30	102-824	66.40
3/4	3/4	1-1/2	4	103-889	66.40	102-826	74.50
7/8	7/8	1-1/2	4	103-890	93.10	102-828	101.90
1	1	1-1/2	4	103-891	106.60	102-830	115.80

Sets

Style	Range	Pieces Per Set	Code No.	Price \$
Bright	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	6	103-846	173.80
TiAlN Coated	3/16", 1/4", 5/16", 3/8", 1/2"	5	102-957	85.50

2 Flute Long Length Carbide End Mills

Long Length End mills combine added flute and overall length for greater reach when deep slotting or milling. These end mills have the capability to mill much thicker material in a single pass, thereby eliminating the interrupted cut that may be present with regular length end mills.



Inch

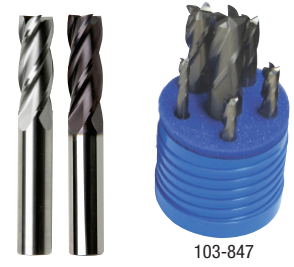
Cutting Dia.	Shank Dia.	Flute Length	Overall Length	Bright Code No.	Price \$	TiAlN Code No.	Price \$
1/8	1/8	3/4	2-1/4	102-961	7.90	102-902	9.80
3/16	3/16	3/4	2-1/4	102-962	8.90	102-904	10.70
1/4	1/4	1-1/8	3	102-963	10.80	102-906	12.70
5/16	5/16	1-1/8	3	102-964	15.50	102-908	16.70
3/8	3/8	1-1/8	3	102-965	19.40	102-910	22.30
7/16	7/16	2	4	102-966	36.30	102-912	33.70
1/2	1/2	2	4	102-967	38.10	102-914	38.70
5/8	5/8	2-1/4	5	102-968	71.60	102-916	70.10
3/4	3/4	2-1/4	5	102-969	92.70	102-918	92.00
1	1	2-1/4	5	102-970	185.70	102-920	174.90

4 Flute Regular Length Carbide End Mills

The industry standard. Wear resistance and minimal deflection for excellent size control.

For: Slotting, Production milling, Profiling

On: Variety of Steels



103-847

Inch

Cutting Dia.	Shank Dia.	Flute Length	Overall Length	Bright Code No.	Price \$	TiAlN Code No.	Price \$
1/32	1/8	1/8	1-1/2	103-781	7.70	102-899	10.10
3/64	1/8	9/64	1-1/2	103-782	5.50	102-831	10.60
1/16	1/8	3/16	1-1/2	103-870	5.00	102-832	7.90
5/64	1/8	1/4	1-1/2	103-783	4.90	102-833	9.60
3/32	1/8	5/16	1-1/2	103-871	5.00	102-834	7.90
7/64	1/8	3/8	1-1/2	103-784	5.00	102-835	9.60
1/8	1/8	1/2	1-1/2	103-860	5.00	102-836	7.70
9/64	3/16	1/2	2	103-785	6.20	102-837	9.60
5/32	3/16	9/16	2	103-861	6.20	102-839	14.90
11/64	3/16	9/16	2	103-786	6.90	102-841	15.00
3/16	3/16	5/8	2	103-862	6.90	102-838	9.40
13/64	1/4	5/8	2-1/2	103-787	8.70	102-843	19.60
7/32	1/4	5/8	2-1/2	103-863	8.70	102-845	18.10
1/4	1/4	3/4	2-1/2	103-864	8.70	102-840	10.90
9/32	5/16	3/4	2-1/2	103-865	11.30	102-847	22.50
5/16	5/16	13/16	2-1/2	103-866	11.30	102-842	15.70
11/32	3/8	7/8	2-1/2	103-789	14.20	102-849	29.10
3/8	3/8	1	2-1/2	103-867	14.20	102-844	18.70
13/32	7/16	1	2-3/4	103-790	21.70	102-851	39.50
7/16	7/16	1	2-3/4	103-868	21.70	102-846	25.60
1/2	1/2	1	3	103-869	26.20	102-848	31.10
9/16	9/16	1-1/8	3-1/2	103-933	37.70	102-850	42.70
5/8	5/8	1-1/4	3-1/2	103-934	47.00	102-852	48.80
11/16	3/4	1-3/8	4	103-935	66.30	102-854	69.80
3/4	3/4	1-1/2	4	103-936	66.30	102-856	74.50
7/8	7/8	1-1/2	4	103-937	93.10	102-858	101.90
1	1	1-1/2	4	103-938	106.60	102-860	115.80

Sets

Style	Range	Pieces Per Set	Code No.	Price \$
Bright	1/4", 5/16", 3/8", 1/2", 5/8", 3/4"	6	103-847	173.70
TiAlN Coated	3/16", 1/4", 5/16", 3/8", 1/2"	5	102-959	85.70

4 Flute Long Length Carbide End Mills

Long Length End Mills combine added flute and overall length for greater reach when deep slotting or milling. These end Mills have the capability to mill thicker material in one pass, eliminating the interrupted cut that may be present with regular length end Mills.



Inch

Cutting Dia.	Shank Dia.	Flute Length	Overall Length	Bright Code No.	Price \$	TiAlN Code No.	Price \$
1/8	1/8	3/4	2-1/4	102-981	7.90	102-922	9.80
3/16	3/16	3/4	2-1/4	102-982	8.90	102-924	10.60
1/4	1/4	1-1/8	3	102-983	10.80	102-926	12.70
5/16	5/16	1-1/8	3	102-984	15.50	102-928	20.00
3/8	3/8	1-1/8	3	102-985	19.40	102-930	22.30
7/16	7/16	2	4	102-986	32.20	102-932	33.70
1/2	1/2	2	4	102-987	38.10	102-934	38.70
5/8	5/8	2-1/4	5	102-988	97.50	102-936	70.10
3/4	3/4	2-1/4	5	102-989	92.70	102-938	96.60
1	1	2-1/4	5	102-990	185.70	102-940	174.90

Pricing valid while quantities last or until further notice.



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