

# TAP MANUFACTURING

MIRANDA Ground Thread Taps will be supplied in M2, M35, M42 Grade of HSS.

Taps of dia 7.0mm & below will be supplied with external (male) center on both side or chamfer at Shank side.

And dia 8.00mm and above will be supplied with internal (female) center on both side.

### TOLERANCE :

Standard Tolerance is ISO Class 2; 6H; 2B; Zone 3.

Other Tolerance like ISO Class 1, ISO Class 3, 4H, 5H, 7H, 4G, 6G, 1B, 3B, Zone 1, Zone2, Zone4.

Or Special tolerance will be maintained as per request of customer.

**We can supply the following Types of Tap with All STANDARD's like ISO, BS, DIN, JIS, ANSI etc.**

Basic Form		Standard Taps Right Hand & Left Hand	Spiral Point Right Hand & Left Hand	Spiral Flute			NIB Tap (H / AH / R & Lead Guide and NUT Tap.
				Right & Left Hand	Right & Left Hand	Right & Left Hand	
				Slow helix 15° - 20°	Standard helix 30° - 35°	Quick helix 35° - 40°	
Metric Threads	Size Range	M2 to M100	M2.5 to M40	M3 to M40			M3 to M33
	Pitch Range	0.4 to 6.0 mm	0.4 to 6.0 mm	0.2 to 6.0 mm			0.5 to 3.5 mm
Whitworth Threads	Size Range	1/8" to 3"	1/8" to 1.1.2"	1/8" to 1.1.2"			1/8" to 1.1/4"
	Pitch Range	40 TPI to 3.5 TPI	40 TPI to 8 TPI	40 TPI to 8 TPI			40 TPI to 8 TPI
Unified Threads	Size Range	No. 0 to 4"	No. 0 to 1.1/2"	No. 5 to 1.1/2"			1/8" to 1.1/4"
	Pitch Range	80 TPI to 4 TPI	80 TPI to 12 TPI	44 TPI to 12 TPI			80 TPI to 8 TPI
BA Threads	Size Range	14 BA to 0 BA	10 BA to 0 BA	5 BA to 0 BA			
	Pitch Range	0.23 to 1.0 mm	0.23 to 1.0 mm	0.35 to 1.0 mm			
BSP / BSPT	Size Range	1/8" to 3"	1/8" to 1.1/4"	1/8" to 1.1/4"			
	Pitch Range	28 TPI to 11 TPI	28 TPI to 11 TPI	28 TPI to 11 TPI			
NPSI/NPSF/ NPT / NPTF.	Size Range	1/16" to 3"	1/16" to 1.1/4"	1/16" to 1.1/4"			
	Pitch Range	27 TPI to 11.5 TPI	27 TPI to 11.5 TPI	27 TPI to 11.5 TPI			

### APPLICATION & SPECIAL TAPS :

Application Taps or Special Taps can be supplied as per requirement of customer or drawing of Customer or designed by us. Also Special geometry Taps can be supplied on customer request.

### SURFACE TREATMENT & COATING :

We can supply Taps with different surface treatment and coating like TiN, TiCN, TiAlN, Steam tempered etc. As per requirement of customer.

### MARKING :

Size, Pitch, Brand Name, Material Grade, Batch Code.

Or As Per Customer Request.

### PACKING :

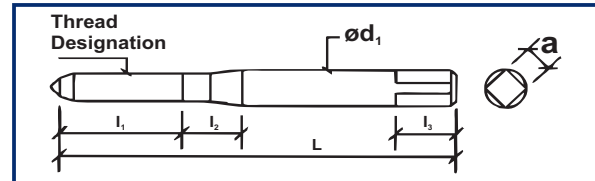
Split Plastic Box or Plastic Tube.

Or As Per Customer Requirement.

## HAND & SHORT MACHINE TAPS (REINFORCED SHANK)

ISO Metric HSS Ground Threads  
Coarse Pitch

IS 6175 (part 1) 1992  
ISO 529 1993 (E)

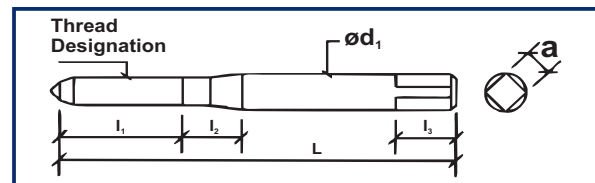


Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Recess Length (l <sub>2</sub> )	Overall Length (L)	Square		75% Thread depth drill size
						Size (a)	Length (l <sub>3</sub> )	
M 1	0.25	2.50	5.50	4.50	38.50	2.00	4.00	0.76
(M 1.1)	0.25	2.50	5.50	4.50	38.50	2.00	4.00	0.86
M 1.2	0.25	2.50	5.50	4.50	38.50	2.00	4.00	0.96
(M 1.4)	0.30	2.50	7.00	5.00	40.00	2.00	4.00	1.11
M 1.6	0.35	2.50	8.00	5.00	41.00	2.00	4.00	1.26
(M 1.8)	0.35	2.50	8.00	5.00	41.00	2.00	4.00	1.46
M 2	0.40	2.50	8.00	5.50	41.00	2.00	4.00	1.61
(M 2.2)	0.45	2.80	9.50	6.00	44.50	2.24	5.00	1.76
M 2.5	0.45	2.80	9.50	6.00	44.50	2.24	5.00	2.06

## HAND & SHORT MACHINE TAPS (REINFORCED SHANK)

ISO Metric HSS Ground Threads  
Fine Pitch

IS 6175 (part 1) 1992  
ISO 529 1993 (E)



Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Recess Length (l <sub>2</sub> )	Overall Length (L)	Square		75% Thread depth drill size
						Size (a)	Length (l <sub>3</sub> )	
M 1	0.20	2.50	5.50	4.50	38.50	2.00	4.00	0.81
(M 1.1)	0.20	2.50	5.50	4.50	38.50	2.00	4.00	0.91
M 1.2	0.20	2.50	5.50	4.50	38.50	2.00	4.00	1.01
(M 1.4)	0.20	2.50	7.00	5.00	40.00	2.00	4.00	1.21
M 1.6	0.20	2.50	8.00	5.00	41.00	2.00	4.00	1.41
(M 1.8)	0.20	2.50	8.00	5.00	41.00	2.00	4.00	1.61
M 2	0.25	2.50	8.00	5.50	41.00	2.00	4.00	1.76
(M 2.2)	0.25	2.80	9.50	6.00	44.50	2.24	5.00	1.96
M 2.5	0.35	2.80	9.50	6.00	44.50	2.24	5.00	2.16

Dimensions are in mm.

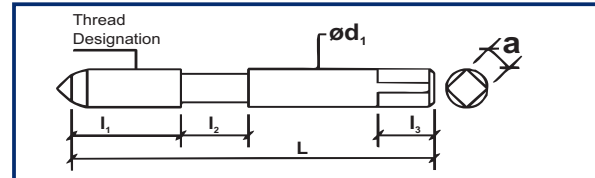
All taps will be as per thread tolerance 6H, other tolerances of 4H, 7H can be supplied on request.  
Above 6 mm size, taps will be supplied with female centers on both sides.

**HAND & SHORT MACHINE TAPS (PARALLEL SHANK)**

 IS 6175 (part 2) 1992  
 ISO 529 1993 (E)

ISO Metric HSS Ground Threads

Coarse Pitch



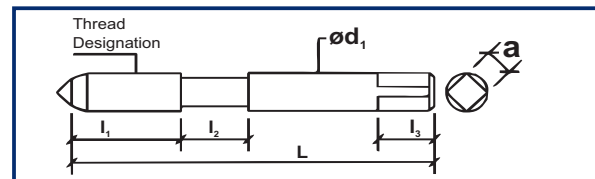
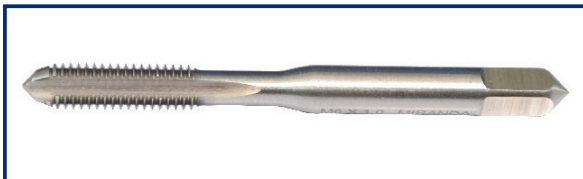
Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Recess Length (l <sub>2</sub> )	Overall Length (L)	Square		75% Thread depth drill size
						Size (a)	Length (l <sub>3</sub> )	
M3	0.50	3.15	11.00	7.00	48.00	2.50	5.00	2.51
(M 3.5)	0.60	3.55	13.00	7.00	50.00	2.80	5.00	2.92
M4	0.70	4.00	13.00	8.00	53.00	3.15	6.00	3.32
(M4.5)	0.75	4.50	13.00	8.00	53.00	3.55	6.00	3.77
M5	0.80	5.00	16.00	9.00	58.00	4.00	7.00	4.22
M6	1.00	6.30	19.00	11.00	66.00	5.00	8.00	5.03
(M7)	1.00	7.10	19.00	11.00	66.00	5.60	8.00	6.03
M8	1.25	8.00	22.00	13.00	72.00	6.30	9.00	6.78
(M9)	1.25	9.00	22.00	14.00	72.00	7.10	10.00	7.78
M10	1.50	10.00	24.00	15.00	80.00	8.00	11.00	8.54

**HAND & SHORT MACHINE TAPS (PARALLEL SHANK)**

 IS 6175 (part 2) 1992  
 ISO 529 1993 (E)

ISO Metric HSS Ground Threads

Fine Pitch



Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Recess Length (l <sub>2</sub> )	Overall Length (L)	Square		75% Thread depth drill size
						Size (a)	Length (l <sub>3</sub> )	
M 3	0.35	3.15	11.00	7.00	48.00	2.50	5.00	2.66
(M 3.5)	0.35	3.55	13.00	7.00	50.00	2.80	5.00	3.16
M 4	0.50	4.00	13.00	8.00	53.00	3.15	6.00	3.51
(M 4.5)	0.50	4.50	13.00	8.00	53.00	3.55	6.00	4.01
M 5	0.50	5.00	16.00	9.00	58.00	4.00	7.00	4.51
(M 5.5)	0.50	5.60	17.00	9.00	62.00	4.50	7.00	5.01
M 6	0.75	6.30	19.00	11.00	66.00	5.00	8.00	5.27
(M 7)	0.75	7.10	19.00	11.00	66.00	5.60	8.00	6.27
M8	0.75	8.00	16.00	13.00	66.00	6.30	9.00	7.27
M8	1.00	8.00	19.00	13.00	69.00	6.30	9.00	7.03
(M 9)	0.75	9.00	16.00	14.00	66.00	7.10	10.00	8.27
(M 9)	1.00	9.00	19.00	14.00	69.00	7.10	10.00	8.03
M 10	0.75	10.00	17.00	15.00	73.00	8.00	11.00	9.27
M 10	1.00	10.00	20.00	15.00	76.00	8.00	11.00	9.03
M 10	1.25	10.00	20.00	15.00	76.00	8.00	11.00	8.78

Dimensions are in mm.

All taps will be as per thread tolerance 6H, other tolerances of 4H, 7H can be supplied on request.

Upto 6 mm size, taps will be supplied with male centers on both sides.

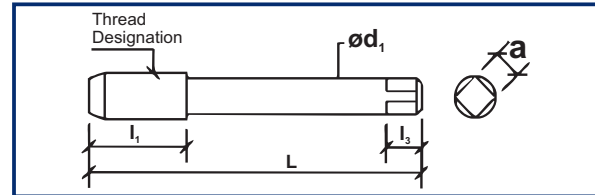
Above 6 mm size, taps will be supplied with female centers on both sides.

The Overall Length, Thread Length of the tap blanks may vary in ISO 529 - 1993 (E) from the chart indicated above.

## HAND & SHORT MACHINE TAPS (RELIEVED SHANK)

ISO Metric HSS Ground Threads  
Coarse Pitch

IS 6175 (part 3) 1992  
ISO 529 1993 (E)



Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Overall Length (L)	Square		75% Thread depth drill size
					Size (a)	Length (l <sub>3</sub> )	
M3	0.50	2.24	11.00	48.00	1.80	4.00	2.51
(M 3.5)	0.60	2.50	13.00	50.00	2.00	4.00	2.92
M4	0.70	3.15	13.00	53.00	2.50	5.00	3.32
(M4.5)	0.75	3.55	13.00	53.00	2.80	5.00	3.77
M5	0.80	4.00	16.00	58.00	3.15	6.00	4.22
M6	1.00	4.50	19.00	66.00	3.55	6.00	5.03
( M7 )	1.00	5.60	19.00	66.00	4.50	7.00	6.03
M8	1.25	6.30	22.00	72.00	5.00	8.00	6.78
( M9 )	1.25	7.10	22.00	72.00	5.60	8.00	7.78
M10	1.50	8.00	24.00	80.00	6.30	9.00	8.54
( M11 )	1.50	8.00	25.00	85.00	6.30	9.00	9.54
M12	1.75	9.00	29.00	89.00	7.10	10.00	10.30
( M14 )	2.00	11.20	30.00	95.00	9.00	12.00	12.05
M16	2.00	12.50	32.00	102.00	10.00	13.00	14.05
( M18 )	2.50	14.00	37.00	112.00	11.20	14.00	15.56
M20	2.50	14.00	37.00	112.00	11.20	14.00	17.56
( M22 )	2.50	16.00	38.00	118.00	12.50	16.00	19.56
M24	3.00	18.00	45.00	130.00	14.00	18.00	21.08
( M27 )	3.00	20.00	45.00	135.00	16.00	20.00	24.08
M30	3.50	20.00	48.00	138.00	16.00	20.00	26.59
( M33 )	3.50	22.40	51.00	151.00	18.00	22.00	29.59
M36	4.00	25.00	57.00	162.00	20.00	24.00	32.10

Dimensions are in mm.

All taps will be as per thread tolerance 6H, other tolerances of 4H, 7H can be supplied on request.

Upto 6 mm size, taps will be supplied with male centers on both sides.

Above 6 mm size, taps will be supplied with female centers on both sides.

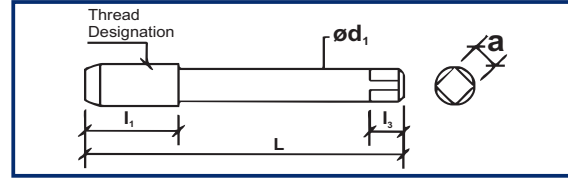
**HAND & SHORT MACHINE TAPS (RELIEVED SHANK)**

IS 6175 (part 3) 1992

ISO Metric HSS Ground Threads

ISO 529 1993 (E)

Fine Pitch

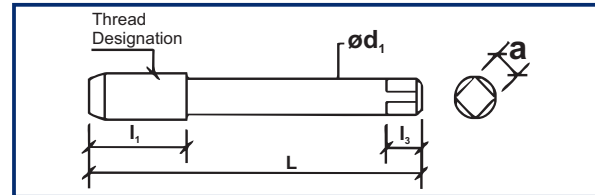


Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Overall Length (L)	Square		75% Thread depth drill size
					Size (a)	Length (l <sub>2</sub> )	
M3	0.35	2.24	11.00	48.00	1.80	4.00	2.66
(M 3.5)	0.35	2.50	13.00	50.00	2.00	4.00	3.16
M4	0.50	3.15	13.00	53.00	2.50	5.00	3.51
(M4.5)	0.50	3.55	13.00	53.00	2.80	5.00	4.01
M5	0.50	4.00	16.00	58.00	3.15	6.00	4.51
(M5.5)	0.50	4.00	17.00	62.00	3.15	6.00	5.01
M6	0.75	4.50	19.00	66.00	3.55	6.00	5.27
( M7 )	0.75	5.60	19.00	66.00	4.50	7.00	6.27
M8	0.75	6.30	16.00	66.00	5.00	8.00	7.27
M8	1.00	6.30	19.00	69.00	5.00	8.00	7.03
( M9 )	0.75	7.10	16.00	66.00	5.60	8.00	8.27
(M9)	1.00	7.10	19.00	69.00	5.60	8.00	8.03
M10	0.75	8.00	17.00	73.00	6.30	9.00	9.27
M10	1.00	8.00	20.00	76.00	6.30	9.00	9.03
M10	1.25	8.00	20.00	76.00	6.30	9.00	8.78
(M11)	0.75	8.00	20.00	80.00	6.30	9.00	10.27
(M11)	1.00	8.00	20.00	80.00	6.30	9.00	10.03
M12	1.00	9.00	20.00	80.00	7.10	10.00	11.03
M12	1.25	9.00	24.00	84.00	7.10	10.00	10.78
M12	1.50	9.00	29.00	89.00	7.10	10.00	10.54
(M14)	1.00	11.20	22.00	87.00	9.00	12.00	13.03
(M14)	1.25	11.20	25.00	90.00	9.00	12.00	12.78
(M14)	1.50	11.20	30.00	95.00	9.00	12.00	12.54
(M15)	1.00	11.20	22.00	87.00	9.00	12.00	14.03
(M15)	1.50	11.20	30.00	95.00	9.00	12.00	13.54
M16	1.00	12.50	22.00	92.00	10.00	13.00	15.03
M16	1.50	12.50	32.00	102.00	10.00	13.00	14.54
(M17)	1.00	12.50	22.00	92.00	10.00	13.00	16.03
(M17)	1.50	12.50	32.00	102.00	10.00	13.00	15.54
(M18)	1.00	14.00	22.00	97.00	11.20	14.00	17.03
(M18)	1.50	14.00	29.00	104.00	11.20	14.00	16.54
(M18)	2.00	14.00	37.00	112.00	11.20	14.00	16.05
M20	1.00	14.00	27.00	102.00	11.20	14.00	19.03
M20	1.50	14.00	29.00	104.00	11.20	14.00	18.54
M20	2.00	14.00	37.00	112.00	11.20	14.00	18.05
(M22)	1.00	16.00	29.00	109.00	12.50	16.00	21.03
(M22)	1.50	16.00	33.00	113.00	12.50	16.00	20.54
(M22)	2.00	16.00	33.00	118.00	12.50	16.00	20.05

## HAND & SHORT MACHINE TAPS (RELIEVED SHANK)

ISO Metric HSS Ground Threads  
Fine Pitch

IS 6175 (part 3) 1992  
ISO 529 1993 (E)



Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Overall Length (L)	Square		75% Thread depth drill size
					Size (a)	Length (l <sub>3</sub> )	
M24	1.00	18.00	29.00	114.00	14.00	18.00	23.03
M24	1.50	18.00	35.00	120.00	14.00	18.00	22.54
M24	2.00	18.00	35.00	120.00	14.00	18.00	22.05
(M25)	1.00	18.00	29.00	114.00	14.00	18.00	24.03
(M25)	1.50	18.00	35.00	120.00	14.00	18.00	23.54
(M25)	2.00	18.00	35.00	120.00	14.00	18.00	23.05
(M26)	1.50	18.00	35.00	120.00	14.00	18.00	24.54
(M27)	1.00	20.00	30.00	120.00	16.00	20.00	26.03
(M27)	1.50	20.00	37.00	127.00	16.00	20.00	25.54
(M27)	2.00	20.00	37.00	127.00	16.00	20.00	25.05
(M28)	1.00	20.00	30.00	120.00	16.00	20.00	27.03
(M28)	1.50	20.00	37.00	127.00	16.00	20.00	26.54
(M28)	2.00	20.00	37.00	127.00	16.00	20.00	26.05
(M30)	1.00	20.00	30.00	120.00	16.00	20.00	29.03
(M30)	1.50	20.00	37.00	127.00	16.00	20.00	28.54
(M30)	2.00	20.00	37.00	127.00	16.00	20.00	28.05
(M30)	3.00	20.00	48.00	138.00	16.00	20.00	27.08
(M32)	1.50	22.40	37.00	137.00	18.00	20.00	30.54
(M32)	2.00	22.40	37.00	137.00	18.00	20.00	30.05
(M33)	1.50	22.40	37.00	137.00	18.00	20.00	31.54
(M33)	2.00	22.40	37.00	137.00	18.00	20.00	31.05
(M33)	3.00	22.40	51.00	151.00	18.00	20.00	30.08
(M35)	1.50	25.00	39.00	144.00	20.00	24.00	33.54
M36	1.50	25.00	39.00	144.00	20.00	24.00	34.54
M36	2.00	25.00	39.00	144.00	20.00	24.00	34.05
M36	3.00	25.00	57.00	162.00	20.00	24.00	33.08

Dimensions are in mm.

All taps will be as per thread tolerance 6H, other tolerances of 4H, 7H can be supplied on request.

Upto 6 mm size, taps will be supplied with male centers on both sides.

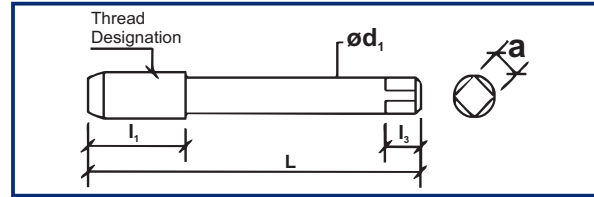
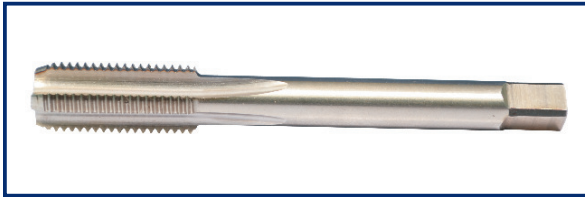
Above 6 mm size, taps will be supplied with female centers on both sides.

The Overall Length, Thread Length of the tap blanks may vary in ISO 529 - 1993 (E) from the chart indicated above.

## LONG SHANK MACHINE TAPS

ISO Metric HSS Ground Threads  
Coarse Pitch

IS 6175 (part 4) 1991



Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Overall Length (L)	Square		75% Thread depth drill size
					Size (a)	Length (l <sub>3</sub> )	
M3	0.50	2.24	11.00	66.00	1.80	4.00	2.51
(M 3.5)	0.60	2.50	13.00	68.00	2.00	4.00	2.92
M4	0.70	3.15	13.00	73.00	2.50	5.00	3.32
(M4.5)	0.75	3.55	13.00	73.00	2.80	5.00	3.77
M5	0.80	4.00	16.00	79.00	3.15	6.00	4.22
M6	1.00	4.50	19.00	89.00	3.55	6.00	5.03
(M7)	1.00	5.60	19.00	89.00	4.50	7.00	6.03
M8	1.25	6.30	22.00	97.00	5.00	8.00	6.78
(M9)	1.25	7.10	22.00	97.00	5.60	8.00	7.78
M10	1.50	8.00	24.00	108.00	6.30	9.00	8.54
(M11)	1.50	8.00	25.00	115.00	6.30	9.00	9.54
M12	1.75	9.00	29.00	119.00	7.10	10.00	10.30
(M14)	2.00	11.20	30.00	127.00	9.00	12.00	12.05
M16	2.00	12.50	32.00	137.00	10.00	13.00	14.05
(M18)	2.50	14.00	37.00	149.00	11.20	14.00	15.56
M20	2.50	14.00	37.00	149.00	11.20	14.00	17.56
(M22)	2.50	16.00	38.00	158.00	12.50	16.00	19.56
M24	3.00	18.00	45.00	172.00	14.00	18.00	21.08

Dimensions are in mm.

All taps will be as per thread tolerance 6H, other tolerances of 4H, 7H can be supplied on request.

Upto 6 mm size, taps will be supplied with male centers on both sides.

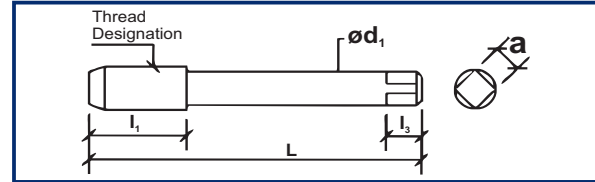
Above 6 mm size, taps will be supplied with female centers on both sides.

## LONG SHANK MACHINE TAPS

ISO Metric HSS Ground Threads

IS 6175 (part 4) 1991

Fine Pitch



Thread Designation	Pitch	Shank Diameter (d <sub>1</sub> )	Thread Length (l <sub>1</sub> )	Overall Length (L)	Square		75% Thread depth drill size
					Size (a)	Length (l <sub>2</sub> )	
M3	0.35	2.24	11.00	66.00	1.80	4.00	2.66
(M 3.5)	0.35	2.50	13.00	68.00	2.00	4.00	3.16
M4	0.50	3.15	13.00	73.00	2.50	5.00	3.51
( M4.5 )	0.50	3.55	13.00	73.00	2.80	5.00	4.01
M5	0.50	4.00	16.00	79.00	3.15	6.00	4.51
( M 5.5 )	0.50	4.00	17.00	84.00	3.15	6.00	5.01
M6	0.75	4.50	19.00	89.00	3.55	6.00	5.25
(M7)	0.75	5.60	19.00	89.00	4.50	7.00	6.27
M8	0.75	6.30	16.00	91.00	5.00	8.00	7.27
M8	1.00	6.30	19.00	97.00	5.00	8.00	7.03
(M9)	0.75	7.10	16.00	94.00	5.60	8.00	8.27
(M9)	1.00	7.10	19.00	97.00	5.60	8.00	8.03
M10	0.75	8.00	17.00	104.00	6.30	9.00	9.27
M10	1.00	8.00	20.00	108.00	6.30	9.00	9.03
M10	1.25	8.00	20.00	108.00	6.30	9.00	8.78
(M11)	0.75	8.00	20.00	110.00	6.30	9.00	10.27
(M11)	1.00	8.00	20.00	110.00	6.30	9.00	10.03
M12	1.00	9.00	20.00	110.00	7.10	10.00	11.03
M12	1.25	9.00	24.00	119.00	7.10	10.00	10.78
M12	1.50	9.00	29.00	119.00	7.10	10.00	10.54
(M14)	1.00	11.20	22.00	124.00	9.00	12.00	13.03
(M14)	1.25	11.20	25.00	127.00	9.00	12.00	12.78
(M14)	1.50	11.20	30.00	127.00	9.00	12.00	12.54
(M15)	1.00	11.20	22.00	124.00	9.00	12.00	14.03
(M15)	1.50	11.20	30.00	127.00	9.00	12.00	13.54
M16	1.00	12.50	22.00	127.00	10.00	13.00	15.03
M16	1.50	12.50	32.00	137.00	10.00	13.00	14.54
(M17)	1.00	12.50	22.00	127.00	10.00	13.00	16.03
(M17)	1.50	12.50	32.00	137.00	10.00	13.00	15.54
(M18)	1.00	14.00	22.00	135.00	11.20	14.00	17.03
(M18)	1.50	14.00	29.00	142.00	11.20	14.00	16.54
(M18)	2.00	14.00	37.00	149.00	11.20	14.00	16.05
M20	1.00	14.00	27.00	140.00	11.20	14.00	19.03
M20	1.50	14.00	29.00	142.00	11.20	14.00	18.54
M20	2.00	14.00	37.00	149.00	11.20	14.00	18.05
(M22)	1.00	16.00	29.00	149.00	12.50	16.00	21.03
(M22)	1.50	16.00	33.00	153.00	12.50	16.00	20.54
(M22)	2.00	16.00	38.00	158.00	12.50	16.00	20.05
M24	1.50	18.00	35.00	172.00	14.00	18.00	22.54
M24	2.00	18.00	35.00	172.00	14.00	18.00	22.05

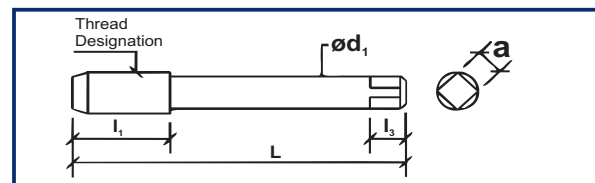
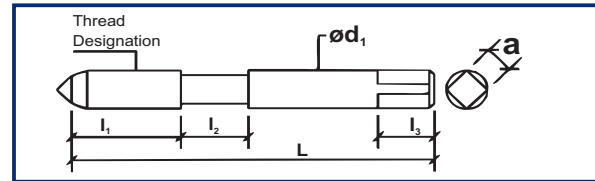
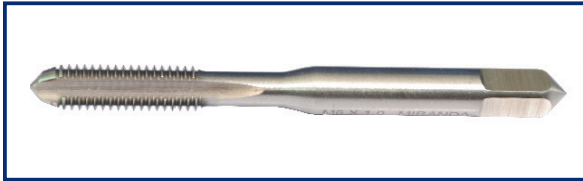
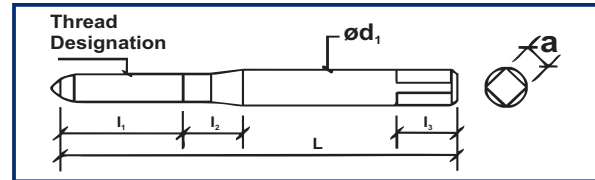
Dimensions are in mm.

All taps will be as per thread tolerance 6H, other tolerances of 4H, 7H can be supplied on request.

Upto 6 mm size, taps will be supplied with male centers on both sides.

Above 6 mm size, taps will be supplied with female centers on both sides.



**HAND & SHORT MACHINE TAPS**
**UNC**
**BS 949 (part 1) 1992  
ISO 529 1993 (E)**


Thread Designation	Nominal Diameter	TPI	Thread Length ( $l_1$ )	Recess Length ( $l_2$ )	Overall Length ( $L$ )	Shank Diameter ( $d_1$ )	Square		75% Thread depth drill size
							Size ( $a$ )	Length ( $l_3$ )	
No 1	1.854	64	8.00	5.50	41.00	2.50	2.00	4.00	1.49
No 2	2.184	56	9.50	6.00	44.50	2.80	2.24	5.00	1.77
No 3	2.515	48	9.50	6.00	44.50	2.80	2.24	5.00	2.03
No 4	2.845	40	11.00	7.00	48.00	3.15	2.50	5.00	2.26
No 5	3.175	40	11.00	7.00	48.00	3.15	2.50	5.00	2.59
No 6	3.505	32	13.00	7.00	50.00	3.55	2.80	5.00	2.77
No 8	4.166	32	13.00	8.00	53.00	4.50	3.55	6.00	3.44
No 10	4.826	24	16.00	9.00	58.00	5.00	4.00	7.00	3.85
No 12	5.486	24	17.00	9.00	62.00	5.60	4.50	7.00	4.51
1/4"	6.350	20	19.00	11.00	66.00	6.30	5.00	8.00	5.18
5/16"	7.937	18	22.00	13.00	72.00	8.00	6.30	9.00	6.64
3/8"	9.525	16	24.00	15.00	80.00	10.00	8.00	11.00	8.06
7/16"	11.112	14	25.00	0.00	85.00	8.00	6.30	9.00	9.45
1/2"	12.700	13	29.00	0.00	89.00	9.00	7.10	10.00	10.90
9/16"	14.288	12	30.00	0.00	95.00	11.20	9.00	12.00	12.83
5/8"	15.875	11	32.00	0.00	102.00	12.50	10.00	13.00	13.75
3/4"	19.050	10	37.00	0.00	112.00	14.00	11.20	14.00	16.71
7/8"	22.225	9	38.00	0.00	118.00	16.00	12.50	16.00	19.63
1"	25.400	8	45.00	0.00	130.00	18.00	14.00	18.00	22.48
1 1/8"	28.575	7	48.00	0.00	138.00	20.00	16.00	20.00	25.24
1 1/4"	31.750	7	51.00	0.00	151.00	22.40	18.00	22.00	28.41
1 3/8"	34.925	6	57.00	0.00	162.00	25.00	20.00	24.00	31.03
1 1/2"	38.100	6	60.00	0.00	170.00	28.00	22.40	26.00	34.20

Thread designation dimensions are in "inches" and all other details are in mm.

Fig.- 1. Upto No.3 UNC.

Fig.- 2. Above No. 3 UNC to 3/8" UNC. Upto 1/4" UNC size taps will be supplied with male centers on both sides.

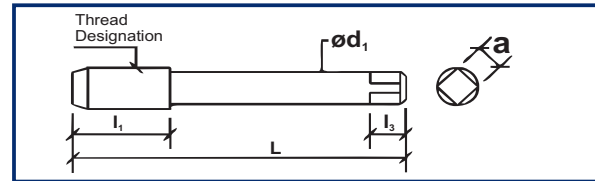
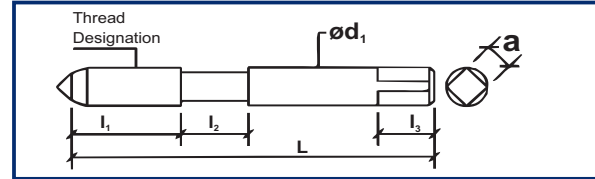
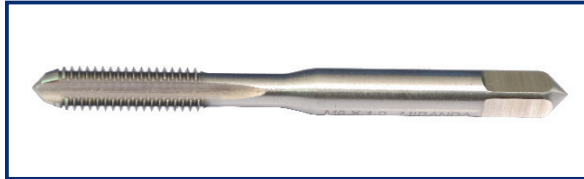
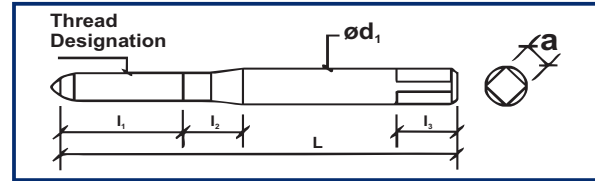
Above 1/4" UNC taps will be supplied with female centers on both sides.

Fig.- 3. Above 3/8" UNC.

# HAND & SHORT MACHINE TAPS

UNF

BS 949 (part 1) 1992  
ISO 529 1993 (E)



Thread Designation	Nominal Diameter	TPI	Thread Length ( $l_1$ )	Recess Length ( $l_1$ )	Overall Length (L)	Shank Diameter ( $d_1$ )	Square		75% Thread depth drill size
							Size (a)	Length ( $l_3$ )	
No 0	1.524	80	8.00	5.50	41.00	2.50	2.00	4.00	1.23
No 1	1.854	72	8.00	5.50	41.00	2.50	2.00	4.00	1.53
No 2	2.184	64	9.50	6.00	44.50	2.80	2.24	5.00	1.82
No 3	2.515	56	9.50	6.00	44.50	2.80	2.24	5.00	2.10
No 4	2.845	48	11.00	7.00	48.00	3.15	2.50	5.00	2.36
No 5	3.175	44	11.00	7.00	48.00	3.15	2.50	5.00	2.64
No 6	3.505	40	13.00	7.00	50.00	3.55	2.80	5.00	2.92
No 8	4.166	36	13.00	8.00	53.00	4.50	3.55	6.00	3.52
No 10	4.826	32	16.00	9.00	58.00	5.00	4.00	7.00	4.10
No 12	5.486	28	17.00	9.00	62.00	5.60	4.50	7.00	4.65
1/4"	6.350	28	19.00	11.00	66.00	6.30	5.00	8.00	5.52
5/16"	7.938	24	22.00	13.00	72.00	8.00	6.30	9.00	6.96
3/8"	9.525	24	24.00	15.00	80.00	10.00	8.00	11.00	8.55
7/16"	11.112	20	25.00	0.00	85.00	8.00	6.30	9.00	9.95
1/2"	12.700	20	29.00	0.00	89.00	9.00	7.10	10.00	11.53
9/16"	14.288	18	30.00	0.00	95.00	11.20	9.00	12.00	12.99
5/8"	15.875	18	32.00	0.00	102.00	12.50	10.00	13.00	14.58
3/4"	19.050	16	37.00	0.00	112.00	14.00	11.20	14.00	17.59
7/8"	22.230	14	38.00	0.00	118.00	16.00	12.50	16.00	20.56
1"	25.400	12	45.00	0.00	130.00	18.00	14.00	18.00	23.45
1 1/8"	28.575	12	48.00	0.00	138.00	20.00	16.00	20.00	26.63
1 1/4"	31.750	12	51.00	0.00	151.00	22.40	18.00	22.00	29.80
1 3/8"	34.930	12	57.00	0.00	162.00	25.00	20.00	24.00	32.98
1 1/2"	38.100	12	60.00	0.00	170.00	28.00	22.40	26.00	36.15

Thread designation dimensions are in "inches" and all other details are in mm.

Fig.- 1. Upto No.3 UNC.

Fig.- 2. Above No. 3 UNC to 3/8" UNC. Upto 1/4" UNC size taps will be supplied with male centers on both sides.

Above 1/4" UNC taps will be supplied with female centers on both sides.

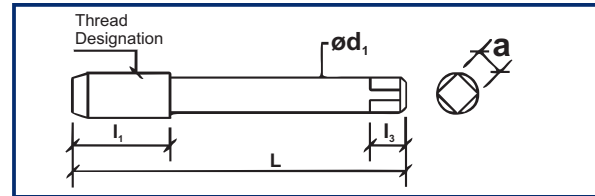
Fig.- 3. Above 3/8" UNC.

The Overall Length, Thread Length of the tap blanks may vary in ISO 529 -1993 (E) from the chart indicated above.

# HAND & SHORT MACHINE TAPS

BSW

BS 949 (part 1) 1992  
ISO 529 1993 (E)



Thread Designation	Nominal Diameter	TPI	Thread Length (l <sub>1</sub> )	Recess Length (l <sub>1</sub> )	Overall Length (L)	Shank Diameter (d <sub>1</sub> )	Square		75% Thread depth drill size
							Size (a)	Length (l <sub>2</sub> )	
1/8"	3.175	40	11.00	7.00	48.00	3.15	2.50	5.00	2.57
3/16"	4.762	24	16.00	9.00	58.00	5.00	4.00	7.00	3.75
1/4"	6.350	20	19.00	11.00	66.00	6.30	5.00	8.00	5.13
5/16"	7.938	18	22.00	13.00	72.00	8.00	6.30	9.00	6.58
3/8"	9.525	16	24.00	15.00	80.00	10.00	8.00	11.00	8.00
7/16"	11.112	14	25.00	0.00	85.00	8.00	6.30	9.00	9.37
1/2"	12.700	12	29.00	0.00	89.00	9.00	7.10	10.00	10.67
9/16"	14.288	12	30.00	0.00	95.00	11.20	9.00	12.00	12.25
5/8"	15.875	11	32.00	0.00	102.00	12.50	10.00	13.00	13.66
11/16"	17.462	11	37.00	0.00	112.00	14.00	11.20	14.00	15.24
3/4"	19.050	10	37.00	0.00	112.00	14.00	11.20	14.00	16.61
7/8"	22.225	9	38.00	0.00	118.00	16.00	12.50	16.00	19.51
1"	25.400	8	45.00	0.00	130.00	18.00	14.00	18.00	22.35
1 1/8"	28.575	7	48.00	0.00	138.00	20.00	16.00	20.00	25.09
1 1/4"	31.750	7	51.00	0.00	151.00	22.40	18.00	22.00	28.26
1 1/2"	38.100	6	60.00	0.00	170.00	28.00	22.40	26.00	34.03

Thread designation dimensions are in "inches" and all other details are in mm.

Fig.- 1. Above No. 3 UNC to 3/8" UNC. Upto 1/4" UNC size taps will be supplied with male centers on both sides.

Fig.- 2. Above 1/4" UNC taps will be supplied with female centers on both sides.

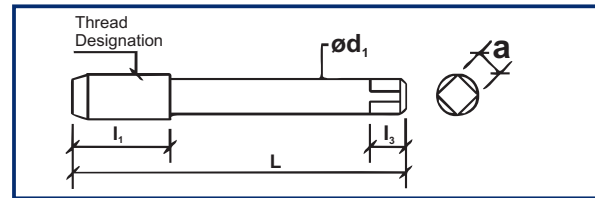
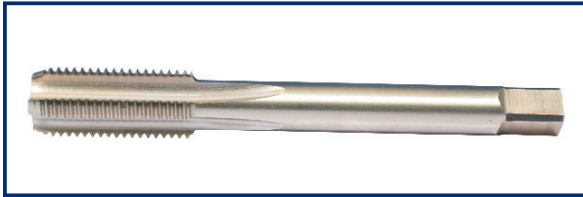
Above 3/8" UNC.

# HAND & SHORT MACHINE TAPS

BSF

BS 949 (part 1) 1992

ISO 529 1993 (E)



Thread Designation	Nominal Diameter	TPI	Thread Length (l <sub>1</sub> )	Recess Length (l <sub>3</sub> )	Overall Length (L)	Shank Diameter (d <sub>1</sub> )	Square		75% Thread depth drill size
							Size (a)	Length (l <sub>3</sub> )	
3/16"	4.762	32	16.00	9.00	58.00	5.00	4.00	7.00	4.00
7/32"	5.556	28	17.00	9.00	62.00	5.60	4.50	7.00	4.68
1/4"	6.350	26	19.00	11.00	66.00	6.30	5.00	8.00	5.41
9/32"	7.143	26	19.00	11.00	66.00	7.10	5.60	8.00	6.20
5/16"	7.938	22	22.00	13.00	72.00	8.00	6.30	9.00	6.83
3/8"	9.525	20	24.00	15.00	80.00	10.00	8.00	11.00	8.31
7/16"	11.112	15	25.00	0.00	85.00	8.00	6.30	9.00	9.76
1/2"	12.700	16	29.00	0.00	89.00	9.00	7.10	10.00	11.18
9/16"	14.288	16	30.00	0.00	95.00	11.20	9.00	12.00	12.76
5/8"	15.875	14	32.00	0.00	102.00	12.50	10.00	13.00	14.13
11/16"	17.462	14	37.00	0.00	112.00	14.00	11.20	14.00	15.43
3/4"	19.050	12	37.00	0.00	112.00	14.00	11.20	14.00	17.02
7/8"	22.225	11	38.00	0.00	118.00	16.00	12.50	16.00	20.01
1"	25.400	10	45.00	0.00	130.00	18.00	14.00	18.00	22.96
1 1/8"	28.575	9	48.00	0.00	138.00	20.00	16.00	20.00	25.86
1 1/4"	31.750	9	57.00	0.00	151.00	22.40	18.00	22.00	29.04
1 3/8"	34.925	8	57.00	0.00	162.00	25.00	20.00	24.00	31.88
1 1/2"	38.100	8	60.00	0.00	170.00	28.00	22.40	26.00	35.05

Thread designation dimensions are in "inches" and all other details are in mm.

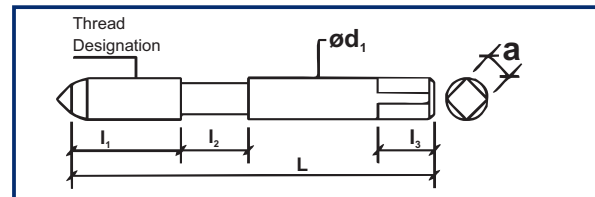
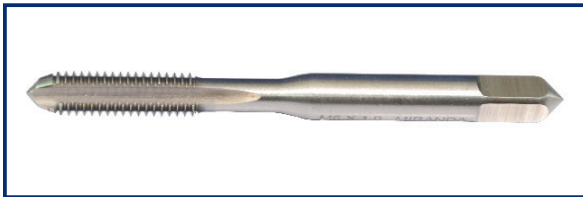
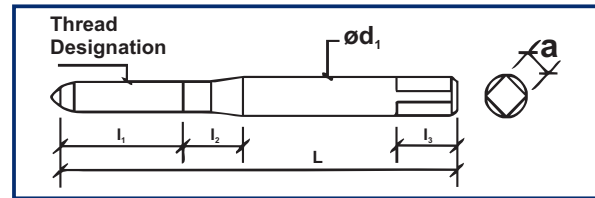
Fig.- 1. Above No. 3 UNC to 3/8" UNC. Upto 1/4" UNC size taps will be supplied with made centers on both sides.

Fig.- 2. Above 1/4" UNC taps will be supplied with female centers on both sides.  
Above 3/8" UNC.

# HAND & SHORT MACHINE TAPS

BA

BS 949 (part 1) 1992  
ISO 529 1993 (E)



Thread Designation	Nominal Diameter	Pitch	Thread Length ( $l_1$ )	Recess Length ( $l_1$ )	Overall Length ( $L$ )	Shank Diameter ( $d_1$ )	Square		75% Thread depth drill size
							Size ( $a$ )	Length ( $l_3$ )	
No 0	6.000	1.000	19.00	11.00	66.00	6.30	5.00	8.00	5.10
No 1	5.300	0.900	17.00	9.00	62.00	5.60	4.50	7.00	4.49
No 2	4.700	0.810	16.00	9.00	58.00	5.00	4.00	7.00	3.97
No 3	4.100	0.730	13.00	8.00	53.00	4.50	3.55	6.00	3.44
No 4	3.600	0.660	13.00	7.00	50.00	3.55	2.80	5.00	3.01
No 5	3.200	0.590	11.00	7.00	48.00	3.15	2.50	5.00	2.67
No 6	2.800	0.530	9.50	6.00	44.50	2.80	2.24	5.00	2.32
No 8	2.200	0.430	9.50	6.00	44.50	2.80	2.24	5.00	1.81
No 9	1.900	0.390	8.00	5.50	41.00	2.50	2.00	4.00	1.55
No 10	1.700	0.350	8.00	5.00	41.00	2.50	2.00	4.00	1.39
No 11	1.500	0.310	8.00	5.00	41.00	2.50	2.00	4.00	1.22
No 12	1.300	0.280	7.00	5.00	40.00	2.50	2.00	4.00	1.05
No 13	1.200	0.250	5.50	4.50	38.50	2.50	2.00	4.00	0.98
No 14	1.000	0.250	5.50	4.50	38.50	2.50	2.00	4.00	0.79

Thread designation dimensions are in "inches" and all other details are in mm.

Fig.- 1. From No. 6 BA to No. 14 BA.

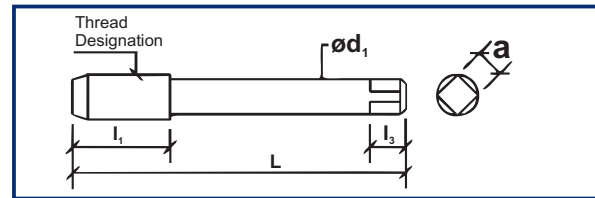
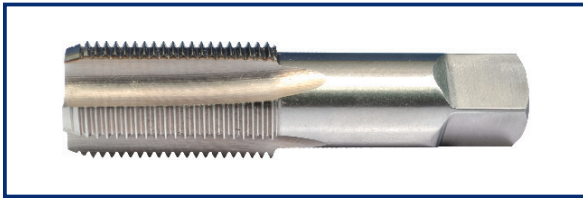
Fig.- 2. From No. 0 BA to No. 5 BA.

All the taps will be supplied with male centers on both sides.

## HAND TAPS

BSP (G/RP)

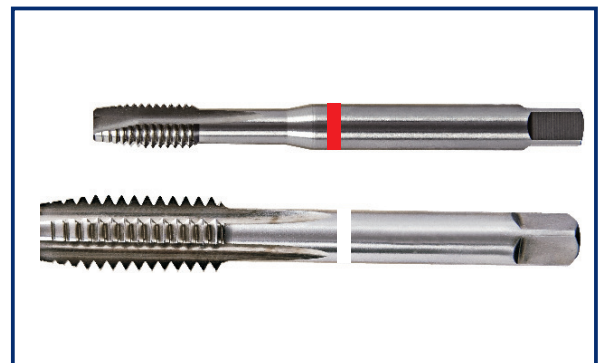
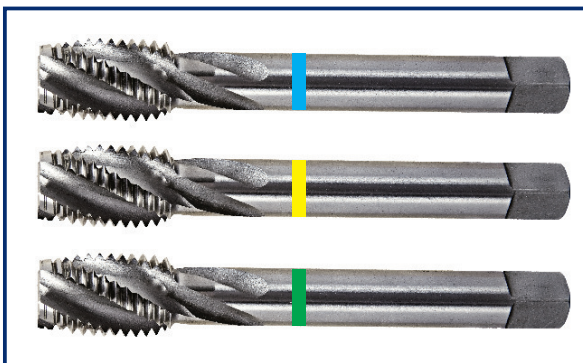
BS 949 (part II) 1969



Thread Designation	Basic Major Diameter	TPI	Thread Length (l <sub>1</sub> )	Overall Length (L)	Shank Diameter (d <sub>1</sub> )	Square		75% Thread depth drill size
						Size (a)	Length (l <sub>3</sub> )	
1/8"	0.383	28	3/4	2 1/8	0.318	0.238	5/16	8.86
1/4"	0.518	19	1 1/16	2 7/16	0.429	0.322	7/16	11.87
3/8"	0.656	19	1 1/16	2 9/16	0.542	0.406	1/2	15.38
1/2"	0.825	14	1 3/8	3 1/8	0.687	0.515	5/8	19.21
5/8"	0.902	14	1 3/8	3 3/16	0.800	0.600	11/16	21.17
3/4"	1.041	14	1 3/8	3 1/4	0.906	0.679	11/16	24.70
7/8"	1.189	14	1 9/16	3 1/2	1.093	0.812	3/4	28.46
1"	1.309	11	1 3/4	3 3/4	1.125	0.843	13/16	31.03
1 1/4"	1.650	11	1 3/4	4	1.312	0.984	15/16	39.69
1 1/2"	1.882	11	1 3/4	4 1/4	1.500	1.125	1	45.58
1 3/4"	2.116	11	1 3/4	4 3/8	1.625	1.218	1 1/16	51.53
2"	2.347	11	1 3/4	4 1/2	1.875	1.406	1 1/8	57.40

## RING TAPS

We also manufacture Ring Taps as per application.



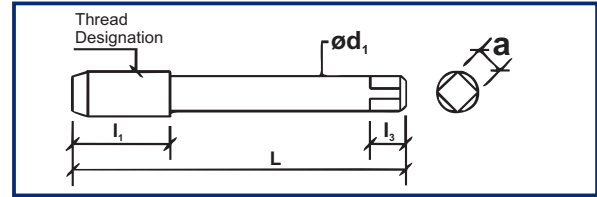
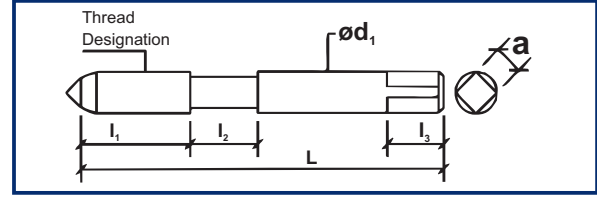
Please contact for further details

Except Drill depth details, all other dimensions are in "inches"  
All the BSP Taps will be supplied with female centers on both sides.

## HAND & SHORT MACHINE TAPS

BSCy

BS 949 (part 2) 1951



Thread Designation	Basic Major Diameter	TPI	Thread Length (l <sub>1</sub> )	Overall Length (L)	Shank Diameter (d <sub>1</sub> )	Square		75% Thread depth drill size
						Size (a)	Length (l <sub>3</sub> )	
14 SWG	2.273	56	7/16	1 <sup>3</sup> / <sub>4</sub>	0.128	0.105	3/16	1.84
10 SWG	3.589	40	11/16	2	0.144	0.116	3/16	2.98
9 SWG	3.995	40	3/4	2 <sup>1</sup> / <sub>8</sub>	0.159	0.123	1/4	3.39
5/32 BSCy	3.968	32	3/4	2 <sup>1</sup> / <sub>8</sub>	0.159	0.123	1/4	3.21
3/16 BSCy	4.762	32	7/8	2 <sup>3</sup> / <sub>8</sub>	0.189	0.149	1/4	4.00
7/32 BSCy	5.556	26	7/8	2 <sup>3</sup> / <sub>8</sub>	0.221	0.173	1/4	4.62
1/4 BSCy	6.350	26	1	2 <sup>1</sup> / <sub>8</sub>	0.253	0.197	9/32	5.41
5/16 BSCy	7.937	26	1 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	0.315	0.242	11/32	7.00
7/16 BSCy	11.112	26	1 <sup>1</sup> / <sub>4</sub>	3	0.323	0.242	13/32	10.17
1/2 BSCy	12.700	26	1 <sup>1</sup> / <sub>4</sub>	3	0.367	0.275	7/16	11.76
9/16 BSCy	14.287	26	1 <sup>1</sup> / <sub>2</sub>	3	0.429	0.322	1/2	13.35
1.0 BSCy	25.400	24	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>4</sub>	0.800	0.600	13/16	24.38
1.370 BSCy	34.798	24	1 <sup>1</sup> / <sub>2</sub>	4	1.108	0.831	1 <sup>1</sup> / <sub>16</sub>	33.78
1.375 BSCy	34.925	24	1 <sup>1</sup> / <sub>2</sub>	4	1.108	0.831	1 <sup>1</sup> / <sub>16</sub>	33.91



We also manufacture  
**Spiral, Helicoil Taps & Left Hand Taps**  
 as per requirement

Except Drill depth & Basic Major diameters details, all other dimensions are In "Inches"

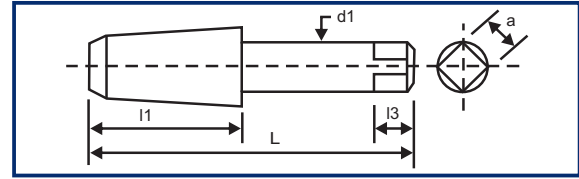
Fig.- 1. Upto 1/4" BSCy size, taps will be supplied with male centers on both sides.  
 Above 1/4" BSCy size taps will be supplied with female centers on both sides.

Fig.- 2. Above 1/4" size.

## Hand Taps

### British Standard Pipe (Taper Threads)

### BS-949 (BSPT)



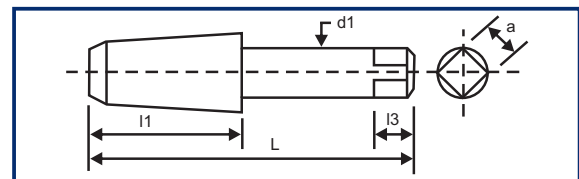
As per BS 949 1969 - BSP / BSPT Hand Taps - Dimension							
SIZE	Basic Major Diameter	TPI	Overall Length L	Thread Length l1	Shank Dia. d1	SQUARE	
						SIZE a	LENGTH l3
1/8"	0.3830	28	2.1/8	3/4"	0.3180	0.238	5/16"
1/4"	0.5180	19	2.7/16	1.1/16	0.4290	0.322	7/16"
3/8"	0.6560	19	2.9/16	1.1/16	0.5420	0.406	1/2"
1/2"	0.8250	14	3.1/8	1.3/8	0.6870	0.515	5/8"
5/8"	0.9020	14	3.3/16	1.3/8	0.800	0.600	11/16"
3/4"	1.0410	14	3.1/4	1.3/8	0.906	0.679	11/16"
7/8"	1.1890	14	3.1/2	1.9/16	1.093	0.812	3/4"
1"	1.3090	11	3.3/4	1.3/4	1.125	0.843	13/16"
1.1/4"	1.6500	11	4	1.3/4	1.312	0.984	15/16"
1.1/2"	1.8820	11	4.1/4	1.3/4	1.500	1.125	1"
1.3/4"	2.1160	11	4.3/8	1.3/4	1.625	1.218	1.1/16"
2"	2.3470	11	4.1/2	1.3/4	1.875	1.406	1.1/8"

Unspecified and other big sizes are available on request. All dimensions are in inches.

## Hand Taps

### National Pipe (Taper Threads)

### BS-949 (1969) - NPT / NPTF



SIZE	Basic Major Diameter	TPI	Overall Length L	Thread Length l1	Shank Dia. d1	SQUARE	
						SIZE a	LENGTH l3
1/16	0.3108	27	2. 1/8	11/16	0.318	0.238	5/16
1/8	0.4044	27	2. 1/8	3/4	0.318	0.238	5/16
1/4"	0.5343	18	2.7/16	1.1/16	0.429	0.322	7/16
3/8"	0.6714	18	2.9/16	1.1/16	0.542	0.406	1/2
1/2"	0.8356	14	3.1/8	1.3/8	0.687	0.515	5/8
3/4"	1.0460	14	3.1/4	1.3/8	0.906	0.679	11/16
1"	1.3082	11.1/2	3.3/4	1.3/4	1.125	0.843	13/16
1.1/4"	1.6530	11.1/2	4	1.3/4	1.312	0.984	15/16
1.1/2"	1.8919	11.1/2	4.1/4	1.3/4	1.500	1.125	1.0
2"	2.3658	11.1/2	4.1/2	1.3/4	1.875	1.406	1.1/8
2.1/2"	2.8622	8	5.1/2	2.9/16	2.250	1.687	1.1/4
3"	3.4885	8	6	2.5/8	2.625	1.968	1.3/8

Unspecified and other big sizes are available on request. All dimensions are in inches.

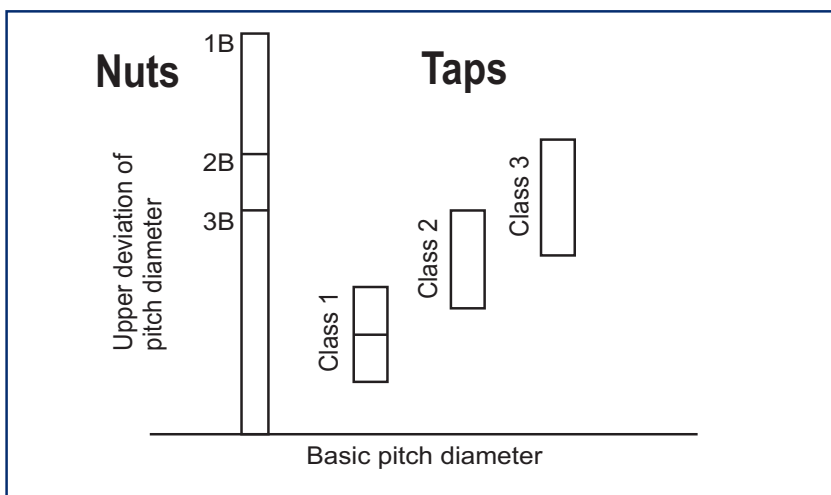


## SELECTION OF TAP TOLERANCE CLASS

The relationship between the class of tap and the nut tolerance is only of a general nature. The accuracy of tapping varies with a number of factors, such as the material being tapped, condition of the machine tool, tapping attachment, tapping speed, lubricant used and accuracy built into the tap geometry during its manufacture. Therefore it is recommended to select in every case from previous experience or from special tests, the most suitable class of tap that will produce the required thread tolerance in the component.

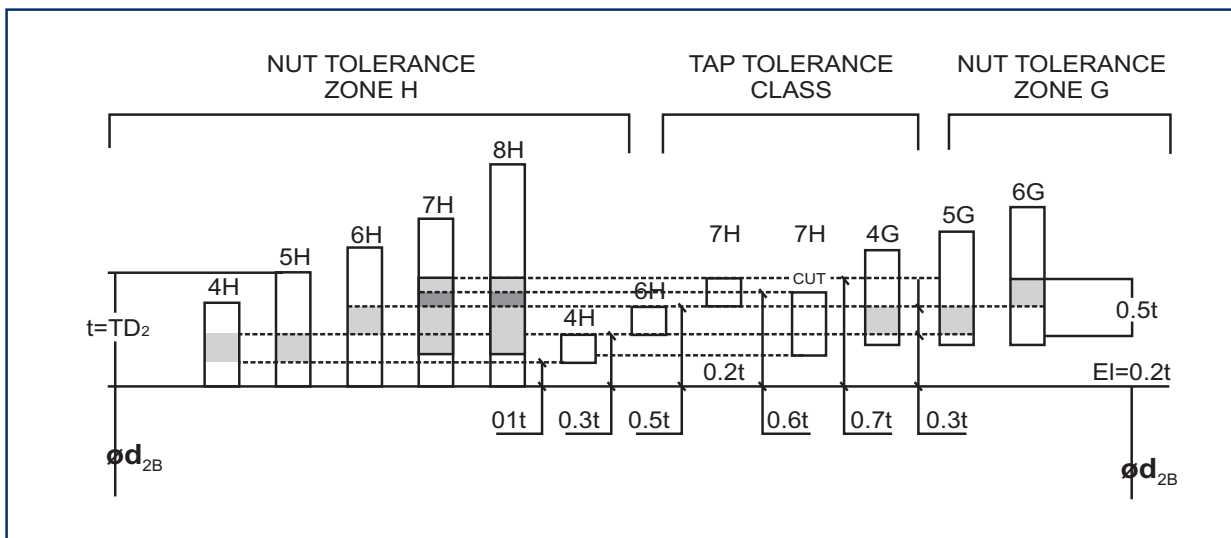
Difference between thread classes varies in the limits of size of the tap major diameter and pitch diameter. The relationship between the different classes of tap and their relationship with the nut pitch diameter are illustrated in below figure.

### BS 949 Part 2 1992



Relationship of tap classes & nut tolerances

### IS 6173 Part I 1992



## TAP AND COMPONENT TOLERANCES

Generally speaking taps will cut threads larger than the tap themselves. This oversizing will depend on material, speed, lubrication and to hole amongst other variable. However, under normal conditions. MIRANDA tap size can be selected according to the component size required as per the tables shown below. Tolerances “to manufacturer’s discretion.” (eg 6HX, 6GX).

METRIC THREAD FORMS					
TAP SIZE			GENERAL CLASS OF COMPONENT THREAD		
ISO MARK	+ DIN MARK	JIS MARK	JIS CLASS	ISO AND DIN CLASS	
		la. lb	1st		
ISO 1	ISO 1 (4H)	II*	2nd	4H	
ISO 2	ISO 2 (6H)	III. 6H*	3rd	4G	6H
ISO 3	ISO 3 (6G)	6G*			6G 7H 8H

Note : Because the JIS system is in transition to ISO 2857, JIS II taps (~ISO 1/4H) are offered for user of the old B4430 Type J Spec, whilst 6H (ISO 2) and 6G (ISO 3) taps are offered to users who require ISO 2857 tolerances, but still use Type J collect sizes in their machines.

WHITWORTH THREAD FORMS			
TAP SIZE			COMPONENT TOLERANCE
ISO MARK	DIN MARK	JIS MARK	B. S. CLASS
CL 1	CF	CF	CLOSE FIT
CL 2	MF	MF	MEDIUM FIT
CL 3	FF	FF	FREE FIT

UNIFIED THREAD FORMS		
TAP SIZE		COMPONENT TOLERANCE
ISO MARK	DIN MARK	CLASS
CL 1	2B	3B
CL 2	2B	2B
CL 3	1B	1B

BSP THREAD FORMS 55 <sup>0</sup>				
TAP SIZE				COMPONENT
ISO 5969	BS EQUIV	JIS EQUIV	JIS EQUIV	TYPE OF THREAD GENERATED
G	BSPF	228	PF	ISO 228 Mechanical Joint
Rp	BSPP	2999	PS	ISO 7/1 Leakproof Joint
Rc	BSPT	2999	PT	ISO 7/1 CONIC, 1:16 Taper

NATIONAL (Unified) PIPE THREAD FORM 60 <sup>0</sup>	
TAP SIZE	COMPONENT
ISO MARK	TYPE OF THREAD GENERATED
NPS	Mechanical Joint or Coupling
*NPSF	Dryseal (leak proof)
NPT	1 : 16 Taper
*NPTF	Dryseal, 1 : 16 Taper

**NOTE :** Altered crest and root profiles of Dryseal taps ensures and interference fit on crests and roots which prevent leakage.

## APPLICATION - MACHINE TAPS

### SPIRAL FLUTE TAPS



Spiral Flute Taps are designed for machine tapping of blind holes and are particularly useful where chip disposal poses problems. The right hand spiral flutes direct the chips back along the flute and out of the hole. They are available in slow (15°), standard (35°), fast (40°) flute helixes. The shortened thread length of the 35° and 40° DIN and ISO Spiral Flute taps allow for more efficient chip removal as well as lower torque loads. These are suitable for tapping deep holes in a variety of different materials. Various types are available.

#### BF SPRL 35°

Bright Finish 35° Spiral Flute Taps are suitable for tapping blind holes in non-ferrous materials and steel where cold welding does not pose a problem.



#### BT SPRL 35°

Steam Tempered Spiral Flute Taps are suitable for tapping blind holes in most steels, where cold welding occurs. Supplied as standard where no helix or surface treatments specified.



#### TiN SPRL 35°

Titanium Nitrided 35° Spiral Flute Taps are suitable for tapping blind holes in abrasive materials, or where higher speeds and a longer tool life are required.



#### SO SPRL 35°

TiCN/TiAlN Spiral Flute Taps have specially adapted geometry for tapping blind holes in hard steels where tap wear out is high.



### SLOW SPIRAL FLUTE TAPS (~15°)

#### BF SPRL 15°

Bright Finish 15° Spiral Flute Taps are suitable for tapping blind holes in tougher non-ferrous materials with medium to long chips, or steels up to 1000 N/mm<sup>2</sup> where cold welding does not pose a problem.



#### BT SPRL 15°

Steam Tempered 15° Spiral Flute Taps are suitable for tapping blind holes in tough steels up to 1000 N/mm<sup>2</sup> where cold welding occurs. Supplied as standard where surface treatment not specified.



#### TiN SPRL 15°

Titanium Nitrided 15° Spiral Flute Taps are suitable for tapping blind holes in tough, abrasive materials where higher tapping speeds or longer tool life are required.

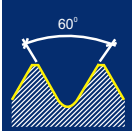
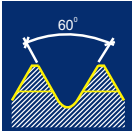
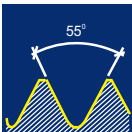

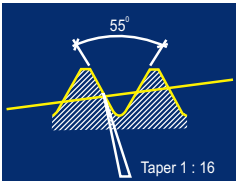
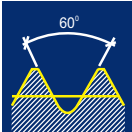
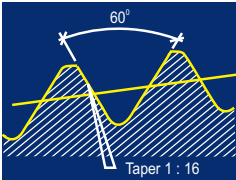
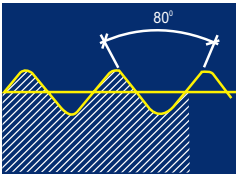


#### SO SPRL 15°

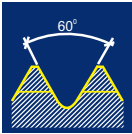
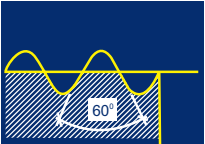
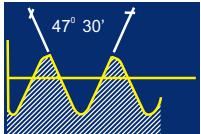
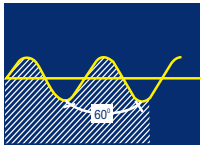
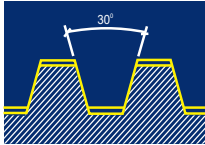

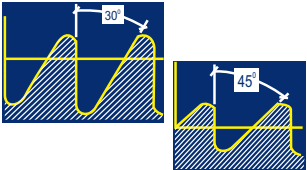
TiCN/TiAlN Spiral Flute Taps have specially adapted geometry for tapping blind holes in hard steels where tap wear out is high.



## POPULAR THREAD FORMS

Sr. No.	Name Of Thread	Symbol	Form Of Thread	Standard
1	ISO METRIC THREAD	M		IS 4218 DIN 13, DIN 14 JIS B 0205, JIS B 0207 BS 3643
2	UNIFIED THREAD	U		ANSI B 1.1 BS 1580 JIS B 0206 JIS B 0208
3	WHITWORTH THREAD	W		BS 84
4	STRAIGHT PIPE THREAD	R BSP PF		DIN 259 DIN 2999 DIN 3858 BS 21 JIS B 0203
5	TAPER PIPE THREAD	R BSP PT		DIN 2999 DIN 3858 BS 21 JIS B 0203
6	AMERICAN STANDARD STRAIGHT PIPE THREAD	NPS		ANSI B 2.1
7	AMERICAN STANDARD TAPER PIPE THREAD	NPT NPTF		ANSI B 2.1 ANSI B 1.20.3 ANSI B 1.20.4
8	STEEL CONDUIT THREAD	PG C		DIN 40430 JIS B 0204

## POPULAR THREAD FORMS

Sr. No.	Name Of Thread	Symbol	Form Of Thread	Standard
9	SEWING MACHINE THREAD	SM		JIS B 0226
10	BYCYCLE THREAD	FG BSCy BC		DIN 79012 BS 811 JIS B 0225
11	BRITISH ASSOCIATION THREAD	BA		BS 93
12	AUTOMOBILE TYPE VALVE THREAD	Vg TV		DIN 7756 JIS D 4208
13	ACME THREAD	Tr TM		DIN 103 JIS B 0221
14	KNUCKLE THREAD	Rd		DIN 405 DIN 20400 DIN 15403 DIN 3182 DIN 7273
15	BUTTRESS THREAD	S		DIN 513  DIN 2781

## STYLE OF CHAMFERS

### MACHINE TAPS

Chamfer Style	View	Description
A		<p>Long Chamfer - suitable for through holes. This type reduces the chip load on the teeth of the tap.</p>
B		<p>Suitable for through holes &amp; blind holes with sufficient chip pocket. Has a rugged design.</p>
C		<p>Short Chamfer suitable for blind holes. This Chamfer is used on hand taps, bottoming machine taps, left &amp; right hand, spiral fluted taps.</p>
D		<p>Medium Chamfer suitable for both through &amp; blind holes &amp; specially in spiral taps.</p>
E		<p>Special Chamfer for spoon taps or lip taps. Due to the rugged design of the flutes, it is specially suited for tapping materials of thin sections.</p>

## TYPE OF CHAMFERS

### HAND TAPS

Chamfer Style	View	Description
TAPER ROUGHER		<u>Taps set Of Two Pieces - Fine Pitch</u>  Non Serial Taps - Taper Serial Taps - Rougher
TAPER ROUGHER		<u>Taps set Of Three Pieces - Coarse Pitch</u>  Non Serial Taps - Taper Serial Taps - Rougher
SECOND INTERMEDIATE		<u>Taps set of Three Pieces</u>  Non Serial Taps - Second Serial Taps - Intermediate
BOTTOMING FINISHER		<u>Taps set of Two Pieces &amp; Three Pieces</u>  Non Serial Taps - Bottoming Serial Taps - Finisher

### MACHINE TAPS

CHAMFER	VIEW	DESCRIPTION
LONG LEAD = 75 - 80% OF THREAD LENGTH		Specially designed Nib Taps for highspeed nut tapping on cold forged components.
		Conventional Nut Taps with long thread length suitable for nut tapping of hot forged components.

## TAP SELECTION CHART

SUITABILITY	DESCRIPTION	HAND TAPS		MACHINE TAPS											
(●)MOST SUITABLE		STD SET	SERIAL SET	STR.FL TPR	STR.FL SEC	STR.FL BTM	BF SPPT	BF SPRL 30°	BF SPRL 15°	BF SPPT	BF SPRL 30°	BF SPRL 15°	TIN SPPT	TIN SPRL 30°	TIN SPRL 15°
(○)SUITABLE	TYPES OF TAP	TPR + SEC + BTM	Rougher + Inter + Finisher												
	<b>CHAMFER</b>	-	-	<b>A</b>	<b>D</b>	<b>C</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>B</b>	<b>C</b>	<b>C</b>	<b>B</b>	<b>C</b>	<b>C</b>
	LEAD (NO. OF THREADS)	-	-	6 - 8 (3.5-5)	3 - 4,5 (2 - 3)	1,5 - 2	3 - 5	2 - 3	2 - 3	3 - 5	2 - 3	2 - 3	3 - 5	2 - 3	2 - 3
<b>TYPE OF MATERIAL</b>		Note: STR.FL. Taps with larger diameter or fine pitch may be used to tap deeper in long chipping materials due to a greater Flute Volume : Metal Removal ratio.													
STEEL UNDER 450 N/mm2		●	○	○	○										
STEELS UP TO 750 N/mm2		●	●	●	●		○	○	○	●	●	○	○	○	○
STEELS UP TO 1000 N/mm2		●	●				○	○	○	○	○	●	●	○	●
STEELS OVER 1000 N/mm2		○	●									○	○	○	○
STAINLESS STEELS		○	●							○	○		○	○	
CAST IRON (SHORT CHIPPING)		●	●		○	○									○
MALLEABLE CAST IRON (LONG CHIPPING)		●	●		○		○	○		●		●			
BRASS (SHORT CHIPPING)		●	○		●	●			○						○
BRASS (LONG CHIPPING)		●	○		○		●	●	●						
SOFT ALUMINIUM. COPPER, ZINC, ETC.		●	○		○		○	○					○	○	
ALUMINIUM ALLOYS, MALLEABLE BRONZE, ETC.		●	●		○		●	●	○						
TOUGH ALUMINIUM (Si > 10%) HARD BRONZE ETC.		○	●		○		○	○	○				○	○	○
SOFT PLASTICS, THERMO PLASTICS PVC. ETC.		○			○		○	○	○						
HARD PLASTICS, BAKELITE, ETC.		○			○	○									○
SPECIAL ALLOYS, TITANIUM, INCONEL, ETC.		TAPS WITH SPECIAL GEOMETRY CAN BE SUPPLIED ON SPECIFIC REQUEST.													
		Special coating / TiAlN / TiCN coated taps can be provided on request for specific application.													



## RECOMMENDED TAPPING DRILL

MF ISO METRIC COARSE		
SIZE mm	PITCH mm	DRILL mm
M1	0.25	0.75
M1.1	0.25	0.85
M1.2	0.25	0.95
M1.4	0.3	1.1
M1.6	0.35	1.25
M1.7	0.35	1.35
M1.8	0.35	1.45
M2	0.4	1.6
M2	0.45	1.55
M2.2	0.45	1.75
M2.3	0.4	1.9
M2.5	0.45	2.05
M2.6	0.45	2.15
M3	0.5	2.5
M3	0.6	2.4
M3.5	0.6	2.9
M4	0.7	3.3
M4	0.75	3.25
M4.5	0.75	3.75
M5	0.8	4.2
M5	0.9	4.1
M5.5	0.9	4.6
M6	1	5
M7	1	6
M8	1.25	6.75
M9	1.25	7.75
M10	1.5	8.5
M11	1.5	9.5
M12	1.75	10.2
M14	2	12.00
M16	2	14.00
M18	2.5	15.5
M20	2.5	17.5
M22	2.5	19.5
M24	3	21.00
M27	3	24.00
M30	3.5	26.5
M33	3.5	29.5
M36	4	32.00
M39	4	35.00
M42	4.5	37.5
M45	4.5	40.5
M48	5	43.00
M52	5	47.00
M56	5.5	50.5
M60	5.5	54.5
M64	6	58.00
M68	6	62.00
M72	6	66.00
M76	6	70.00

MF ISO METRIC FINE		
SIZE mm	PITCH mm	DRILL mm
M2	0.25	1.75
M2.2	0.25	1.95
M2.3	0.25	2.05
M2.5	0.35	2.15
M2.6	0.35	2.25
M3	0.35	2.65
M3.5	0.35	3.15
M4	0.45	3.65
M4	0.5	3.5
M5	0.35	4.65
M5	0.5	4.5
M5	0.75	4.25
M5.5	0.5	5.00
M6	0.5	5.5
M6	0.75	5.25
M7	0.75	6.25
M8	0.5	7.5
M8	0.75	7.25
M8	1.0	7.00
M9	0.75	8.25
M9	1.0	8.00
M10	0.5	9.5
M10	0.75	9.25
M10	1.0	9.00
M10	1.25	8.75
M11	0.75	10.25
M11	1.0	10.00
M11	1.25	9.75
M12	0.5	11.5
M12	0.75	11.25
M12	1.0	11.00
M12	1.25	10.75
M12	1.5	10.5
M14	1.0	13.00
M14	1.25	12.75
M14	1.5	12.5
M15	0.75	14.25
M15	1.0	14.00
M15	1.5	13.5
M16	0.5	15.5
M16	0.75	15.25
M16	1.0	15.00
M16	1.25	14.75
M16	1.5	14.5
M17	1.0	16.00
M17	1.5	15.5
M18	0.75	17.25
M18	1.0	17.00
M18	1.25	16.75
M18	1.5	16.5

MF (continued) ISO METRIC FINE		
SIZE mm	PITCH mm	DRILL mm
M18	2.0	16.00
M19	1.0	18.00
M20	1.0	19.00
M20	1.5	18.5
M20	2.0	18.00
M22	1.0	21.00
M22	1.5	20.5
M22	2.0	20.00
M24	1.0	23.00
M24	1.5	22.5
M24	2.0	22.00
M25	1.0	24.00
M25	1.5	23.5
M25	2.0	23.00
M27	1.0	26.00
M27	1.5	25.5
M27	2.0	25.00
M28	1.0	27.00
M28	1.5	26.5
M28	2.0	26.00
M30	1.0	29.00
M30	1.5	28.5
M30	2.0	28.00
M30	3.0	27.00
M32	1.0	31.00
M32	1.5	30.5
M32	2.0	30.00
M33	1.5	31.5
M33	2.0	31.00
M33	3.0	30.00
M35	1.5	33.5
M35	2.0	33.00
M35	3.0	32.00
M36	1.0	35.00
M36	1.5	34.5
M36	2.0	34.00
M36	3.0	33.00
M38	1.0	37.00
M38	1.5	36.5
M38	2.0	36.00
M39	1.5	37.5
M39	2.0	37
M39	3.0	36
M40	1.0	39
M40	1.5	38.5
M40	2.0	38
M40	3.0	37
M42	1.5	40.5
M42	2.0	40
M42	3.0	39

MF (continued) ISO METRIC FINE		
SIZE mm	PITCH mm	DRILL mm
M42	4.0	38.00
M45	1.5	43.5
M45	2.0	43.00
M45	3.0	42.00
M48	1.5	46.50
M48	2.0	46.00
M48	3.0	45.00
M48	4.0	44.00
M50	1.5	48.5
M50	2.0	48.00
M50	3.0	47.00
M52	1.5	50.5
M52	2.0	50.00
M52	3.0	49.00
M52	4.0	48.00
M56	2.0	54.00
M56	4.0	52.00

**G** (BSP) MECHANICAL JOINT

**Rp** (BSP) LEAKPROOF JOINT

SIZE Inch	PITCH TPI	G		RP	
		DRILL mm	DRILL mm	DRILL mm	DRILL mm
1/8	28	8.8	8.6		
1/4	19	11.8	11.5		
3/8	19	15.25	15		
1/2	14	19	18.5		
5/8	14	21	20.5		
3/4	14	24.5	24		
7/8	14	28.25	27.75		
1"	11	30.75	30.25		
1 1/4	11	39.5	39		
1 1/2	11	45.25	44.75		
1 3/4	11	51.3	50.5		
2"	11	57.2	56.5		
2 1/4	11	63.3	62.5		
2 1/2	11	72.8	72.3		
3"	11	85.5	85		

**Rc (BSPT)**

SIZE mm	PITCH mm	DRILL mm
1/8	28	8.6
1/4	19	11.5
3/8	19	15
1/2	14	18.5
3/4	14	24
1"	11	30
1 1/4	11	39
1 1/2	11	45
2"	11	56.5
2 1/2	11	71.5

## RECOMMENDED TAPPING DRILL

UNC		
SIZE mm	PITCH mm	DRILL mm
No. 1	64	1.55
No. 2	56	1.85
No. 3	48	2.1
No. 4	40	2.35
No. 5	40	2.65
No. 6	32	2.85
No. 8	32	3.5
No. 10	24	3.9
No. 12	24	4.5
1/4	20	5.1
5/16	18	6.6
3/8	16	8.00
7/16	14	9.4
1/2	13	10.8
9/16	12	12.2
5/8	11	13.5
3/4	10	16.5
7/8	9.0	19.5
1"	8.0	22.25
1 1/8	7.0	25.00
1 1/4	7.0	28.00
1 3/8	6.0	30.75
1 1/2	6.0	34.00
1 3/4	5.0	39.5
2"	4.5	45.00
2 1/4	4.5	51.5
2 1/2	4.0	57.25
2 3/4	4.0	63.5
3"	4.0	70.00

UNEF		
SIZE No or Inch	PITCH TPI	DRILL mm
No. 12	32	4.70
1/4	32	5.50
5/16	32	7.10
3/8	32	8.60
7/16	28	10.10
1/2	28	11.70
9/16	24	13.00
5/8	24	14.75
1 1/16	24	16.25
3/4	20	17.50
13/16	20	19.25
7/8	20	20.75
15/16	20	22.25
1"	20	23.75
1 1/8	18	26.75
1 1/4	18	30.00
1 3/8	18	33.00
1 1/2	18	36.00

BSW		
SIZE mm	PITCH mm	DRILL mm
1/8	40	2.6
5/32	32	3.1
3/16	24	3.6
1/4	20	5.1
5/16	18	6.5
3/8	16	7.9
7/16	14	9.3
1/2	12	10.5
9/16	12	12.00
5/8	11	13.5
1 1/16	11	15.00
3/4	10	16.5
7/8	9.0	19.25
1"	8.0	22.00
1 1/8	7.0	24.75
1 1/4	7.0	28.00
1 1/2	6.0	33.5
1 3/4	5.0	39.00
2"	4.5	44.5
2 1/4	4.0	50.00
2 1/2	4.0	56.5

UN - 8		
SIZE Inch	PITCH TPI	DRILL mm
1 1/8	8	25.30
1 1/4	8	28.50
1 3/8	8	31.60
1 1/2	8	34.80
1 5/8	8	38.00
1 3/4	8	41.20
1 7/8	8	44.30
2"	8	47.50
2 1/4	8	55.00
2 1/2	8	61.30

NPT / NPTF		
(1:16 TAPER) SIZE Inch	PITCH TPI	DRILL mm
1/16	27	6.30
1/8	27	8.50
1/4	18	11.10
3/8	18	14.70
1/2	14	18.00
3/4	14	23.00
1"	11 1/2	29.00
1 1/4	11 1/2	38.00
1 1/2	11 1/2	44.00
2"	11 1/2	56.00

BSF		
SIZE mm	PITCH mm	DRILL mm
3/16	32	4.00
7/32	28	4.70
1/4	26	5.40
9/32	26	6.20
5/16	22	6.80
3/8	20	8.30
7/16	18	9.80
1/2	16	11.20
9/16	16	12.70
5/8	14	14.00
11/16	14	15.75
3/4	12	17.00
7/8	11	20.00
1"	10	23
1 1/8	9	26
1 1/4	9	29
1 3/8	8	32
1 1/2	8	35
1 5/8	8	37.5
1 3/4	7	40
2"	7	46.5

UN - 12		
SIZE No or Inch	PITCH TPI	DRILL mm
1 5/8	12	39.10
1 3/4	12	42.30
1 7/8	12	45.40
2"	12	48.60
2 1/4	12	55.00
2 1/4	12	61.30
1"	12	23.50

UNF		
SIZE mm	PITCH mm	DRILL mm
No. 0	80	1.25
No. 1	72	1.55
No. 2	64	1.9
No. 3	56	2.15
No. 4	48	2.4
No. 5	44	2.7
No. 6	40	2.95
No. 8	36	3.5
No. 10	32	4.1
No. 12	28	4.7
1/4	28	5.5
5/16	24	6.9
3/8	24	8.5
7/16	20	9.9
1/2	20	11.5
9/16	18	12.9
5/8	18	14.5
3/4	16	17.5
7/8	14	20.4
1"	12	23.25
1 1/8	12	26.5
1 1/4	12	29.5
1 3/8	12	32.75
1 1/2	12	36

NPS / NPSF			
SIZE No or Inch	PITCH TPI	DRILL mm	DRILL mm
1/8	27	8.9	8.70
1/4	18	11.5	11.30
3/8	18	15.00	14.70
1/2	14	18.50	18.20
3/4	14	24.00	23.50
1"	11 1/2	30.00	29.50
1 1/4	11 1/2	39.00	38.50
1 1/2	11 1/2	45.00	44.50
2"	11 1/2	57.00	56.50