HARDCUT
Mill-Thread Solid Carbide for machining hard materials

MTSH Type

Carmex is a pioneer in offering solid carbide thread mills tools designed specifically for the machining of hardened materials up to 62HRc. These tools provide high performance, improved cut and an excellent surface finish.

HARDCUT MTSH & MTH Types

Carbide grade: MT9 / MT11 - *Ultra fine sub-micron grade with Advanced PVD Triple Coating*

MTH Type

Carmex provide new innovative mill thread solid carbide tools for machining:

- Hardened steels and cast iron up to 62 HRc.
- High temperature alloys.
- Titanium alloys.
- Super Alloys (Hastelloy, Inconel, Nickel Base Alloys).
- Threading from ISO M1.4 x 0.3 and 0-80UN
- Perfect solution for the Die and Mold industry
- Working at high cutting speeds
- Short machining time
- Low cutting forces thanks to the short profile

Advantages

- Same tool performs thread milling and chamfering - saves machining time.
- Increased cutting diameter - better rigidity and stability.
- Coating provides high wear and heat resistance.
- Ultra fine grade - designed for hardened materials.
- Short chips are produced, ensuring high process security.
  Short cycle time - increases productivity.
- Thread length up to 2xD.
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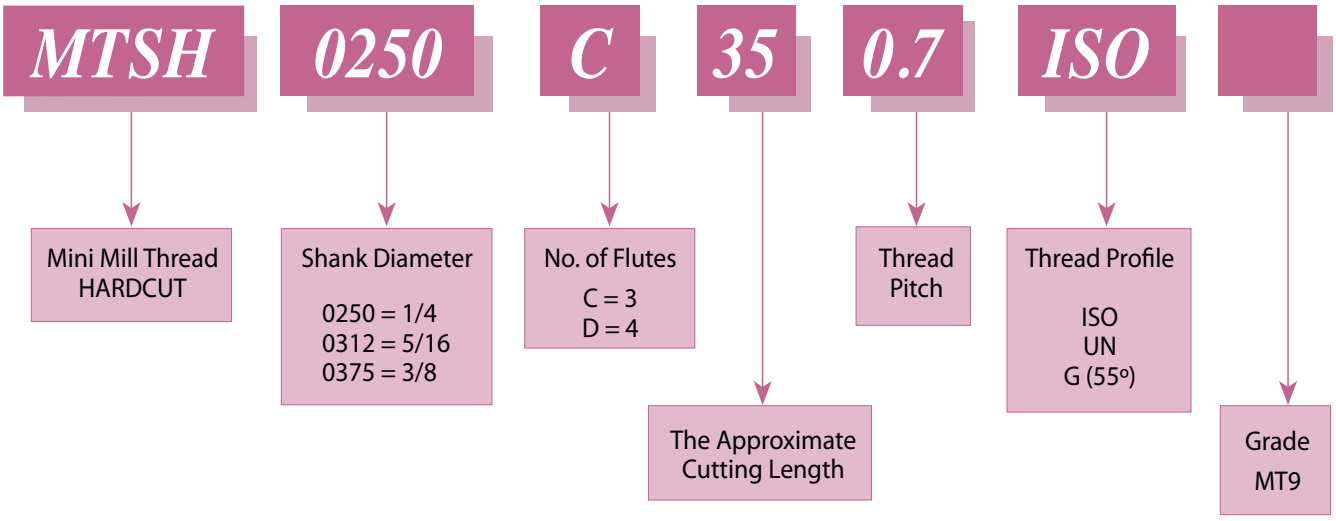
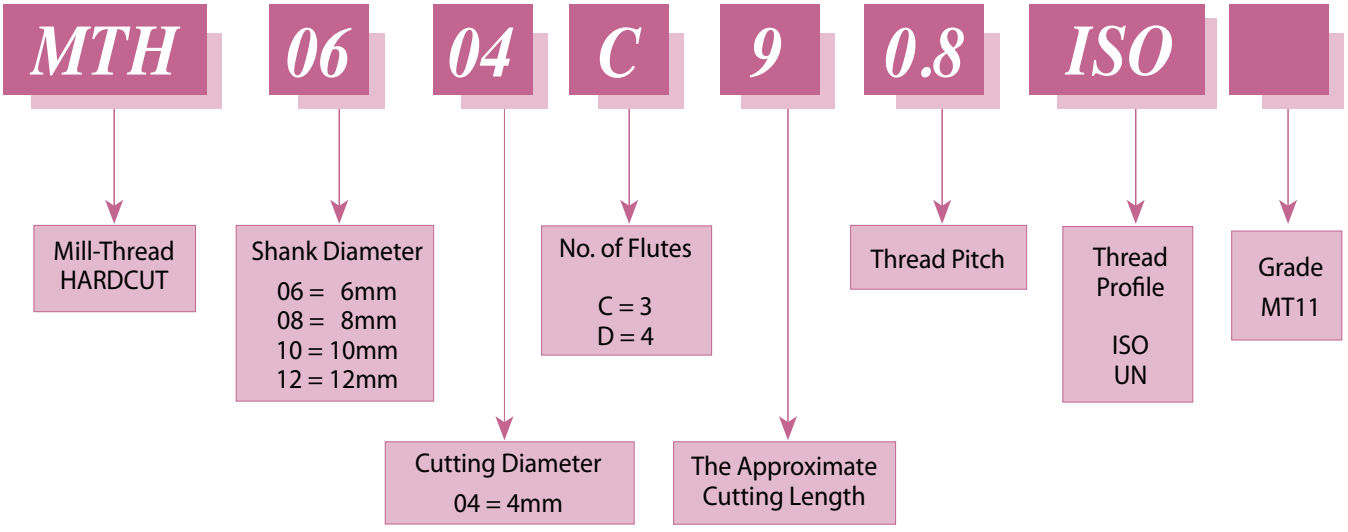
Product Identification

Mini Mill-Thread MTSH Type Ordering Codes

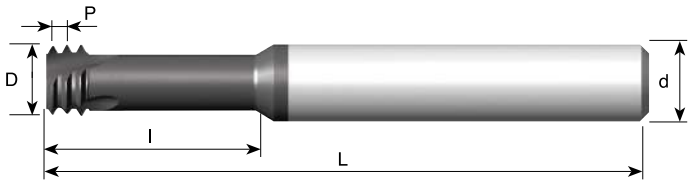


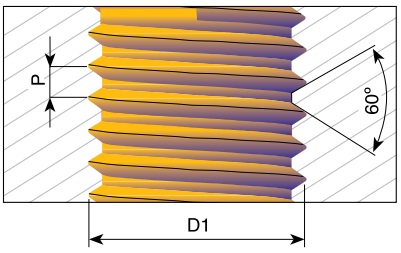
MTH Type Ordering Codes



ISO

Tools for Internal Thread





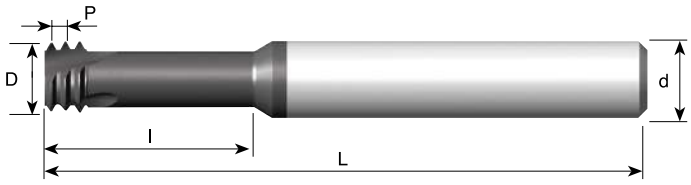
Left hand cutting
For CNC code use M04

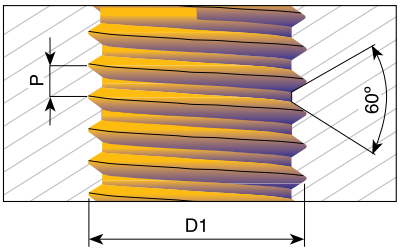
Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	l	L	Thread depth
0.3	M1.4		MTSH03011C4 0.3 ISO	3 mm	.041	3	.16	1.5	3xD
0.35	M1.6	M2	MTSH03012C5 0.35 ISO	3 mm	.047	3	.19	1.5	3xD
0.4	M2		MTSH0250C18 0.4 ISO	1/4	.060	3	.18	2.5	2xD
0.4	M2		MTSH03016C6 0.4 ISO	3 mm	.060	3	.24	1.5	3xD
0.45	M2.2		MTSH0250C20 0.45 ISO	1/4	.065	3	.20	2.5	2xD
0.45	M2.2		MTSH06017C7 0.45 ISO	6 mm	.065	3	.28	2.3	3xD
0.45	M2.5		MTSH0250C22 0.45 ISO	1/4	.077	3	.22	2.5	2xD
0.45	M2.5		MTSH0250C30 0.45 ISO	1/4	.077	3	.30	2.5	3xD
0.5	M3	M4, M5	MTSH0250C26 0.5 ISO	1/4	.093	3	.26	2.5	2xD
0.5	M3	M4, M5	MTSH0250C37 0.5 ISO	1/4	.093	3	.37	2.5	3xD
0.6	M3.5		MTSH0250C30 0.6 ISO	1/4	.108	3	.30	2.5	2xD
0.6	M3.5		MTSH06028C10 0.6 ISO	6 mm	.108	3	.41	2.3	3xD
0.7	M4		MTSH0250C35 0.7 ISO	1/4	.122	3	.35	2.5	2xD
0.7	M4		MTSH0250C49 0.7 ISO	1/4	.122	3	.49	2.5	3xD
0.8	M5		MTSH0250C49 0.8 ISO	1/4	.150	3	.49	2.5	2xD
0.8	M5		MTSH0250C63 0.8 ISO	1/4	.150	3	.63	2.5	3xD
1.0	M6	M8	MTSH0250C55 1.0 ISO	1/4	.183	3	.55	2.5	2xD
1.0	M6	M8	MTSH0250C79 1.0 ISO	1/4	.183	3	.79	2.5	3xD
1.25	M8	M10, M12	MTSH0250C71 1.25 ISO	1/4	.236	3	.71	2.5	2xD
1.25	M8	M10, M12	MTSH0250C94 1.25 ISO	1/4	.236	3	.94	2.5	3xD
1.5	M10	M14, M16	MTSH0312C91 1.5 ISO	5/16	.307	3	.91	2.5	2xD
1.75	M12		MTSH0375C10 1.75 ISO	3/8	.354	3	1.02	3.0	2xD
2.0	M16	M18, M20	MTSH12118D35 2.0 ISO	12 mm	.465	4	1.38	3.3	2xD

Order example: MTSH 0250C35 0.7 ISO MT9

UN

Tools for Internal Thread





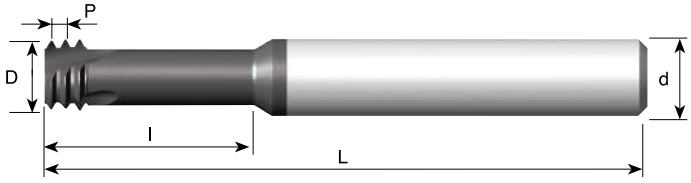
Left hand cutting
For CNC code use M04

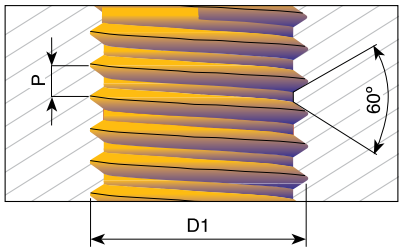
Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	l	L	Thread depth
80		0	MTSH0250C16 80 UN	1/4	.045	3	.16	2.5	3xD1
72		1	MTSH0250C15 72 UN	1/4	.057	3	.15	2.5	2xD1
72		1	MTSH03015C6 72 UN	3 mm	.057	3	.24	1.5	3xD1
64	1	2	MTSH0250C15 64 UN	1/4	.055	3	.15	2.5	2xD1
56	2	3	MTSH0250C17 56 UN	1/4	.065	3	.17	2.5	2xD1
56	2	3	MTSH06016C6 56 UN	6 mm	.065	3	.26	2.3	3xD1
48	3	4	MTSH0250C20 48 UN	1/4	.075	3	.20	2.5	2xD1
40	4		MTSH0250C25 40 UN	1/4	.083	3	.25	2.5	2xD1
40	4		MTSH06021C8 40 UN	6 mm	.083	3	.31	2.3	3xD1
40	5	6	MTSH0250C28 40 UN	1/4	.096	3	.28	2.5	2xD1
40	5	6	MTSH0250C38 40 UN	1/4	.096	3	.38	2.5	3xD1
36		8	MTSH0250C35 36 UN	1/4	.130	3	.35	2.5	2xD1
32	6		MTSH0250C28 32 UN	1/4	.100	3	.28	2.5	2xD1
32	6		MTSH06025C10 32 UN	6 mm	.100	3	.41	2.5	3xD1
32	8		MTSH0250C37 32 UN	1/4	.126	3	.37	2.5	2xD1
32	8		MTSH0250C49 32 UN	1/4	.126	3	.49	2.5	3xD1
32		10	MTSH0250C41 32 UN	1/4	.146	3	.41	2.5	2xD1
32		10	MTSH0250C59 32 UN	1/4	.146	3	.59	2.5	3xD1
28		12	MTSH0250C43 28 UN	1/4	.165	3	.43	2.3	2xD1
28		1/4	MTSH0250C57 28 UN	1/4	.197	3	.57	2.5	2xD1
28		1/4	MTSH0250C75 28 UN	1/4	.197	3	.75	2.5	3xD1
24	10, 12		MTSH0250C42 24 UN	1/4	.138	3	.42	2.5	2xD1
24		5/16, 3/8	MTSH0312C67 24 UN	5/16	.260	3	.67	2.5	2xD1
24		5/16, 3/8	MTSH0312C94 24 UN	5/16	.260	3	.94	2.5	3xD1
20	1/4		MTSH0250C55 20 UN	1/4	.187	3	.55	2.5	2xD1
20	1/4		MTSH0250C75 20 UN	1/4	.187	3	.75	2.5	3xD1
20		7/16	MTSH0808C25 20 UN	8 mm	.315	3	.98	2.5	2xD1
18	5/16		MTSH0250C67 18 UN	1/4	.236	3	.67	2.5	2xD1
18	5/16		MTSH0250C91 18 UN	1/4	.236	3	.91	2.5	3xD1
18		5/8	MTSH1212D35 18 UN	12 mm	.472	4	1.38	3.3	2xD1
16	3/8		MTSH0312C87 16 UN	5/16	.264	3	.87	2.5	2xD1
14	7/16		MTSH0312C98 14 UN	5/16	.303	3	.98	2.5	2xD1
13	1/2		MTSH0375C10 13 UN	3/8	.362	3	1.08	3.0	2xD1
12	9/16		MTSH12105C31 12 UN	12 mm	.413	3	1.24	3.3	2xD1
11	5/8		MTSH12114C34 11 UN	12 mm	.449	3	1.36	3.3	2xD1
10	3/4		MTSH16144D41 10 UN	16 mm	.567	4	1.63	4.1	2xD1

Order example: MTSH 0250C28 40 UN MT9

G 55° BSP

Same Tool for Internal and External Thread





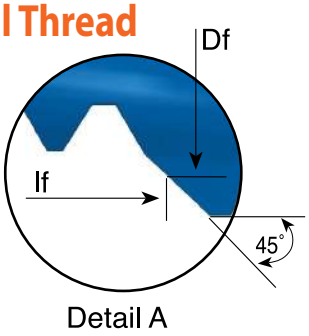
Left hand cutting
For CNC code use M04

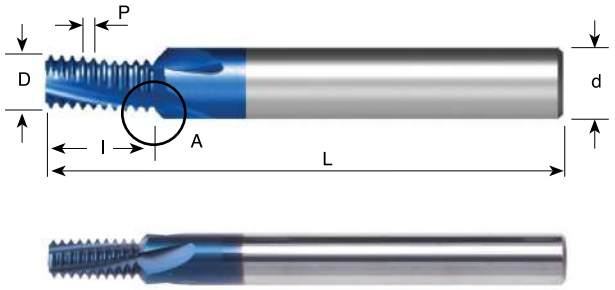
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	l	L	Thread depth
28	G1/8	**MTSH08078 C19 28W**	8	.307	3	.77	2.5	2xD1
19	G1/4-3/8	**MTSH1010 D30 19W**	10	.394	4	1.18	2.9	2xD1
14	G1/2-7/8	**MTSH1212 D37 14W**	12	.472	4	1.46	3.3	2xD1
11	G≥1	**MTSH1616 D44 11W**	16	.630	4	1.73	4.1	2xD1

Order example: MTSH 1010D30 19 W MT9

ISO

Tools for Internal Thread Metric Shanks



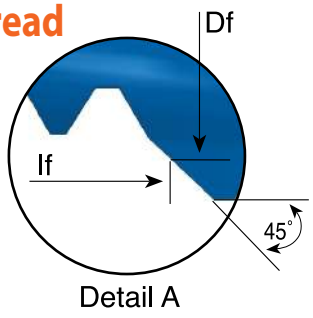


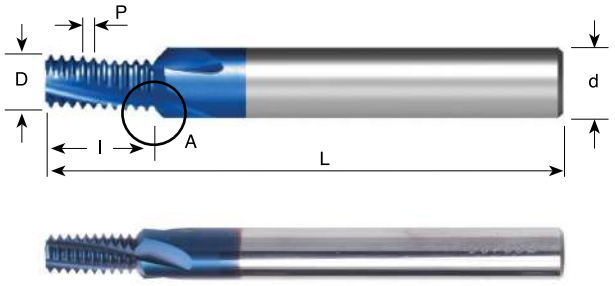
Pitch mm	M coarse	M fine	Ordering Code	d mm	D	Df	No. of Flutes	I	If	L
0.5	M3	Ø ≥ 4	MTH06024C5 0.5 ISO	6	.094	.142	3	.209	.232	2.3
0.7	M4	Ø ≥ 5	MTH06031C7 0.7 ISO	6	.122	.169	3	.291	.315	2.3
0.8	M5	Ø ≥ 6	MTH0604C9 0.8 ISO	6	.157	.205	3	.362	.386	2.3
1.0	M6	Ø ≥ 7	MTH08048D10 1.0 ISO	8	.189	.252	4	.413	.445	2.5
1.0		Ø ≥ 9	MTH0806D13 1.0 ISO	8	.236	.299	4	.531	.563	2.5
1.0		Ø ≥ 10	MTH1008D16 1.0 ISO	10	.315	.378	4	.650	.681	2.9
1.25	M8	Ø ≥ 10	MTH0806D14 1.25 ISO	8	.236	.299	4	.567	.598	2.5
1.5	M10	Ø ≥ 12	MTH1008D17 1.5 ISO	10	.315	.386	4	.681	.717	2.9
1.5		Ø ≥ 14	MTH1210D21 1.5 ISO	12	.394	.465	4	.858	.894	3.3
1.75	M12	Ø ≥ 12	MTH12095D20 1.75 ISO	12	.374	.453	4	.791	.831	3.3

Order example: MTH08048D10 1.0 ISO MT11

UN

Tools for Internal Thread Metric Shanks





Pitch TPI	UNC	UNF	UNEF	Ordering Code	d mm	D	Df	No. of Flutes	I	If	L
40	5	6		MTH06025C6 40 UN	6	.098	.146	3	.236	.260	2.3
32	6			MTH06026C5 32 UN	6	.102	.150	3	.232	.256	2.3
32	8			MTH06032C7 32 UN	6	.126	.173	3	.295	.319	2.3
32		10	12	MTH06038C9 32 UN	6	.150	.197	3	.358	.382	2.3
28		1/4		MTH08052D11 28 UN	8	.205	.268	4	.445	.476	2.5
28			7/16, 1/2	MTH12096D20 28 UN	12	.378	.441	4	.803	.835	3.3
24		5/16, 3/8	9/16, 5/8, 11/16	MTH08066D14 24 UN	8	.260	.315	4	.563	.591	2.5
20	1/4			MTH06048C12 20 UN	6	.189	.236	3	.476	.500	2.3
20		7/16, 1/2	3/4, 1	MTH12092D21 20 UN	12	.362	.425	4	.827	.858	3.3
18	5/16	9/16, 5/8	11/16	MTH08057C14 18 UN	8	.224	.295	3	.583	.618	2.5
16	3/8	3/4		MTH10074C16 16 UN	10	.291	.362	3	.657	.693	2.9
14	7/16	7/8		MTH10085D20 14 UN	10	.335	.390	4	.823	.850	2.9
13	1/2			MTH12094D22 13 UN	12	.370	.449	4	.886	.925	3.3

Order example: MTH06048C12 20 UN MT11