



TAPS AND DIES



TAP AND DRILL BIT SELECTION GUIDE

NATIONAL STANDARD THREADS

Imperial (NC, NF, NS, UNC and UNF)

THREAD NOMINAL SIZE	THREAD STANDARD	DRILL SIZE*	DECIMAL
0-80	NF	3/64"	.0469"
1-64	NC	53	.0595"
1-72	NF	53	.0595"
2-56	NC	50	.0700"
2-64	NF	50	.0700"
3-48	NC	47	.0785"
3-56	NF	45	.0820"
4-40	NC/UNC	43	.0890"
4-48	NF	42	.0935"
5-40	NC	38	.1015"
5-44	NF	37	.1040"
6-32	NC/UNC	36	.1065"
6-40	NF	33	.1130"
8-32	NC/UNC	29	.1360"
8-36	NF	29	.1360"
10-24	NC/UNC	25	.1495"
10-32	NF/UNF	21	.1590"
3/16-24	NS	26	.1470"
3/16-32	NS	22	.1570"
12-24	NC	16	.1770"
12-28	NF	14	.1820"
14-20	NS	10	.1935"
1/4-20	NC/UNC	7	.2010"
1/4-28	NF/UNF	3	.2130"
5/16-18	NC/UNC	F	.2570"
5/16-24	NF/UNF	I	.2720"
3/8-16	NC/UNC	5/16"	.3125"
3/8-24	NF/UNF	Q	.3320"
7/16-14	NC/UNC	U	.3680"
7/16-20	NF/UNF	25/64"	.3906"
1/2-13	NC/UNC	27/64"	.4219"
1/2-20	NF/UNF	29/64"	.4531"
9/16-12	NC/UNC	31/64"	.4844"
9/16-18	NF/UNF	33/64"	.5156"
5/8-11	NC/UNC	17/32"	.5312"
5/8-18	NF/UNF	37/64"	.5781"
3/4-10	NC/UNC	21/32"	.6562"
3/4-16	NF/UNF	11/16"	.6875"
7/8-9	NC/UNC	49/64"	.7656"
7/8-14	NF/UNF	13/16"	.8125"
1-8	NC/UNC	7/8"	.8750"
1-14	NS	15/16"	.9375"
1-1/8-7	NC/UNC	63/64"	.9844"
1-1/8-12	NF/UNF	1-3/64"	1.0469"
1-1/4-7	NC/UNC	1-7/64"	1.1094"
1-1/4-12	NF/UNF	1-11/64"	1.1719"
1-3/8-6	NC/UNC	1-7/32"	1.2188"
1-3/8-12	NF/UNF	1-19/64"	1.2969"
1-1/2-6	NC/UNC	1-11/32"	1.3438"
1-1/2-12	NF/UNF	1-27/64"	1.4219"
1-3/4-5	NC/UNC	1-9/16"	1.5625"
2-4-1/2	NC/UNC	1-25/32"	1.7813"
2-1/4-4-1/2	NC/UNC	2-1/32"	2.0313"
2-1/2-4	NC/UNC	2-1/4"	2.2500"
2-3/4-4	NC/UNC	2-1/2"	2.5000"
3-4	NC/UNC	2-3/4"	2.7500"
3-1/4-4	NC/UNC	3"	3.0000"
3-1/4-4	NC/UNC	3-1/4"	3.2500"
3-3/4-4	NC/UNC	3-1/2"	3.5000"
4-4	NC/UNC	3-3/4"	3.7500"

*Drill size is approximately 75% of threaded depth

METRIC THREADS

International Thread Standard (ISO)

TAP SIZE	THREAD STANDARD	DRILL SIZE	DECIMAL
2.5-.45	French	5/64"	.0781"
2.6-.45	DIN	#45	.0820"
3-.50	DIN	#40	.0980"
3-.60	French	#39	.0995"
3-.75	ISO-Other	#43	.8090"
3.5-.60	French and DIN	#33	.1130"
4-.70	DIN	1/8"	.1250"
4-.75	French	1/8"	.1250"
4.5-.75	French and DIN	#26	.1470"
5-.75	ISO-Other	#19	.1660"
5-.80	DIN	11/64"	.1719"
5-.90	French	#20	.1610"
5-1.00	ISO-Other	5/32"	.1563"
5.5-.75	ISO-Other	3/16"	.1875"
5.5-.90	French and DIN	#14	.1820"
6-1.00	French and DIN	13/64"	.2031"
6-1.25	ISO-Other	3/16"	.1875"
7-1.00	French and DIN	15/64"	.2344"
7-1.25	ISO-Other	#1	.2280"
8-1.00	French	J	.2770"
8-1.25	DIN	17/64"	.2656"
9-1.00	French	5/16"	.3125"
9-1.25	DIN	5/16"	.3125"
10-1.00	ISO-Other	23/64"	.3594"
10-1.25	ISO-Other	11/32"	.3437"
10-1.50	French and DIN	11/32"	.3437"
11-1.50	DIN	3/8"	.3750"
12-1.25	ISO-Other	7/16"	.4375"
12-1.50	French	13/32"	.4063"
12-1.75	DIN	27/64"	.4219"
12-1.75	ISO-Other	29/64"	.4531"
13-1.50	ISO-Other	29/64"	.4531"
13-2.00	ISO-Other	7/16"	.4375"
14-1.25	ISO-Other	33/64"	.5156"
14-1.75	ISO-Other	1/2"	.5000"
14-2.00	French and DIN	15/32"	.4687"
15-1.75	ISO-Other	17/32"	.5313"
15-2.00	ISO-Other	33/64"	.5156"
16-1.50	ISO-Other	37/64"	.5781"
16-2.00	French and DIN	35/64"	.5469"
17-2.00	ISO-Other	19/32"	.5937"
18-1.50	ISO-Other	21/32"	.6563"

DIN=Deutsche Institute for Norms

TAPER PIPE—FOR TAPPING WITHOUT REAMING

THREAD	DRILL	THREAD	DRILL	THREAD	DRILL
1/16"	D	3/4"	59/64"	2-1/2"	2-5/8"
1/8"	R	1"	1-5/32"	3"	3-1/4"
1/4"	7/16"	1-1/4"	1-1/2"	3-1/2"	3-3/34"
3/8"	37/64"	1-1/2"	1-47/64"	4"	4-1/4"
1/2"	45/64"	2"	2-7/32"	—	—

STRAIGHT PIPE

THREAD	DRILL	THREAD	DRILL	THREAD	DRILL
1/16"	1/4"	1/2"	23/32"	1-1/2"	1-3/4"
1/8"	11/32"	3/4"	59/64"	2"	2-7/32"
1/4"	7/16"	1"	1-5/32"	2-1/2"	2-21/32"
3/8"	37/64"	1-1/4"	1-1/2"	—	—

HEAT-TREATED CARBON STEEL

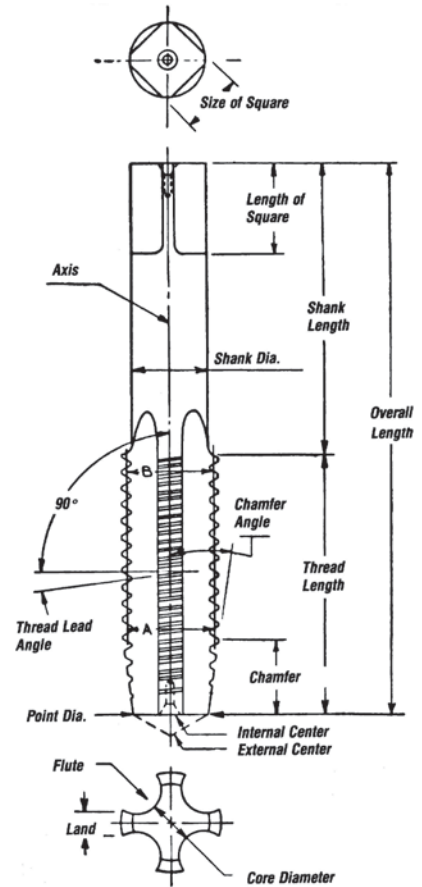
For long life and clean, accurate threads

ROLLED THREADS

Are more accurate than machined threads

LASER-ETCHED MARKING

Ensures size identification won't wear off



Note: Tap and die size is indicated by two numbers. The first number represents the diameter of the screw or bolt. The second number represents threads per inch. The letters after the tap size indicate particular screw or bolt standard:

- NC** = National Coarse
- UNC** = Unified National Coarse
- NF** = National Fine
- UNF** = Unified National Fine
- NS** = National Special
- NEF** = National Extra Fine
- NPT** = National Pipe Taper
- BSP** = British Standard Pipe
- ISO** = International Thread Standard (metric)

Example: A 1/4-20 NC tap will cut 1/4 in. outside diameter with 20 threads per inch for a National Coarse-type screw.

Product Information—Tap Point Styles



PLUG

- ▶ General-purpose tap with 3–5 chamfered threads
- ▶ Used when there is sufficient room on a blind hole and tapping to the bottom is not required



TAPER

- ▶ 8–10 chamfered threads at the tip are ideal for starting threads in tough materials
- ▶ Longest chamfer of all three types
- ▶ Commonly used in thru-holes and with materials where a guide is necessary
- ▶ Requires less torque due to more working teeth



BOTTOMING

- ▶ Used after the threads have been started
- ▶ 1–3 chamfered threads at the tip are enough to start the hole and taps all the way to the bottom





ITEM#	SIZE AND THREAD	THREAD STANDARD	CORRESPONDING DRILL SIZE (IF APPLICABLE)	ORDER IN MULTIPLES OF
STANDARD				
BPT440	4-40	NC	#43	1
BPT632	6-32	NC	#36	1
BPT832	8-32	NC	#29	1
BPT1024	10-24	NC	#25	1
BPT1032	10-32	NF	#21	1
BPT1224	12-24	NC	#16	1
BPT1420	14-20	NS	#10	1
BPT14F20	1/4-20	NC	#7	1
BPT14F28	1/4-28	NF	#3	1
BPT516F18	5/16-18	NC	F	1
BPT516F24	5/16-24	NF	I	1
BPT38F16	3/8-16	NC	5/16"	1
BPT38F24	3/8-24	NF	Q	1
BPT716F14	7/16-14	NC	U	1
BPT716F20	7/16-20	NF	25/64"	1
BPT12F13	1/2-13	NC	27/64"	1
BPT12F20	1/2-20	NF	29/64"	1
BPT916F12	9/16-12	NC	31/64"	1
BPT916F18	9/16-18	NF	33/64"	1
BPT58F11	5/8-11	NC	17/32"	1
BPT58F18	5/8-18	NF	37/64"	1
BPT34F10	3/4-10	NC	21/32"	1
BPT34F16	3/4-16	NF	11/16"	1
METRIC				
BPT3M50	3mm-.50	D.I.N.	#40	1
BPT3M60	3mm-.60	French	#39	1
BPT4M70	4mm-.70	D.I.N.	1/8"	1
BPT4M75	4mm-.75	French	1/8"	1
BPT5M80	5mm-.80	D.I.N.	11/64"	1
BPT5M90	5mm-.90	French	#20	1
BPT6M100	6mm-1.00	French and D.I.N.	13/64"	1
BPT7M100	7mm-1.00	French and D.I.N.	15/64"	1
BPT8M100	8mm-1.00	French	J	1
BPT8M125	8mm-1.25	D.I.N.	17/64"	1
BPT9M100	9mm-1.00	French	5/16"	1
BPT9M125	9mm-1.25	D.I.N.	5/16"	1
BPT10M100	10mm-1.00	ISO-Other	23/64"	1
BPT10M125	10mm-1.25	ISO-Other	11/32"	1
BPT10M150	10mm-1.50	French and D.I.N.	11/32"	1
BPT11M150	11mm-1.50	D.I.N.	3/8"	1
BPT12M125	12mm-1.25	ISO-Other	7/16"	1
BPT12M150	12mm-1.50	French	13/32"	1
BPT12M175	12mm-1.75	D.I.N.	27/64"	1
BPT14M125	14mm-1.25	ISO-Other	33/64"	1
BPT14M200	14mm-2.00	French and D.I.N.	15/32"	1
BPT16M150	16mm-1.50	ISO-Other	37/64"	1
BPT16M200	16mm-2.00	French and D.I.N.	35/64"	1
BPT18M150	18mm-1.50	ISO-Other	21/32"	1



TAPS AND DIES

TAPER TAPS



ITEM#	SIZE AND THREAD	THREAD STANDARD	CORRESPONDING DRILL SIZE (IF APPLICABLE)	ORDER IN MULTIPLES OF
BTT632	6-32	NC	#36	1
BTT832	8-32	NC	#29	1
BTT1024	10-24	NC	#25	1
BTT1032	10-32	NF	#21	1
BTT14F20	1/4-20	NC	#7	1
BTT14F28	1/4-28	NF	#3	1
BTT516F18	5/16-18	NC	F	1
BTT38F16	3/8-16	NC	5/16"	1
BTT38F24	3/8-24	NF	Q	1
BTT716F14	7/16-14	NC	U	1
BTT12F13	1/2-13	NC	27/64"	1

BOTTOMING TAPS



ITEM#	SIZE AND THREAD	THREAD STANDARD	CORRESPONDING DRILL SIZE (IF APPLICABLE)	ORDER IN MULTIPLES OF
BBT832	8-32	NC	#29	1
BBT1024	10-24	NC	#25	1
BBT1032	10-32	NF	#21	1
BBT14F20	1/4-20	NC	#7	1
BBT14F28	1/4-28	NF	#3	1
BBT516F18	5/16-18	NC	F	1
BBT516F24	5/16-24	NF	I	1
BBT38F16	3/8-16	NC	5/16"	1
BBT38F24	3/8-24	NF	Q	1
BBT716F14	7/16-14	NC	U	1
BBT716F20	7/16-20	NF	25/64"	1
BBT12F13	1/2-13	NC	27/64"	1
BBT12F20	1/2-20	NF	29/64"	1



TAPS AND DIES



PIPE TAPS



ITEM#	SIZE AND THREAD	THREAD STANDARD	CORRESPONDING DRILL SIZE (IF APPLICABLE)	ORDER IN MULTIPLES OF
BPT18F27	1/8-27	NPT	R	1
BPT14F18	1/4-18	NPT	7/16"	1
BPT38F18	3/8-18	NPT	37/64"	1
BPT12F14	1/2-14	NPT	45/64"	1
BPT18F28	1/8-28	BSP	5/16"	1

PIPE DIES



ITEM#	SIZE AND THREAD	THREAD STANDARD	WIDTH ACROSS FLAT	ORDER IN MULTIPLES OF
BPD18F27	1/8-27	NPT	1"	1
BPD14F18	1/4-18	NPT	1"	1
BPD12F14	1/2-14	NPT	1-7/8"	1
BPD18F28	1/8-28	BSP	1"	1

HEX DIES



ITEM#	SIZE AND THREAD	THREAD STANDARD	WIDTH ACROSS FLAT	ORDER IN MULTIPLES OF
STANDARD				
BHD440	4-40	NC	1"	1
BHD632	6-32	NC	1"	1
BHD832	8-32	NC	1"	1
BHD1024	10-24	NC	1"	1
BHD1032	10-32	NF	1"	1
BHD1224	12-24	NC	1"	1
BHD1420	14-20	NS	1"	1
BHD14F20	1/4-20	NC	1"	1
BHD14F28	1/4-28	NF	1"	1
BHD516F18	5/16-18	NC	1"	1
BHD516F24	5/16-24	NF	1"	1
BHD38F16	3/8-16	NC	1"	1
BHD38F24	3/8-24	NF	1"	1
BHD716F14	7/16-14	NC	1"	1
BHD716F20	7/16-20	NF	1"	1
BHD12F13	1/2-13	NC	1"	1
BHD12F20	1/2-20	NF	1"	1
METRIC				
BHD3M50	3mm-.50	D.I.N.	1"	1
BHD3M60	3mm-.60	French	1"	1
BHD4M70	4mm-.70	D.I.N.	1"	1
BHD4M75	4mm-.75	French	1"	1
BHD5M80	5mm-.80	D.I.N.	1"	1
BHD5M90	5mm-.90	French	1"	1
BHD6M100	6mm-1.00	French and D.I.N.	1"	1
BHD7M100	7mm-1.00	French and D.I.N.	1"	1
BHD8M100	8mm-1.00	French	1"	1
BHD8M125	8mm-1.25	D.I.N.	1"	1
BHD9M100	9mm-1.00	French	1"	1
BHD9M125	9mm-1.25	D.I.N.	1"	1
BHD10M100	10mm-1.00	ISO-Other	1"	1
BHD10M125	10mm-1.25	ISO-Other	1"	1
BHD10M150	10mm-1.50	French and D.I.N.	1"	1
BHD11M150	11mm-1.50	D.I.N.	1"	1
BHD12M125	12mm 1.25	ISO-Other	1"	1
BHD12M150	12mm-1.50	French	1"	1
BHD12M175	12mm-1.75	D.I.N.	1"	1

SCREW EXTRACTORS



Tempered and heat treated to help prevent rust and extend life. For manual screw removal with T-handle wrench.

ITEM#	SIZE AND THREAD	CORRESPONDING DRILL SIZE (IF APPLICABLE)	ORDER IN MULTIPLES OF
BSPE1	#1 Spiral Flute	5/64"	1
BSPE2	#2 Spiral Flute	7/64"	1
BSPE3	#3 Spiral Flute	5/32"	1
BSPE4	#4 Spiral Flute	1/4"	1
BSPE5	#5 Spiral Flute	17/64"	1
BSPE6	#6 Spiral Flute	13/32"	1
BSPE7	#7 Spiral Flute	17/32"	1
BSTE1	#1 Straight Flute	1/8"	1
BSTE2	#2 Straight Flute	3/16"	1
BSTE3	#3 Straight Flute	15/64"	1
BSTE4	#4 Straight Flute	5/16"	1
BSTE5	#5 Straight Flute	3/8"	1
BSTE6	#6 Straight Flute	15/32"	1
BSTE7	#7 Straight Flute	9/16"	1

DRILL AND TAP COMBINATIONS



ITEM#	TYPE	TAP SIZE	CORRESPONDING DRILL SIZE (IF APPLICABLE)	ORDER IN MULTIPLES OF
BDT440	Machine Screw	4-40 NC	#43	2
BDT632	Machine Screw	6-32 NC	#36	2
BDT832	Machine Screw	8-32 NC	#29	2
BDT1024	Machine Screw	10-24 NC	#25	2
BDT1032	Machine Screw	10-32 NF	#21	2
BDT1224	Machine Screw	12-24 NC	#16	2
BDT14F20	Fractional	1/4-20 NC	#7	2
BDT14F28	Fractional	1/4-28 NF	#3	2
BDT516F18	Fractional	5/16-18 NC	F	2
BDT38F16	Fractional	3/8-16 NC	5/16"	2
BDT12F13	Fractional	1/2-13 NC	27/64"	2
BDT14F18	Pipe	1/4-18 NPT	7/16"	2



TAPS AND DIES

SCREW EXTRACTOR SETS

ITEM #	# OF PIECES	INCLUDES	INCLUDES (ACCESSORIES)	CASE TYPE
BSPE5S	5	Spiral flute screw extractors (carded): (1) #1, (1) #2, (1) #3, (1) #4, (1) #5	—	—
BSPE6D	12	Spiral flute screw extractors: #1-#6; drill bits: (1) 5/64", (1) 7/64", (1) 5/32", (1) 1/4", (1) 17/64", (1) 13/32"	—	—
BSTE500	5	Straight flute screw extractors (carded): (1) #1, (1) #2, (1) #3, (1) #4, (1) #5	—	Brute Tough



BOSCH
Invented for life

TAPS AND DIE SETS

ITEM #	# OF PIECES	INCLUDES (TAPS)	INCLUDES (DIES)	INCLUDES (ACCESSORIES)	ORDER IN MULTIPLES OF	CASE TYPE
BDT11S	11	Taps: (1) 6-32, (1) 8-32, (1) 10-24, (1) 10-32, (1) 1/4-20	—	Drill bits: (1) #36, (1) #29, (1) #25, (1) #21, (1) #7; (1) T-handle wrench	1	Brute Tough
BPT12S	12	Plug taps: (1) 6-32, (1) 8-32, (1) 10-24, (1) 10-32, (1) 12-24, (1) 1/4-20, (1) 1/4-28, (1) 5/16-18, (1) 3/8-16, (1) 7/16-14, (1) 1/2-13, (1) 1/8-27	—	—	1	Brute Tough
BTD58S	58	Plug taps: (1) 6-32, (1) 8-32, (1) 10-24, (1) 10-32, (1) 12-24, (1) 1/4-20, (1) 1/4-28, (1) 5/16-18, (1) 5/16-24, (1) 3/8-16, (1) 3/8-24, (1) 7/16-14, (1) 7/16-20, (1) 1/2-13, (1) 1/2-20, (1) 9/16-12, (1) 9/16-18, (1) 5/8-11, (1) 5/8-18, (1) 3/4-10, (1) 3/4-16, (1) 1/8-27, (1) 1/4-18	1" hex dies: (1) 6-32, (1) 8-32, (1) 10-24, (1) 10-32, (1) 12-24, (1) 1/4-20, (1) 1/4-28, (1) 5/16-18, (1) 5/16-24, (1) 3/8-16, (1) 3/8-24, (1) 7/16-14, (1) 7/16-20, (1) 1/2-13, (1) 1/2-20, (1) 1/8-27; pipe dies: (1) 1/4-18; 1-7/16"; hex dies: (1) 9/16-12, (1) 9/16-18, (1) 5/8-11, (1) 5/8-18, (1) 3/4-10, (1) 3/4-16	Spiral screw extractors #1-5, (1) tap wrench 1/4-1/2, (1) tap wrench 1/2-3/4, (1) T-handle wrench, (1) 1" hex die stock, (1) 1-7/16" hex die stock, (1) #5 screwdriver, (1) screw pitch gauge	1	Plastic
BTD40S	40	Plug taps: (1) 4-40, (1) 6-32, (1) 8-32, (1) 10-24, (1) 10-32, (1) 12-24, (1) 1/4-20, (1) 1/4-28, (1) 5/16-18, (1) 5/16-24, (1) 3/8-16, (1) 3/8-24, (1) 7/16-14, (1) 7/16-20, (1) 1/2-13, (1) 1/2-20; pipe tap: (1) 1/8-27	1" hex dies: (1) 4-40, (1) 6-32, (1) 8-32, (1) 10-24, (1) 10-32, (1) 12-24, (1) 1/4-20, (1) 1/4-28, (1) 5/16-18, (1) 5/16-24, (1) 3/8-16, (1) 3/8-24, (1) 7/16-14, (1) 7/16-20, (1) 1/2-13, (1) 1/2-20; pipe die: (1) 1/8-27	(1) #5 screwdriver, (1) screw pitch gauge, (1) 1" hex die stock, (1) T-handle wrench 0-1/4, (1) T-handle wrench 1/4-1/2, (1) tap wrench 1/4-1/2	1	Plastic
BTD40MS	40	Plug taps: (1) 3mm x .50, (1) 3mm x 0.60, (1) 4mm x 0.70, (1) 4mm x 0.75, (1) 5mm x 0.80, (1) 5mm x 0.90, (1) 6mm x 1.00, (1) 7mm x 1.00, (1) 8mm x 1.25, (1) 9mm x 1.00, (1) 9mm x 1.25, (1) 10mm x 1.25, (1) 10mm x 1.50, (1) 11mm x 1.50, (1) 12mm x 1.50, (1) 12mm x 1.75 BSP; pipe tap: (1) 1/8-28	1" hex dies: (1) 3mm x .50, (1) 3mm x .60, (1) 4mm x .70, (1) 4mm x .75, (1) 5mm x .80, (1) 5mm x .90, (1) 6mm x 1.00, (1) 7mm x 1.00, (1) 8mm x 1.25, (1) 9mm x 1.00, (1) 9mm x 1.25, (1) 10mm x 1.25, (1) 10mm x 1.50, (1) 11mm x 1.50, (1) 12mm x 1.50, (1) 12mm x 1.75, (1) 1/8-28 BSP	(1) #5 screwdriver, (1) screw pitch gauge, (1) 1" hex die stock, (1) T-handle wrench 0-1/4, (1) T-handle wrench 1/4-1/2, (1) tap wrench 1/4-1/2	1	Plastic



TAPS AND DIES

TAP AND DIE ACCESSORIES

ITEM #	DESCRIPTION	ORDER IN MULTIPLES OF
BTH014	T-handle wrench #0-1/4	1
BTH1412	T-handle wrench 1/4-1/2	1
395893	Tap wrench 1/2-3/4	1
B44719	Tap wrench 1/2-1-1/8	1
BHDS1	Hex die stock 1"	1
395951	Screw pitch gauge—Imperial	1
395952	Screw pitch gauge—Metric	1