

■ Hand Taps

Features/Benefits:

- the most popular style of tap
- manufactured from select high-speed steel for increased wear life
- straight flute design
- can be used by hand or for tapping under power
- versatile taps for use in general machine tapping or CNC tapping applications
- use for through hole or blind hole tapping
- standard in right hand sizes in Unified and American National thread form
- hand taps store chips in their flutes next to the chamfered teeth during the threading operation
- for deep-hole threading more than 1 1/2 diameters of the tap-in depth, use a hand tap with fewer flutes for increased chip handling capabilities
- through coolant holes available upon request

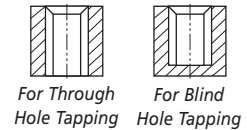
Hand taps are available in three chamfer lengths for through hole or blind hole tapping:

- taper (7-10 pitches) - longest standard chamfer ensures easier starting and requires less tapping torque because of more working teeth
- plug (3-5 pitches) - the most universally used chamfer for hand or machine tapping in through or blind holes
- bottoming (1-2 pitches) - for threading close to the bottom of blind holes; the least efficient standard chamfer

Greenfield LIGHTNING[®] SERVICE Available



P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous



Application Information:

All TiN and TiCN coated taps are recommended for:

- steels
- stainless steel < 30Rc
- cast iron

SH50 oxide treated taps are also recommended for:

- steels
- ductile irons
- cast iron

Uncoated and MAXI treated taps are also recommended for:

- non-ferrous materials
- cast iron

Coating Information:

TiCN (Titanium Carbonitride) coated taps:

- enables higher tapping speeds for increased productivity and excellent tool life
- high wear resistance and extended tap wear life
- in abrasive materials, higher wear resistance and longer tap wear life than TiN
- appropriate for a wide array of ferrous (steel) materials

TiN (Titanium Nitride) coated taps:

- provides increased tap wear life and improved product thread finish
- higher tapping speeds are possible
- appropriate for a wide array of ferrous materials

TiAlN (Titanium Aluminum Nitride) coated taps:

- offers improved wear life and thread finish
- especially useful under high temperature conditions
- use with caution in non-ferrous materials

TiN+Cr/C (Titanium Nitride plus Chromium Carbide Carbon) coated taps:

- combines the wear resistance of TiN with a lubricous top layer of chromium carbide carbon
- proprietary coating for both ferrous and non-ferrous materials
- effective in stainless steel (304, 316 only) and aluminum

SH50 steam oxide treated taps:

- SH50 oxide treatment provides increased lubricity; applied primarily to prevent galling and loading in steels
- ideal for tapping a wide array of ferrous materials



A PRODUCT OF KENAMETAL INC.

Hand Taps

For Through or Blind Holes in General Machining Applications

Hand Taps, Machine Screw and Fractional Sizes

Taper Chamfer 7 to 10 Pitches

- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous

HIGH-PERFORMANCE TAPS

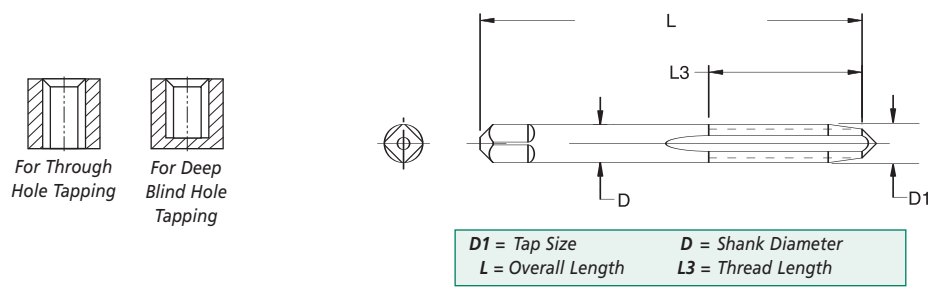
THREAD MILLS

PRODUCTION TAPS

MAINTENANCE TOOLS

GAGES

TECHNICAL INFORMATION & INDEX



Alternate Coatings Available.
(Full package quantities only)

MACHINE SCREW

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	EDP Number - Taper Chamfer	
								Oxide SH50	Uncoated
0	-	80	1.63	.313	.141	2	H1	—	15102
1	64	-	1.69	.375	.141	2	H1	—	15114
1	-	72	1.69	.375	.141	2	H1	—	15120
2	56	-	1.75	.438	.141	3	H1	—	15128
2	56	-	1.75	.438	.141	3	H2	—	15134
2	-	64	1.75	.438	.141	3	H1	—	15141
2	-	64	1.75	.438	.141	3	H2	—	15144
3	48	-	1.81	.500	.141	3	H2	—	15156
3	-	56	1.81	.500	.141	3	H2	—	15166
4	40	-	1.88	.563	.141	3	H2	19563	15184
4	-	48	1.88	.563	.141	3	H2	—	15196
5	40	-	1.94	.625	.141	3	H2	—	15209
5	-	44	1.94	.625	.141	3	H2	—	15220
6	32	-	2.00	.688	.141	3	H1	—	15225
6	32	-	2.00	.688	.141	3	H2	—	15231
6	32	-	2.00	.688	.141	3	H3	19573	15237
6	-	40	2.00	.688	.141	3	H2	—	15257
8	32	-	2.13	.750	.168	4	H2	—	15275
8	32	-	2.13	.750	.168	4	H3	19583	15283
8	-	36	2.13	.750	.168	4	H2	—	15301
10	24	-	2.38	.875	.194	4	H2	—	15320
10	24	-	2.38	.875	.194	4	H3	19597	15327
10	-	32	2.38	.875	.194	4	H1	—	15344
10	-	32	2.38	.875	.194	4	H2	—	15352
10	-	32	2.38	.875	.194	4	H3	19613	15360
12	24	-	2.38	.938	.220	4	H3	—	15383
12	-	28	2.38	.938	.220	4	H3	—	15390

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Taper chamfer fractional sizes continue on the next page.

Greenfield LIGHTNING® SERVICE Available

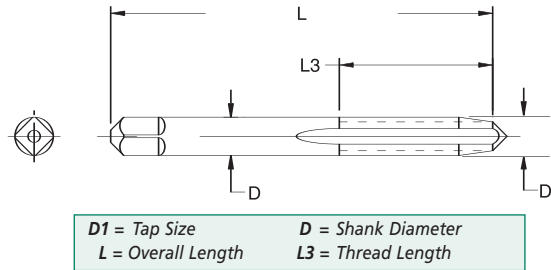
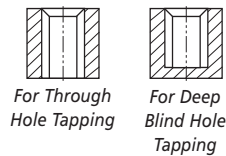
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Hand Taps, Machine Screw and Fractional Sizes

Taper Chamfer 7 to 10 Pitches

- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous



FRACTIONAL

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	EDP Number - Taper Chamfer	
								SH50 Oxide	Uncoated
1/4	20	-	2.50	1.000	.255	4	H1	—	14010
1/4	20	-	2.50	1.000	.255	4	H2	—	14015
1/4	20	-	2.50	1.000	.255	4	H3	19167	14022
1/4	-	28	2.50	1.000	.255	4	H3	19208	14055
5/16	18	-	2.72	1.125	.318	4	H3	19237	14092
5/16	-	24	2.72	1.125	.318	4	H3	19257	14122
3/8	16	-	2.94	1.250	.381	4	H3	19278	14157
3/8	-	24	2.94	1.250	.381	4	H3	19304	14190
7/16	14	-	3.16	1.438	.323	4	H3	—	14221
7/16	-	20	3.16	1.438	.323	4	H3	—	14246
1/2	13	-	3.38	1.656	.367	4	H3	19354	14281
1/2	-	20	3.38	1.656	.367	4	H3	19377	14308
9/16	12	-	3.59	1.656	.429	4	H3	—	14338
9/16	-	18	3.59	1.656	.429	4	H3	—	14356
5/8	11	-	3.81	1.813	.480	4	H3	19407	14379
5/8	-	18	3.81	1.813	.480	4	H3	—	14402
11/16	11	-	4.03	1.063	.542	4	H3	—	14423
11/16	-	16	4.03	1.063	.542	4	H3	—	14427
3/4	10	-	4.25	2.000	.590	4	H3	19443	14448
3/4	-	16	4.25	2.000	.590	4	H3	—	14471
7/8	9	-	4.69	2.219	.697	4	H4	—	14499
7/8	-	14	4.69	2.219	.697	4	H4	—	14516
1	8	-	5.13	2.500	.800	4	H4	—	14544
1	-	12	5.13	2.500	.800	4	H4	—	14557
1	-	14	5.13	2.500	.800	4	H4	—	14568
1 1/8	7	-	5.44	2.563	.896	4	H4	—	14594
1 1/8	-	12	5.44	2.563	.896	4	H4	—	14603
1 1/4	7	-	5.75	2.563	1.021	4	H4	—	14612
1 1/4	-	12	5.75	2.563	1.021	6	H4	—	14620
1 3/8	6	-	6.06	3.000	1.108	4	H4	—	14632
1 3/8	-	12	6.06	3.000	1.108	6	H4	—	14640
1 1/2	6	-	6.38	3.000	1.233	4	H4	—	14645
1 1/2	-	12	6.38	3.000	1.233	6	H4	—	14653

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Plug chamfer machine screw sizes begin on the next page.

Hand Taps

For Through or Blind Holes in General Machining Applications



Hand Taps, Machine Screw and Fractional Sizes

Plug Chamfer 3 to 5 Pitches

- Series No. 5305TC / 5303TC TiCN Coated
- Series No. 2305 / 2303 TiN Coated
- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous

HIGH-PERFORMANCE TAPS

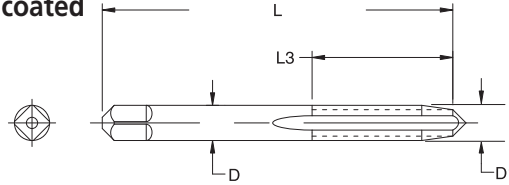
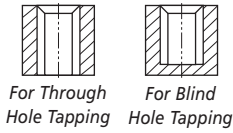
THREAD MILLS

PRODUCTION TAPS

MAINTENANCE TOOLS

GAGES

TECHNICAL INFORMATION & INDEX



D1 = Tap Size D = Shank Diameter
L = Overall Length L3 = Thread Length

Alternate Coatings Available.
(Full package quantities only)



MACHINE SCREW

EDP Number - Plug Chamfer

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	TiCN	TiN	SH50 Oxide	Uncoated
0	-	80	1.63	.313	.141	2	H1	—	—	—	15103
0	-	80	1.63	.313	.141	2	H2	19121	19202	—	15107
1	64	-	1.69	.375	.141	2	H1	—	—	—	15115
1	64	-	1.69	.375	.141	2	H2	—	—	—	15118
1	-	72	1.69	.375	.141	2	H1	—	—	—	15121
1	-	72	1.69	.375	.141	2	H2	—	—	—	15125
2	56	-	1.75	.438	.141	2	H2	—	—	—	15138
2	56	-	1.75	.438	.141	3	H1	—	—	—	15129
2	56	-	1.75	.438	.141	3	H2	19122	19207	—	15135
2	-	64	1.75	.438	.141	3	H1	—	—	—	15142
2	-	64	1.75	.438	.141	3	H2	—	—	—	15145
3	48	-	1.81	.500	.141	2	H2	—	15433	—	15160
3	48	-	1.81	.500	.141	3	H2	—	—	—	15157
3	-	56	1.81	.500	.141	3	H2	—	—	—	15167
4	40	-	1.88	.563	.141	2	H1	—	—	—	15182
4	40	-	1.88	.563	.141	2	H2	—	15435	—	15189
4	40	-	1.88	.563	.141	3	H1	—	—	—	15179
4	40	-	1.88	.563	.141	3	H2	19123	19211	19565	15185
4	-	48	1.88	.563	.141	3	H1	—	—	—	15192
4	-	48	1.88	.563	.141	3	H2	—	—	—	15197
5	40	-	1.94	.625	.141	2	H2	—	—	—	15214
5	40	-	1.94	.625	.141	3	H1	—	—	—	15204
5	40	-	1.94	.625	.141	3	H2	19124	19216	—	15210
5	-	44	1.94	.625	.141	3	H2	—	—	—	15221
6	32	-	2.00	.688	.141	2	H2	—	—	—	15235
6	32	-	2.00	.688	.141	2	H3	—	15439	—	15245
6	32	-	2.00	.688	.141	3	H1	—	—	—	15226
6	32	-	2.00	.688	.141	3	H2	—	19221	—	15232
6	32	-	2.00	.688	.141	3	H3	15224	—	19575	15238
6	-	40	2.00	.688	.141	2	H2	—	15440	—	15262
6	-	40	2.00	.688	.141	3	H2	—	—	—	15258
8	32	-	2.13	.750	.168	2	H2	—	—	—	15279
8	32	-	2.13	.750	.168	2	H3	—	—	—	15291
8	32	-	2.13	.750	.168	3	H2	—	—	—	15281
8	32	-	2.13	.750	.168	3	H3	—	—	—	15293
8	32	-	2.13	.750	.168	4	H1	—	—	—	15268
8	32	-	2.13	.750	.168	4	H2	—	19226	—	15276
8	32	-	2.13	.750	.168	4	H3	15270	—	19585	15284
8	32	-	2.13	.750	.168	4	H7	—	—	—	15295
8	-	36	2.13	.750	.168	4	H1	—	—	—	15300
8	-	36	2.13	.750	.168	4	H2	—	—	—	15302

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Plug chamfer machine screw sizes continue on the next page.

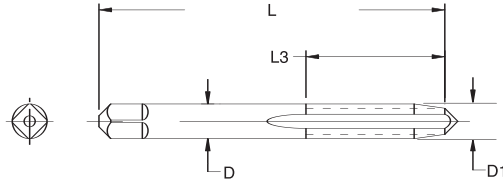
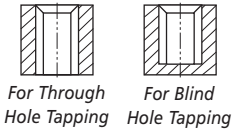


(continued)

Hand Taps, Machine Screw and Fractional Sizes

Plug Chamfer 3 to 5 Pitches

- Series No. 5305TC / 5303TC TiCN Coated
- Series No. 2305 / 2303 TiN Coated
- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated



P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous

Alternate Coatings Available.

(Full package quantities only)



D1 = Tap Size D = Shank Diameter
L = Overall Length L3 = Thread Length

MACHINE SCREW

EDP Number - Plug Chamfer

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	TiCN	TiN	SH50 Oxide	Uncoated
10	24	-	2.38	.875	.194	2	H2	—	—	—	15324
10	24	-	2.38	.875	.194	2	H3	—	—	—	15335
10	24	-	2.38	.875	.194	3	H3	—	15444	—	15337
10	24	-	2.38	.875	.194	4	H1	—	—	—	15314
10	24	-	2.38	.875	.194	4	H2	—	—	—	15321
10	24	-	2.38	.875	.194	4	H3	19126	19231	19600	15328
10	-	32	2.38	.875	.194	2	H2	—	—	—	15356
10	-	32	2.38	.875	.194	2	H3	—	15448	—	15368
10	-	32	2.38	.875	.194	3	H2	—	15449	—	15358
10	-	32	2.38	.875	.194	3	H3	—	15450	—	15370
10	-	32	2.38	.875	.194	3	H7	—	—	—	15374
10	-	32	2.38	.875	.194	4	H1	—	—	—	15345
10	-	32	2.38	.875	.194	4	H2	—	—	—	15353
10	-	32	2.38	.875	.194	4	H3	15348	19236	19615	15361
12	24	-	2.38	.938	.220	4	H3	19127	19241	—	15384
12	-	28	2.38	.938	.220	4	H3	—	—	—	15391

FRACTIONAL

EDP Number - Plug Chamfer

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	TiCN	TiN	SH50 Steam Oxide	Uncoated
1/4	20	-	2.50	1.000	.255	2	H3	—	15453	—	14030
1/4	20	-	2.50	1.000	.255	3	H2	—	—	—	14020
1/4	20	-	2.50	1.000	.255	3	H3	—	15454	—	14032
1/4	20	-	2.50	1.000	.255	3	H5	—	—	—	14039
1/4	20	-	2.50	1.000	.255	4	H1	—	—	—	14011
1/4	20	-	2.50	1.000	.255	4	H2	—	—	—	14016
1/4	20	-	2.50	1.000	.255	4	H3	14009	19247	19170	14023
1/4	20	-	2.50	1.000	.255	4	H5	—	—	—	14036
1/4	20	-	2.50	1.000	.255	4	H11	—	—	—	14041
1/4	-	28	2.50	1.000	.255	2	H3	—	—	—	14063
1/4	-	28	2.50	1.000	.255	3	H3	—	15456	—	14065
1/4	-	28	2.50	1.000	.255	4	H1	—	—	—	14048
1/4	-	28	2.50	1.000	.255	4	H2	—	—	—	14052
1/4	-	28	2.50	1.000	.255	4	H3	19128	19253	19210	14056
1/4	-	28	2.50	1.000	.255	4	H4	—	—	—	14067

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Plug chamfer fractional sizes are continued on the next page.

Greenfield LIGHTNING®
SERVICE Available

Hand Taps

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HIGH-PERFORMANCE TAPS

THREAD MILLS

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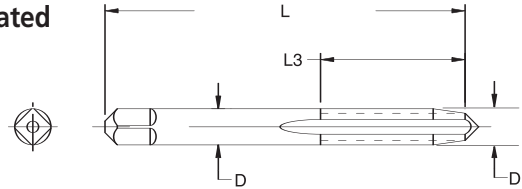
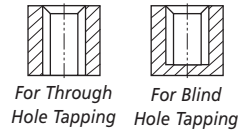
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- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated

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								TiCN	TiN	SH50 Oxide	Uncoated
5/16	18	-	2.72	1.125	.318	2	H3	—	15459	—	14100
5/16	18	-	2.72	1.125	.318	3	H3	—	15460	—	14102
5/16	18	-	2.72	1.125	.318	4	H1	—	—	—	14082
5/16	18	-	2.72	1.125	.318	4	H2	—	—	—	14087
5/16	18	-	2.72	1.125	.318	4	H3	19129	19258	19240	14093
5/16	18	-	2.72	1.125	.318	4	H5	—	—	—	14104
5/16	18	-	2.72	1.125	.318	4	H11	—	—	—	14109
5/16	-	24	2.72	1.125	.318	3	H3	—	15462	—	14130
5/16	-	24	2.72	1.125	.318	4	H1	—	—	—	14113
5/16	-	24	2.72	1.125	.318	4	H2	—	—	—	14118
5/16	-	24	2.72	1.125	.318	4	H3	19131	19263	19260	14123
5/16	-	24	2.72	1.125	.318	4	H4	—	—	—	14133
3/8	16	-	2.94	1.250	.381	3	H3	—	15464	—	14165
3/8	16	-	2.94	1.250	.381	4	H1	—	—	—	14147
3/8	16	-	2.94	1.250	.381	4	H2	—	—	—	14152
3/8	16	-	2.94	1.250	.381	4	H3	19132	19268	19280	14158
3/8	16	-	2.94	1.250	.381	4	H5	—	—	—	14169
3/8	16	-	2.94	1.250	.381	4	H11	—	—	—	14174
3/8	-	24	2.94	1.250	.381	3	H3	—	15466	—	14198
3/8	-	24	2.94	1.250	.381	4	H1	—	—	—	14180
3/8	-	24	2.94	1.250	.381	4	H2	—	—	—	14185
3/8	-	24	2.94	1.250	.381	4	H3	19134	19273	19305	14191
3/8	-	24	2.94	1.250	.381	4	H4	—	—	—	14201
7/16	14	-	3.16	1.438	.323	3	H3	—	15467	—	14229
7/16	14	-	3.16	1.438	.323	4	H3	19135	19277	—	14222
7/16	14	-	3.16	1.438	.323	4	H5	—	—	—	14232
7/16	-	20	3.16	1.438	.323	4	H3	19136	19283	—	14247
7/16	-	20	3.16	1.438	.323	4	H5	—	—	—	14256
1/2	13	-	3.38	1.656	.367	3	H3	—	15469	—	14289
1/2	13	-	3.38	1.656	.367	4	H1	—	—	—	14274
1/2	13	-	3.38	1.656	.367	4	H3	19137	19291	19360	14282
1/2	13	-	3.38	1.656	.367	4	H5	—	—	—	14293
1/2	13	-	3.38	1.656	.367	4	H11	—	—	—	14297
1/2	-	20	3.38	1.656	.367	3	H3	—	15470	—	14316
1/2	-	20	3.38	1.656	.367	4	H1	—	—	—	14301
1/2	-	20	3.38	1.656	.367	4	H3	19138	19297	19375	14309
1/2	-	20	3.38	1.656	.367	4	H5	—	—	—	14319
9/16	12	-	3.59	1.656	.429	4	H3	—	—	—	14339
9/16	12	-	3.59	1.656	.429	4	H5	—	—	—	14346
9/16	-	18	3.59	1.656	.429	4	H2	—	—	—	14353
9/16	-	18	3.59	1.656	.429	4	H3	—	—	—	14357
9/16	-	18	3.59	1.656	.429	4	H5	—	—	—	14364

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Plug chamfer fractional sizes are continued on the next page.



(continued)

Hand Taps, Machine Screw and Fractional Sizes

Plug Chamfer 3 to 5 Pitches

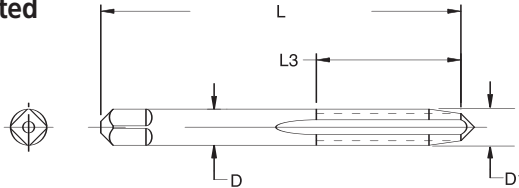
- Series No. 5305TC / 5303TC TiCN Coated
- Series No. 2305 / 2303 TiN Coated
- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated



For Through Hole Tapping



For Blind Hole Tapping



D1 = Tap Size D = Shank Diameter
L = Overall Length L3 = Thread Length

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous

Alternate Coatings Available.
(Full package quantities only)



FRACTIONAL

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	EDP Number - Plug Chamfer			
								TiCN	TiN	SH50 Oxide	Uncoated
5/8	11	-	3.81	1.813	.480	4	H2	—	—	—	14378
5/8	11	-	3.81	1.813	.480	4	H3	19139	19307	19410	14380
5/8	11	-	3.81	1.813	.480	4	H5	—	—	—	14388
5/8	11	-	3.81	1.813	.480	4	H11	—	—	—	14391
5/8	-	18	3.81	1.813	.480	4	H2	—	—	—	14400
5/8	-	18	3.81	1.813	.480	4	H3	19140	19317	—	14403
5/8	-	18	3.81	1.813	.480	4	H5	—	—	—	14411
11/16	11	-	4.03	1.063	.542	4	H3	—	—	—	14424
11/16	-	16	4.03	1.063	.542	4	H3	—	—	—	14428
3/4	10	-	4.25	2.000	.590	4	H3	19141	19327	19445	14449
3/4	10	-	4.25	2.000	.590	4	H5	—	—	—	14457
3/4	-	16	4.25	2.000	.590	4	H3	19142	19337	19455	14472
3/4	-	16	4.25	2.000	.590	4	H4	—	—	—	14479
3/4	-	16	4.25	2.000	.590	4	H5	—	—	—	14482
7/8	9	-	4.69	2.219	.697	4	H4	—	19347	19465	14500
7/8	9	-	4.69	2.219	.697	4	H6	—	—	—	14508
7/8	-	14	4.69	2.219	.697	4	H4	—	19357	—	14517
7/8	-	14	4.69	2.219	.697	4	H6	—	—	—	14524
1	8	-	5.13	2.500	.800	4	H4	—	19367	19475	14545
1	8	-	5.13	2.500	.800	4	H6	—	—	—	14553
1	-	12	5.13	2.500	.800	4	H4	—	—	—	14558
1	-	14	5.13	2.500	.800	4	H2	—	—	—	14567
1	-	14	5.13	2.500	.800	4	H4	—	—	—	14569
1 1/8	7	-	5.44	2.563	.896	4	H4	—	—	—	14595
1 1/8	-	12	5.44	2.563	.896	4	H4	—	—	—	14604
1 1/4	7	-	5.75	2.563	1.021	4	H4	—	—	—	14613
1 1/4	-	12	5.75	2.563	1.021	6	H4	—	—	—	14621
1 3/8	6	-	6.06	3.000	1.108	4	H4	—	—	—	14633
1 3/8	-	12	6.06	3.000	1.108	6	H4	—	—	—	14641
1 1/2	6	-	6.38	3.000	1.233	4	H4	—	—	—	14646
1 1/2	-	12	6.38	3.000	1.233	6	H4	—	—	—	14654

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Bottoming chamfer machine screw sizes begin on the next page.

Greenfield LIGHTNING®
SERVICE Available

Hand Taps

For Through or Blind Holes in General Machining Applications



HIGH-PERFORMANCE TAPS

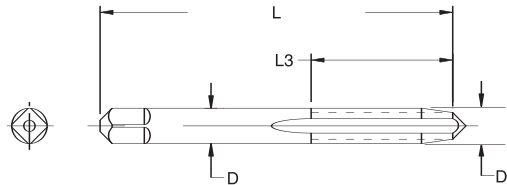
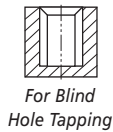
Hand Taps, Machine Screw and Fractional Sizes

Bottoming Chamfer 1 to 2 Pitches

- Series No. 5305TC / 5303TC TiCN Coated
- Series No. 2305 / 2303 TiN Coated
- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous

THREAD MILLS



D1 = Tap Size D = Shank Diameter
L = Overall Length L3 = Thread Length

Alternate Coatings Available.
(Full package quantities only)



PRODUCTION TAPS

MACHINE SCREW

EDP Number - Bottoming Chamfer

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	TiCN	TiN	SH50 Oxide	Uncoated
0	-	80	1.63	.313	.141	2	H1	—	—	—	15104
0	-	80	1.63	.313	.141	2	H2	19174	19204	—	15108
1	64	-	1.69	.375	.141	2	H1	—	—	—	15116
1	-	72	1.69	.375	.141	2	H1	—	—	—	15122
1	-	72	1.69	.375	.141	2	H2	—	—	—	15126
2	56	-	1.75	.438	.141	2	H2	—	—	—	15139
2	56	-	1.75	.438	.141	3	H1	—	—	—	15130
2	56	-	1.75	.438	.141	3	H2	19175	15430	—	15136
2	-	64	1.75	.438	.141	3	H1	—	—	—	15143
2	-	64	1.75	.438	.141	3	H2	—	—	—	15146
3	48	-	1.81	.500	.141	2	H2	—	15432	—	15161
3	48	-	1.81	.500	.141	3	H2	—	—	—	15158
3	-	56	1.81	.500	.141	3	H2	—	—	—	15168
4	40	-	1.88	.563	.141	2	H2	—	—	—	15190
4	40	-	1.88	.563	.141	2	H2	19176	19213	19570	15186
4	-	48	1.88	.563	.141	3	H2	—	—	—	15198
5	40	-	1.94	.625	.141	2	H2	—	—	—	15215
5	40	-	1.94	.625	.141	3	H2	19177	15436	—	15211
5	-	44	1.94	.625	.141	3	H2	—	—	—	15222
6	32	-	2.00	.688	.141	2	H2	—	—	—	15236
6	32	-	2.00	.688	.141	2	H3	—	15438	—	15246
6	32	-	2.00	.688	.141	3	H1	—	—	—	15227
6	32	-	2.00	.688	.141	3	H2	19178	19223	—	15233
6	32	-	2.00	.688	.141	3	H3	—	—	19580	15239
6	-	40	2.00	.688	.141	3	H2	—	—	—	15259
8	32	-	2.13	.750	.168	2	H2	—	—	—	15280
8	32	-	2.13	.750	.168	2	H3	—	—	—	15292
8	32	-	2.13	.750	.168	3	H2	—	—	—	15282
8	32	-	2.13	.750	.168	3	H3	—	15441	—	15294
8	32	-	2.13	.750	.168	4	H1	—	—	—	15269
8	32	-	2.13	.750	.168	4	H2	19179	19228	—	15277
8	32	-	2.13	.750	.168	4	H3	—	—	19590	15285
8	-	36	2.13	.750	.168	4	H2	—	—	—	15303
10	24	-	2.38	.875	.194	2	H3	—	—	—	15336
10	24	-	2.38	.875	.194	3	H3	—	15443	—	15338
10	24	-	2.38	.875	.194	4	H2	—	—	—	15322
10	24	-	2.38	.875	.194	4	H3	19181	19233	19605	15329
10	-	32	2.38	.875	.194	3	H2	—	15446	—	15359

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Bottoming chamfer machine screw sizes continue on the next page.

TECHNICAL
INFORMATION & INDEX



(continued)

Hand Taps, Machine Screw and Fractional Sizes

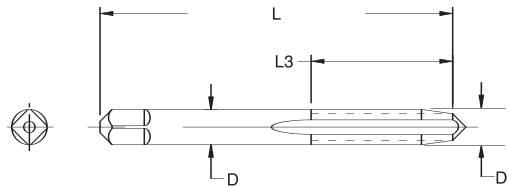
Bottoming Chamfer 1 to 2 Pitches

- Series No. 5305TC / 5303TC TiCN Coated
- Series No. 2305 / 2303 TiN Coated
- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous



For Blind Hole Tapping



D1 = Tap Size D = Shank Diameter
L = Overall Length L3 = Thread Length

Alternate Coatings Available.
(Full package quantities only)



MACHINE SCREW

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	EDP Number - Bottoming Chamfer			
								TiCN	TiN	SH50 Oxide	Uncoated
10	-	32	2.38	.875	.194	2	H2	—	—	—	15357
10	-	32	2.38	.875	.194	2	H3	—	15445	—	15369
10	-	32	2.38	.875	.194	3	H3	—	15447	—	15371
10	-	32	2.38	.875	.194	4	H1	—	—	—	15346
10	-	32	2.38	.875	.194	4	H2	—	—	—	15354
10	-	32	2.38	.875	.194	4	H3	19182	19238	19620	15362
12	24	-	2.38	.938	.220	4	H3	19183	19243	—	15385
12	-	28	2.38	.938	.220	4	H3	—	—	—	15392

FRACTIONAL

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	EDP Number - Bottoming Chamfer			
								TiCN	TiN	SH50 Steam Oxide	Uncoated
1/4	20	-	2.50	1.000	.255	2	H3	—	—	—	14031
1/4	20	-	2.50	1.000	.255	3	H3	—	—	—	14033
1/4	20	-	2.50	1.000	.255	4	H1	—	—	—	14012
1/4	20	-	2.50	1.000	.255	4	H2	—	—	—	14017
1/4	20	-	2.50	1.000	.255	4	H3	19184	19251	19180	14024
1/4	20	-	2.50	1.000	.255	4	H5	—	—	—	14037
1/4	-	28	2.50	1.000	.255	2	H3	—	—	—	14064
1/4	-	28	2.50	1.000	.255	3	H3	—	15455	—	14066
1/4	-	28	6.00	1.000	.255	4	H3	19185	19256	19220	14057
1/4	-	28	2.50	1.000	.255	4	H4	—	—	—	14068
5/16	18	-	2.72	1.125	.318	2	H3	—	15457	—	14101
5/16	18	-	2.72	1.125	.318	3	H3	—	15458	—	14103
5/16	18	-	2.72	1.125	.318	4	H1	—	—	—	14083
5/16	18	-	2.72	1.125	.318	4	H2	—	—	—	14088
5/16	18	-	2.72	1.125	.318	4	H3	19186	19261	19245	14094
5/16	18	-	2.72	1.125	.318	4	H5	—	—	—	14105
5/16	-	24	2.72	1.125	.318	3	H3	—	15461	—	14131
5/16	-	24	2.72	1.125	.318	4	H1	—	—	—	14114
5/16	-	24	2.72	1.125	.318	4	H3	19187	19266	19265	14124
5/16	-	24	2.72	1.125	.318	4	H4	—	—	—	14134
3/8	16	-	2.94	1.250	.381	3	H3	—	15463	—	14166
3/8	16	-	2.94	1.250	.381	4	H1	—	—	—	14148
3/8	16	-	2.94	1.250	.381	4	H2	—	—	—	14153
3/8	16	-	6.00	1.250	.381	4	H3	19188	19271	19285	14159
3/8	16	-	2.94	1.250	.381	4	H5	—	—	—	14170

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Bottoming chamfer fractional sizes continue on the next page.

Hand Taps

For Through or Blind Holes in General Machining Applications



HIGH-PERFORMANCE TAPS

THREAD MILLS

PRODUCTION TAPS

MAINTENANCE TOOLS

GAGES

TECHNICAL INFORMATION & INDEX

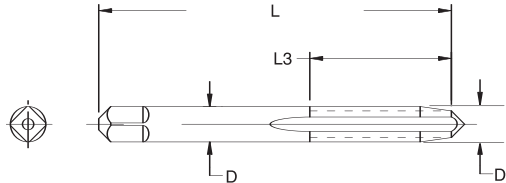
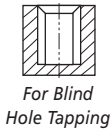
(continued)

Hand Taps, Machine Screw and Fractional Sizes

Bottoming Chamfer 1 to 2 Pitches

- Series No. 5305TC / 5303TC TiCN Coated
- Series No. 2305 / 2303 TiN Coated
- Series No. 5305S / 5303S SH50 Steam Oxide
- Series No. 5305 / 5303 Uncoated

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous



D1 = Tap Size D = Shank Diameter
L = Overall Length L3 = Thread Length

Alternate Coatings Available.

(Full package quantities only)



FRACTIONAL

EDP Number - Bottoming Chamfer

D1	NC/UNC/ UNJC	NF/UNF/ UNJF	L	L3	D	Flutes	Pitch Dia. Limit	TiCN	TiN	SH50 Oxide	Uncoated
3/8	-	24	2.94	1.250	.381	3	H3	—	15465	—	14199
3/8	-	24	2.94	1.250	.381	4	H1	—	—	—	14181
3/8	-	24	6.00	1.250	.381	4	H3	19189	19275	19310	14192
3/8	-	24	2.94	1.250	.381	4	H4	—	—	—	14202
7/16	14	-	3.16	1.438	.323	4	H3	19191	19281	—	14223
7/16	14	-	3.16	1.438	.323	4	H5	—	—	—	14233
7/16	-	20	3.16	1.438	.323	4	H3	19192	19287	—	14248
7/16	-	20	3.16	1.438	.323	4	H5	—	—	—	14257
1/2	13	-	3.38	1.656	.367	3	H3	—	15468	—	14290
1/2	13	-	3.38	1.656	.367	4	H1	—	—	—	14275
1/2	13	-	3.38	1.656	.367	4	H3	19193	19293	19355	14283
1/2	13	-	3.38	1.656	.367	4	H5	—	—	—	14294
1/2	-	20	3.38	1.656	.367	4	H3	19194	19303	19380	14310
9/16	12	-	3.59	1.656	.429	4	H3	—	—	—	14340
9/16	-	18	3.59	1.656	.429	4	H3	—	—	—	14358
5/8	11	-	3.81	1.813	.480	4	H3	19197	19313	19415	14381
5/8	11	-	3.81	1.813	.480	4	H5	—	—	—	14389
5/8	-	18	3.81	1.813	.480	4	H3	19198	19323	—	14404
5/8	-	18	3.81	1.813	.480	4	H5	—	—	—	14412
11/16	11	-	4.03	1.063	.542	4	H3	—	—	—	14425
11/16	-	16	4.03	1.063	.542	4	H3	—	—	—	14429
3/4	10	-	4.25	2.000	.590	4	H3	19199	19333	19450	14450
3/4	10	-	4.25	2.000	.590	4	H5	—	—	—	14458
3/4	-	16	4.25	2.000	.590	4	H3	—	19343	19460	14473
3/4	-	16	4.25	2.000	.590	4	H5	—	—	—	14483
7/8	9	-	4.69	2.219	.697	4	H4	—	19353	19470	14501
7/8	-	14	4.69	2.219	.697	4	H4	—	19363	—	14518
1	8	-	5.13	2.500	.800	4	H4	—	19373	19480	14546
1	-	12	5.13	2.500	.800	4	H4	—	—	—	14559
1	-	14	5.13	2.500	.800	4	H4	—	—	—	14570
1 1/8	7	-	5.44	2.563	.896	4	H4	—	—	—	14596
1 1/8	-	12	5.44	2.563	.896	4	H4	—	—	—	14605
1 1/4	7	-	5.75	2.563	1.021	4	H4	—	—	—	14614
1 1/4	-	12	5.75	2.563	1.021	6	H4	—	—	—	14622
1 3/8	6	-	6.06	3.000	1.108	4	H4	—	—	—	14634
1 3/8	-	12	6.06	3.000	1.108	6	H4	—	—	—	14642
1 1/2	6	-	6.38	3.000	1.233	4	H4	—	—	—	14647
1 1/2	-	12	6.38	3.000	1.233	6	H4	—	—	—	14655

Hand taps for 3B class of fit are suitable for UNJ Aerospace internal threading applications.
Tap sets - one of each taper, plug, and bottoming chamfers begin on the next page.



Hand Taps

For Through or Blind Holes in General Machining Applications

HIGH-PERFORMANCE TAPS

THREAD MILLS

PRODUCTION TAPS

MAINTENANCE TOOLS

GAGES

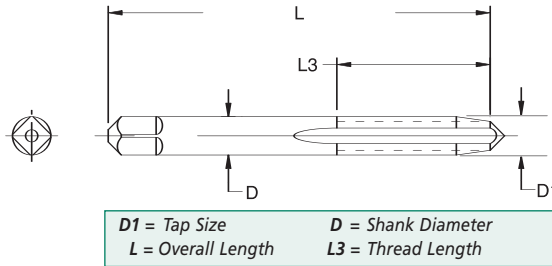
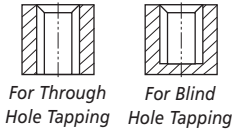
TECHNICAL INFORMATION & INDEX

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous

Hand Tap Sets, Machine Screw and Fractional Sizes, for Tool Room Applications or Maintenance and Repair

One Each Taper, Plug, and Bottoming Chamfer

Series No. 5305 / 5303 Uncoated



Set of One Each Taper, Plug, and Bottoming Chamfer

EDP Number - Set of One Each Taper, Plug, Bottoming Chamfer

MACHINE SCREW

D1	NC/UNC	NF/UNF	L	L3	D	Flutes	Pitch Dia. Limit	Uncoated
0	-	80	1.63	.313	.141	2	H1	15105
1	64	-	1.69	.375	.141	2	H1	15117
1	-	72	1.69	.375	.141	2	H1	15123
2	56	-	1.75	.438	.141	3	H1	15131
2	56	-	1.75	.438	.141	3	H2	15137
2	-	64	1.75	.438	.141	3	H1	15148
2	-	64	1.75	.438	.141	3	H2	15147
3	48	-	1.81	.500	.141	3	H2	15159
3	-	56	1.81	.500	.141	3	H2	15169
4	40	-	1.88	.563	.141	3	H2	15187
4	-	48	1.88	.563	.141	3	H2	15199
5	40	-	1.94	.625	.141	3	H2	15212
5	-	44	1.94	.625	.141	3	H2	15223
6	32	-	2.00	.688	.141	3	H1	15228
6	32	-	2.00	.688	.141	3	H2	15234
6	32	-	2.00	.688	.141	3	H3	15240
6	-	40	2.00	.688	.141	3	H2	15260
8	32	-	2.13	.750	.168	4	H2	15278
8	32	-	2.13	.750	.168	4	H3	15286
8	-	36	2.13	.750	.168	4	H2	15304
10	24	-	2.38	.875	.194	4	H2	15323
10	24	-	2.38	.875	.194	4	H3	15330
10	-	32	2.38	.875	.194	4	H1	15347
10	-	32	2.38	.875	.194	4	H2	15355
10	-	32	2.38	.875	.194	4	H3	15363
12	24	-	2.38	.938	.220	4	H3	15386
12	-	28	2.38	.938	.220	4	H3	15393

Tap sets - one of each taper, plug, and bottoming chamfers. Fractional sizes begin on the next page.

Greenfield LIGHTNING® SERVICE Available



Hand Taps

For Through or Blind Holes in General Machining Applications

(continued)

Hand Tap Sets, Machine Screw and Fractional Sizes

One Each Taper, Plug, and Bottoming Chamfer

■ Series No. 5305 / 5303 Uncoated

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous

HIGH-PERFORMANCE TAPS

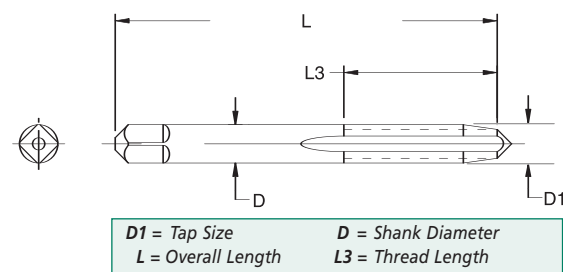
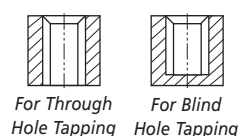
THREAD MILLS

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Set of One Each Taper, Plug, and Bottoming Chamfer

FRACTIONAL

EDP Number - Set of One Each Taper, Plug, Bottoming Chamfer

D1	NC/UNC	NF/UNF	L	L3	D	Flutes	Pitch Dia. Limit	Uncoated
1/4	20	-	2.50	1.000	.255	4	H1	14013
1/4	20	-	2.50	1.000	.255	4	H2	14018
1/4	20	-	2.50	1.000	.255	4	H3	14025
1/4	-	28	2.50	1.000	.255	4	H3	14058
5/16	18	-	2.72	1.125	.318	4	H3	14095
5/16	-	24	2.72	1.125	.318	4	H3	14125
3/8	16	-	2.94	1.250	.381	4	H3	14160
3/8	-	24	2.94	1.250	.381	4	H3	14193
7/16	14	-	3.16	1.438	.323	4	H3	14224
7/16	-	20	3.16	1.438	.323	4	H3	14249
1/2	13	-	3.38	1.656	.367	4	H3	14284
1/2	-	20	3.38	1.656	.367	4	H3	14311
9/16	12	-	3.59	1.656	.429	4	H3	14341
9/16	-	18	3.59	1.656	.429	4	H3	14359
5/8	11	-	3.81	1.813	.480	4	H3	14382
5/8	-	18	3.81	1.813	.480	4	H3	14405
11/16	11	-	4.03	1.063	.542	4	H3	14426
11/16	-	16	4.03	1.063	.542	4	H3	14430
3/4	10	-	4.25	2.000	.590	4	H3	14451
3/4	-	16	4.25	2.000	.590	4	H3	14474
7/8	9	-	4.69	2.219	.697	4	H4	14502
7/8	-	14	4.69	2.219	.697	4	H4	14519
1	8	-	5.13	2.500	.800	4	H4	14547
1	-	12	5.13	2.500	.800	4	H4	14560
1	-	14	5.13	2.500	.800	4	H4	14571
1 1/8	7	-	5.44	2.563	.896	4	H4	14597
1 1/8	-	12	5.44	2.563	.896	4	H4	14606
1 1/4	7	-	5.75	2.563	1.021	4	H4	14615
1 1/4	-	12	5.75	2.563	1.021	6	H4	14623
1 3/8	6	-	6.06	3.000	1.108	4	H4	14635
1 3/8	-	12	6.06	3.000	1.108	6	H4	14643
1 1/2	6	-	6.38	3.000	1.233	4	H4	14648
1 1/2	-	12	6.38	3.000	1.233	6	H4	14656

Metric Hand Taps

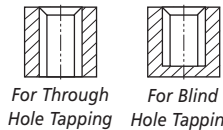
Features/Benefits:

- the most popular style of tap
- manufactured from select high-speed steel for increased wear life
- straight flute design
- can be used by hand or for tapping under power
- versatile taps for use in general machine tapping or CNC tapping applications
- use for through hole or blind hole tapping
- standard in right hand sizes in Unified and American National thread form
- hand taps store chips in their flutes next to the chamfered teeth during the threading operation
- for deep-hole threading more than 1 1/2 diameters of the tap-in depth, use a hand tap with fewer flutes for increased chip handling capabilities

Hand taps are available in three chamfer lengths for through hole or blind hole tapping:

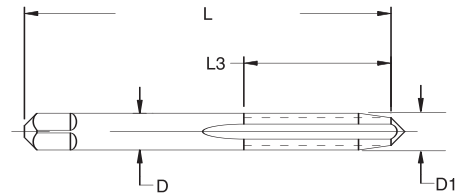
- taper (7-10 pitches) - longest standard chamfer ensures easier starting and requires less tapping torque because of more working teeth
- plug (3-5 pitches) - the most universally used chamfer for hand or machine tapping in through or blind holes
- bottoming (1-2 pitches) - for threading close to the bottom of blind holes; the least efficient standard chamfer

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous



Application Information:

- steels < 30Rc (TiN, TiCN, SH50)
- stainless steel < 30Rc (TiN, TiCN)
- cast iron and ductile iron (TiN, TiCN, SH50)
- non-ferrous materials (uncoated, MAXI)
- cast iron (uncoated, MAXI)
- aluminum (TiN+CrC/C)



D1 = Tap Size **D = Shank Diameter**
L = Overall Length **L3 = Thread Length**

HIGH-PERFORMANCE TAPS

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Metric Hand Taps

Taper Chamfer 7-10 Pitches

Series No. 5353 Uncoated

EDP Number - Taper Chamfer

Size	L	L3	D	Flutes	Pitch Dia. Limit	Uncoated
M2 x 0,4	1.75	.438	.141	3	D3	14725
M3 x 0,5	1.94	.625	.141	3	D3	14741
M4 x 0,7	2.13	.750	.168	4	D4	14757
M5 x 0,8	2.38	.875	.194	4	D4	14773
M6 x 1	2.50	1.000	.255	4	D5	14781
M7 x 1	2.72	1.125	.318	4	D5	14789
M8 x 1,25	2.72	1.125	.318	4	D5	14797
M10 x 1,5	2.94	1.250	.381	4	D6	14813
M12 x 1,75	3.38	1.656	.367	4	D6	14829
M14 x 2	3.59	1.656	.429	4	D7	14845
M16 x 2	3.81	1.813	.480	4	D7	14861
M18 x 2,5	4.03	1.063	.542	4	D7	14877
M20 x 2,5	4.47	2.000	.652	4	D7	14893
M24 x 3	4.91	2.219	.760	4	D8	14909
M30 x 3,5	5.44	2.563	1.021	4	D9	14925
M36 x 4	6.06	3.000	1.233	4	D9	14941

Metric taps for 6H class of fit are suitable for MJ Aerospace internal threading applications.

Metric taps are manufactured to USCTI specifications and dimensions.

Metric tap blank dimensions are equivalent to inch taps.

Metric hand taps with plug chamfer begin on the next page.