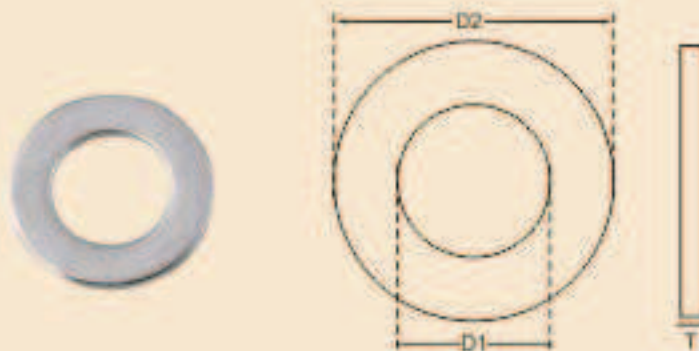




FASTENERS

WASHERS : BS 4320 METRIC SERIES (FORM A & B)

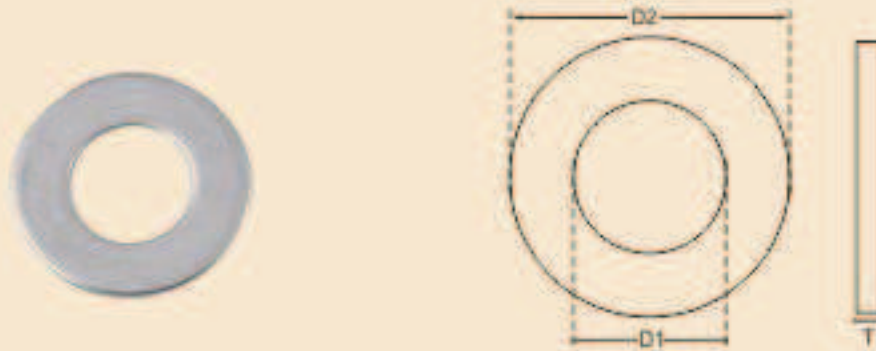


BS 4320 DIMENSIONS OF WASHERS (FORMS A AND B)

TECHNICAL DATA

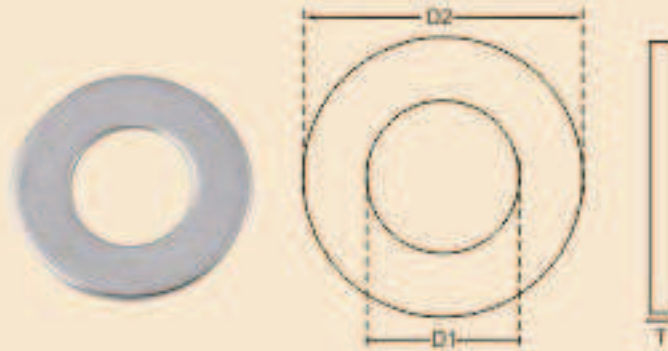
NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS MM	
			FORM A (NORMAL RANGE)	FORM B (NORMAL RANGE)
	Min - Max	Min - Max	Min - Max	Min - Max
M3	3.2 - 3.4	6.7 - 7.0	0.4 - 0.6	-
M4	4.3 - 4.5	8.7 - 9.0	0.7 - 0.9	-
M5	5.3 - 5.5	9.7 - 10.0	0.9 - 1.1	-
M6	6.4 - 6.7	12.1 - 12.5	1.4 - 1.8	0.7 - 0.9
M8	8.4 - 8.7	15.6 - 17.0	1.4 - 1.8	0.9 - 1.1
M10	10.5 - 10.9	20.5 - 21.5	1.8 - 2.2	1.05 - 1.45
M12	13.0 - 13.4	23.5 - 24.0	2.3 - 2.7	1.4 - 1.8
M14	15.0 - 15.4	27.5 - 28.0	2.3 - 2.7	1.4 - 1.8
M16	17.0 - 17.4	29.5 - 30.0	2.7 - 3.3	1.8 - 2.2
M18	19.0 - 19.5	33.2 - 34.0	2.7 - 3.3	1.8 - 2.2
M20	21.0 - 21.5	36.0 - 37.0	2.7 - 3.3	1.8 - 2.2
M22	23.0 - 23.5	38.2 - 39.0	2.7 - 3.3	1.8 - 2.2
M24	25.0 - 25.5	43.2 - 44.0	3.7 - 4.3	2.3 - 2.7
M27	28.0 - 28.5	49.2 - 50.0	3.7 - 4.3	2.3 - 2.7
M30	31.0 - 31.6	55.0 - 56.0	3.7 - 4.3	2.3 - 2.7
M33	34.0 - 34.6	59.0 - 60.0	4.4 - 5.6	2.7 - 3.3
M36	37.0 - 37.6	65.0 - 66.0	4.4 - 5.6	2.7 - 3.3
M39	40.0 - 40.6	71.0 - 72.0	5.4 - 6.6	2.7 - 3.3

FINISH AVAILABLE - ZP, HSB

WASHERS : BS 4320 METRIC SERIES (FORM C AND D)

BS 4320 DIMENSIONS OF WASHERS (FORMS C AND D)
TECHNICAL DATA

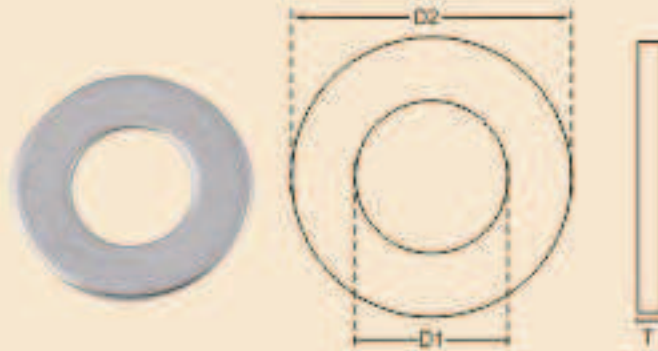
NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER MM	OUTER DIAMETER MM	THICKNESS MM	
			FORM C (NORMAL RANGE)	FORM D (NORMAL RANGE)
	Min - Max	Min - Max	Min - Max	Min - Max
M4	4.3 - 4.5	9.7 - 10.0	0.7 - 0.9	-
M5	5.3 - 5.5	12.1 - 12.5	0.9 - 1.1	-
M6	6.4 - 6.7	13.8 - 14.0	1.4 - 1.8	0.7 - 0.9
M8	8.4 - 8.7	20.5 - 21.0	1.4 - 1.8	0.9 - 1.1
M10	10.5 - 10.9	23.5 - 24.0	1.4 - 1.8	1.05 - 1.45
M12	13.0 - 13.4	27.5 - 28.0	2.3 - 2.7	1.4 - 1.8
M14	15.0 - 15.4	29.5 - 30.0	2.3 - 2.7	1.4 - 1.8
M16	17.0 - 17.4	33.2 - 34.0	2.7 - 3.3	1.8 - 2.2
M18	19.0 - 19.5	36.2 - 37.0	2.7 - 3.3	1.8 - 2.2
M20	21.0 - 21.5	38.2 - 39.0	2.7 - 3.3	1.8 - 2.2
M22	23.0 - 23.5	43.2 - 44.0	2.7 - 3.3	1.8 - 2.2
M24	25.0 - 25.5	49.2 - 50.0	3.7 - 4.3	2.3 - 2.7
M27	28.0 - 28.5	55.0 - 56.0	3.7 - 4.3	2.3 - 2.7
M30	31.0 - 31.8	59.0 - 60.0	3.7 - 4.3	2.3 - 2.7
M33	31.0 - 31.8	65.0 - 66.0	4.4 - 5.6	2.7 - 3.3
M36	37.0 - 37.6	71.0 - 72.0	4.4 - 5.6	2.7 - 3.3
M39	40.0 - 40.6	76.0 - 77.0	5.4 - 6.6	2.7 - 3.3

FINISH AVAILABLE - ZP HSG

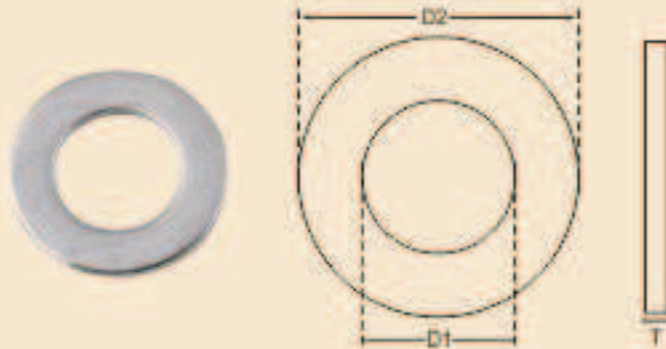
WASHERS : BS 4320 METRIC SERIES (FORM E)

BS 4320 DIMENSIONS OF WASHERS (FORM E)
TECHNICAL DATA

NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS (T) MM
	Min - Max	Min - Max	Min - Max
M5	5.5 - 5.8	9.2 - 10.0	0.8 - 1.2
M6	6.6 - 7.0	11.7 - 12.5	1.3 - 1.9
M8	8.0 - 8.4	15.2 - 17.0	1.3 - 1.9
M10	11.0 - 11.5	20.2 - 21.0	1.7 - 2.3
M12	14.0 - 14.5	23.2 - 24.0	2.2 - 2.8
M14	16.0 - 16.5	27.2 - 28.0	2.2 - 2.8
M16	18.0 - 18.5	29.2 - 30.0	2.4 - 3.0
M18	20.0 - 20.6	32.8 - 34.0	2.4 - 3.0
M20	22.0 - 22.6	35.8 - 37.0	2.4 - 3.0
M22	24.0 - 24.6	37.8 - 39.0	2.4 - 3.0
M24	26.0 - 26.6	42.8 - 44.0	3.4 - 4.0
M27	30.0 - 30.6	48.8 - 50.0	3.4 - 4.0
M30	33.0 - 33.6	54.5 - 56.0	3.4 - 4.0
M33	36.0 - 36.6	58.5 - 60.0	4.0 - 6.0
M36	39.0 - 39.6	64.5 - 66.0	4.0 - 6.0
M39	42.0 - 42.6	70.5 - 72.0	5.0 - 7.0
M42	45.0 - 45.6	75.5 - 76.0	5.8 - 8.2
M45	48.0 - 48.6	81.0 - 85.0	5.8 - 8.2
M48	52.0 - 53.0	90.0 - 92.0	8.8 - 9.2
M52	56.0 - 57.0	96.0 - 98.0	8.8 - 9.2
M56	62.0 - 63.0	103.0 - 105.0	7.8 - 10.2
M60	66.0 - 67.0	108.0 - 110.0	7.8 - 10.2
M64	70.0 - 71.0	113.0 - 115.0	7.8 - 10.2
M68	74.0 - 75.0	118.0 - 120.0	8.8 - 11.2

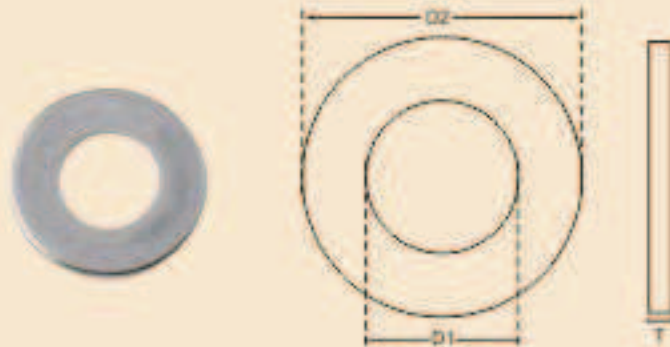
FINISH AVAILABLE - ZP, HSG

WASHERS : BS 4320 METRIC SERIES (FORM F)

BS 4320 DIMENSIONS OF WASHERS (FORM F)
TECHNICAL DATA

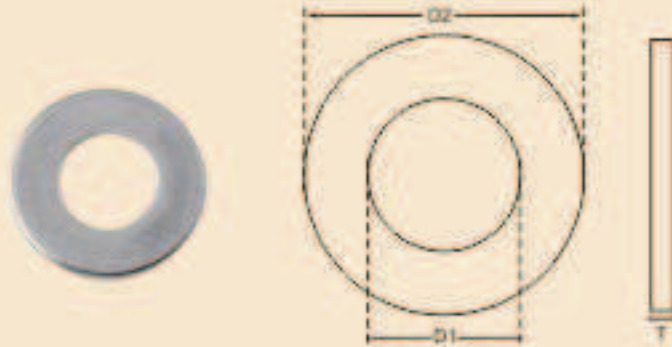
NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER	OUTER DIAMETER	THICKNESS
	MM	MM	MM
	Min - Max	Min - Max	Min - Max
M6	9.0 - 9.4	20.2 - 21.0	1.3 - 1.9
M10	11.0 - 11.5	23.2 - 24.0	1.7 - 2.3
M12	14.0 - 14.5	27.2 - 28.0	2.2 - 2.8
M14	16.0 - 16.5	29.2 - 30.0	2.2 - 2.8
M16	18.0 - 18.5	32.8 - 34.0	2.4 - 3.0
M18	20.0 - 20.6	35.8 - 37.0	2.4 - 3.0
M20	22.0 - 22.6	37.8 - 39.0	2.4 - 3.0
M22	24.0 - 24.6	42.8 - 44.0	2.4 - 3.0
M24	26.0 - 26.6	48.8 - 50.0	3.4 - 4.0
M27	30.0 - 30.6	54.5 - 56.0	3.4 - 4.0
M30	33.0 - 33.8	58.5 - 60.0	3.4 - 4.0
M33	36.0 - 36.8	64.5 - 66.0	4.0 - 6.0
M36	39.0 - 39.8	70.5 - 72.0	4.0 - 6.0
M39	42.0 - 42.8	75.5 - 77.0	5.0 - 7.0

DIN 125 : STANDARD FASTENERS

METRIC WASHERS - DIMENSIONS
TECHNICAL DATA

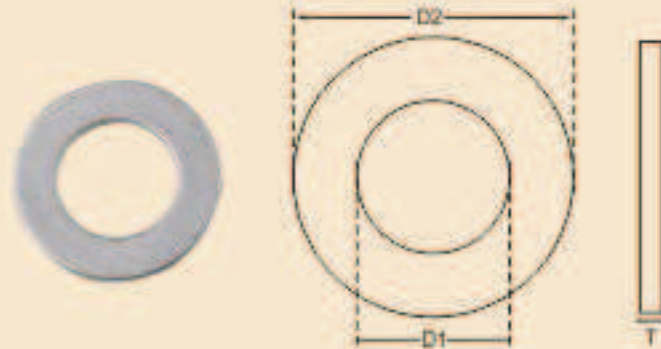
NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS (T) MM
	Min - Max	Min - Max	Min - Max
M1.6	1.7 - 1.84	3.7 - 4	0.25 - 0.35
M2	2.2 - 2.34	4.7 - 5	0.25 - 0.35
M2.5	2.7 - 2.84	5.7 - 6	0.45 - 0.55
M3	3.2 - 3.38	6.64 - 7	0.45 - 0.55
M3.5	3.7 - 3.88	7.64 - 8	0.45 - 0.55
M4	4.3 - 4.48	8.64 - 9	0.7 - 0.9
M5	5.3 - 5.48	9.64 - 10	0.9 - 1.10
M6	6.4 - 6.62	11.57 - 12	1.4 - 1.8
M8	8.4 - 8.62	15.57 - 16	1.4 - 1.8
M10	10.5 - 10.77	19.48 - 20	1.8 - 2.2
M12	13 - 13.27	23.48 - 24	2.3 - 2.7
M14	15 - 15.27	27.48 - 28	2.3 - 2.7
M16	17 - 17.27	29.48 - 30	2.7 - 3.3
M18	19 - 19.33	33.38 - 34	2.7 - 3.3
M20	21 - 21.33	36.38 - 37	2.7 - 3.3
M22	23 - 23.33	38.38 - 39	2.7 - 3.3
M24	25 - 25.33	43.38 - 44	3.7 - 4.3
M27	28 - 28.33	49.38 - 50	3.7 - 4.3
M30	31 - 31.38	55.26 - 56	3.7 - 4.3
M33	34 - 34.62	58.8 - 60	4.4 - 5.6
M36	37 - 37.62	64.8 - 66	4.4 - 5.6
M39	40 - 40.62	70.08 - 72	5.4 - 6.6
M42	43 - 43.62	76.8 - 78	6 - 8
M48	50 - 50.62	90.6 - 92	7 - 9

BS3410 : LARGE BRIGHT WASHER (TABLE 4 LIGHT PATTERN)

DIMENSIONS (INCHES)
TECHNICAL DATA

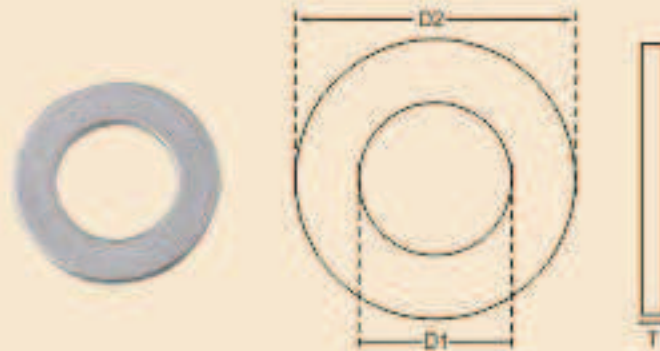
NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS (T) MM
	Min - Max	Min - Max	Min - Max
1/4	0.265 - 0.270	0.620 - 0.625	0.036 - 0.044
5/16	0.328 - 0.333	0.745 - 0.750	0.044 - 0.052
3/8	0.390 - 0.395	0.870 - 0.875	0.044 - 0.052
7/16	0.453 - 0.458	0.995 - 1.000	0.052 - 0.060
1/2	0.515 - 0.520	1.115 - 1.125	0.052 - 0.060
9/16	0.588 - 0.593	1.240 - 1.250	0.052 - 0.060
5/8	0.651 - 0.656	1.365 - 1.375	0.068 - 0.076
3/4	0.776 - 0.781	1.615 - 1.625	0.068 - 0.076
7/8	0.901 - 0.906	1.865 - 1.875	0.068 - 0.076
1	1.026 - 1.031	2.115 - 2.125	0.088 - 0.096
1 1/8	1.151 - 1.156	2.365 - 2.375	0.098 - 0.110
1 1/4	1.276 - 1.281	2.605 - 2.625	0.110 - 0.122
1 3/8	1.401 - 1.406	2.855 - 2.875	0.122 - 0.136
1 1/2	1.526 - 1.531	3.095 - 3.125	0.122 - 0.136
1 3/4	1.776 - 1.781	3.595 - 3.625	0.122 - 0.136
2	2.026 - 2.031	4.095 - 4.125	0.122 - 0.136

BS3410 : LARGE BRIGHT WASHER (TABLE 4 HEAVY PATTERN)

DIMENSIONS (INCHES)
TECHNICAL DATA

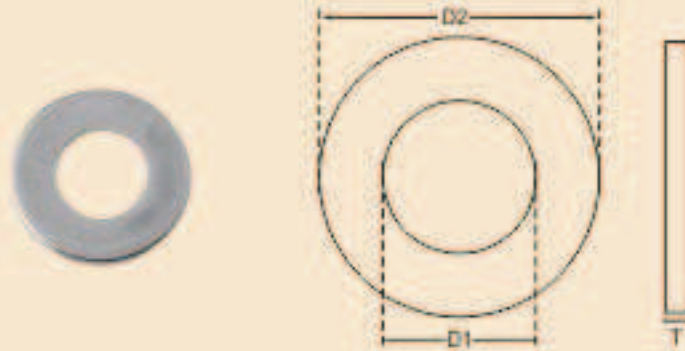
NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS (T) MM
	Min - Max	Min - Max	Min - Max
1/4	0.265 - 0.270	0.620 - 0.625	0.052 - 0.060
5/16	0.328 - 0.333	0.745 - 0.750	0.068 - 0.076
3/8	0.380 - 0.395	0.870 - 0.875	0.068 - 0.076
7/16	0.453 - 0.458	0.995 - 1.000	0.080 - 0.090
1/2	0.515 - 0.520	1.115 - 1.125	0.080 - 0.090
9/16	0.588 - 0.593	1.240 - 1.250	0.098 - 0.110
5/8	0.651 - 0.656	1.365 - 1.375	0.110 - 0.120
3/4	0.776 - 0.781	1.815 - 1.825	0.122 - 0.136
7/8	0.901 - 0.906	1.865 - 1.875	0.136 - 0.152
1	1.026 - 1.031	2.115 - 2.125	0.152 - 0.168
1 1/8	1.151 - 1.156	2.365 - 2.375	0.168 - 0.184
1 1/4	1.276 - 1.281	2.605 - 2.625	0.168 - 0.184
1 3/8	1.401 - 1.406	2.855 - 2.875	0.184 - 0.202
1 1/2	1.526 - 1.531	3.095 - 3.125	0.184 - 0.202
1 3/4	1.776 - 1.781	3.595 - 3.625	0.202 - 0.222
2	2.026 - 2.031	4.095 - 4.125	0.202 - 0.222

BS3410 : SMALL BRIGHT WASHER (TABLE 3 LIGHT PATTERN)

DIMENSIONS (INCHES)
TECHNICAL DATA

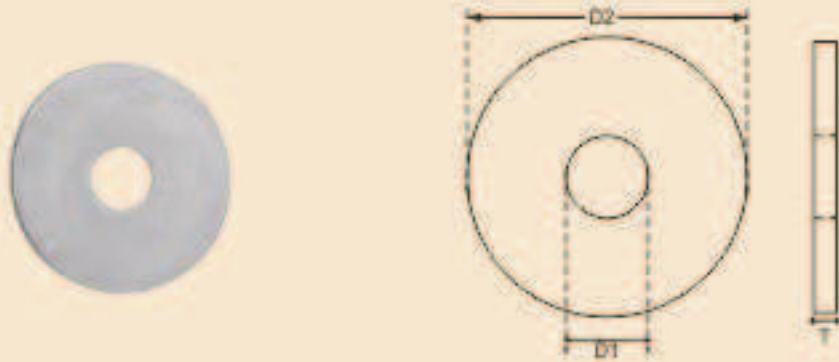
NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS (T) MM
	Min - Max	Min - Max	Min - Max
1/4	0.268 - 0.270	0.557 - 0.562	0.034 - 0.038
5/16	0.326 - 0.333	0.620 - 0.625	0.038 - 0.044
3/8	0.390 - 0.395	0.745 - 0.750	0.044 - 0.052
7/16	0.453 - 0.458	0.870 - 0.873	0.044 - 0.050
1/2	0.515 - 0.520	0.995 - 1.000	0.052 - 0.060
9/16	0.588 - 0.593	1.115 - 1.125	0.052 - 0.060
5/8	0.651 - 0.656	1.240 - 1.250	0.068 - 0.076
3/4	0.776 - 0.781	1.498 - 1.500	0.068 - 0.076
7/8	0.901 - 0.906	1.815 - 1.825	0.068 - 0.076
1	1.026 - 1.031	1.965 - 1.975	0.068 - 0.076
1 1/8	1.151 - 1.156	2.115 - 2.125	0.080 - 0.090
1 1/4	1.276 - 1.281	2.265 - 2.275	0.110 - 0.120
1 3/8	1.401 - 1.406	2.605 - 2.625	-
1 1/2	1.526 - 1.531	2.855 - 2.875	-
1 3/4	1.778 - 1.781	3.345 - 3.375	-
2	2.028 - 2.031	3.595 - 3.625	-

BS3410 : SMALL BRIGHT WASHERS (TABLE 3 HEAVY PATTERN)

DIMENSIONS (INCHES)
TECHNICAL DATA

NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS (T) MM
	Min - Max	Min - Max	Min - Max
1/4	0.265 - 0.270	0.557 - 0.562	0.052 - 0.060
5/16	0.308 - 0.333	0.620 - 0.625	0.068 - 0.076
3/8	0.388 - 0.395	0.745 - 0.750	0.068 - 0.076
7/16	0.453 - 0.458	0.870 - 0.875	0.088 - 0.088
1/2	0.515 - 0.520	0.985 - 1.000	0.088 - 0.098
9/16	0.588 - 0.593	1.115 - 1.125	0.098 - 0.110
5/8	0.651 - 0.656	1.240 - 1.250	0.110 - 0.122
3/4	0.778 - 0.781	1.490 - 1.500	0.122 - 0.136
7/8	0.901 - 0.908	1.815 - 1.825	0.136 - 0.152
1	1.028 - 1.031	1.865 - 1.875	0.152 - 0.168
1 1/4	1.151 - 1.156	2.115 - 2.125	0.168 - 0.184
1 1/2	1.276 - 1.281	2.365 - 2.375	0.168 - 0.184
1 3/4	1.401 - 1.406	2.605 - 2.625	0.184 - 0.202
1 3/8	1.528 - 1.531	2.855 - 2.875	0.184 - 0.202
1 3/4	1.778 - 1.781	3.345 - 3.375	0.202 - 0.222
2	2.028 - 2.031	3.595 - 3.625	0.202 - 0.222

BS4320G : FLAT WASHER FORM G

DIMENSIONS (IN MM)
TECHNICAL DATA

NOMINAL SIZE OF BOLT OR SCREW	INSIDE DIAMETER (D1) MM	OUTER DIAMETER (D2) MM	THICKNESS (T) MM
M5	5.5	15	1.6
M6	6.6	18	2.0
M7	7.6	21	2.0
M8	9.0	24	2.0
M10	11	30	2.5
M12	14	36	3.0
M14	16	42	3.0
M16	18	48	4.0
M18	20	54	4.0
M20	22	60	5.0
M22	24	66	5.0
M24	28	72	6.0
M27	30	81	6.0
M30	33	90	6.0
M33	36	99	6.0
M36	39	108	10.0
M39	42	117	10.0

MUDGAURD WASHERS

DIMENSIONS FOR MUDGUARD
TECHNICAL DATA

WASHER DESCRIPTION (INCHES)	INSIDE DIAMETER (D1)MM	OUTER DIAMETER (D2)MM	THICKNESS (T) MM
	Min - Max	Min - Max	Min - Max
4.3 X 20 X 1.5	4.3 - 4.48	19.48 - 20	1.3 - 1.7
5.3 X 20 X 1.5	5.3 - 5.48	19.48 - 20	1.3 - 1.7
5.3 X 25 X 1.5	5.3 - 5.48	24.48 - 25	1.3 - 1.7
5.3 X 30 X 1.5	5.3 - 5.48	29.48 - 30	1.3 - 1.7
6.4 X 20 X 1.5	6.4 - 6.62	19.48 - 20	1.3 - 1.7
6.4 X 25 X 1.5	6.4 - 6.62	24.48 - 25	1.3 - 1.7
6.4 X 30 X 1.5	6.4 - 6.62	29.48 - 30	1.3 - 1.7
6.4 X 40 X 1.5	6.4 - 6.62	39.48 - 40	1.3 - 1.7
6.4 X 20 X 1.5	6.4 - 6.62	19.48 - 20	1.3 - 1.7
6.4 X 25 X 1.5	6.4 - 6.62	24.48 - 25	1.3 - 1.7
6.4 X 30 X 1.5	6.4 - 6.62	29.48 - 30	1.3 - 1.7
6.4 X 40 X 1.5	6.4 - 6.62	39.48 - 40	1.3 - 1.7
10.5 X 20 X 1.5	10.5 - 10.77	19.48 - 20	1.3 - 1.7
10.5 X 25 X 1.5	10.5 - 10.77	24.48 - 25	1.3 - 1.7
10.5 X 30 X 1.5	10.5 - 10.77	29.48 - 30	1.3 - 1.7
10.5 X 40 X 1.5	10.5 - 10.77	39.48 - 40	1.3 - 1.7
10.5 X 50 X 1.5	10.5 - 10.77	49.48 - 50	1.3 - 1.7
11 X 40 X 1.5	11 - 11.27	39.48 - 40	1.3 - 1.7
11 X 50 X 1.5	11 - 11.27	49.48 - 50	1.3 - 1.7
12 X 30 X 1.5	12 - 12.27	29.48 - 30	1.3 - 1.7
12 X 35 X 1.5	12 - 12.27	34.48 - 35	1.3 - 1.7
12 X 40 X 1.5	12 - 12.27	39.48 - 40	1.3 - 1.7
12 X 50 X 1.5	12 - 12.27	49.48 - 50	1.3 - 1.7
12 X 60 X 1.5	12 - 12.27	59.48 - 60	1.3 - 1.7
15 X 40 X 1.5	15 - 15.27	39.48 - 40	1.3 - 1.7

STEEL WOOD SCREW



TECHNICAL DATA

SCREW NO.	DIA. OF HEAD	DIA. OF UNTHREADED SHANK	DEPTH OF HEAD
3	4.60	2.30	1.32
4	5.30	2.65	1.50
6	6.70	3.35	1.58
7	7.40	3.70	2.16
8	8.10	4.10	2.34
10	9.50	4.75	2.69
12	10.90	5.40	3.05



FINISH AVAILABLE - ZP, SC, NP, ZPYP, BLACK, OLIVE GREEN
 PACKING - FLEXIBLE (As Per Customer Requirements)

HEXAGON BOLTS & CARRIAGE BOLTS



TECHNICAL DATA

SCREW NO.	DIA. OF HEAD	DEPTH OF HEAD
M3	5.50	2.50
M4	7.00	2.80
M5	8.00	3.50
M6	10.00	4.00
M8	13.00	5.50
M10	17.50	7.00



FINISH AVAILABLE - ZP, SC, NP, ZPYP, BLACK, OLIVE GREEN
 PACKING - FLEXIBLE (As Per Customer Requirements)
 Also Being Manufactured in Brass

STEEL MACHINE SCREW



TECHNICAL DATA

SCREW NO.	DIA. OF HEAD	DEPTH OF HEAD
M2	3.80	1.20
M3	5.60	1.65
M4	7.50	2.20
M5	8.20	2.50
M6	11.00	3.00
M8	14.50	4.00
M10	18.00	5.00



FINISH AVAILABLE - ZP, SC, NP, ZPYP, BLACK, OLIVE GREEN
 PACKING - FLEXIBLE (As Per Customer Requirements)
 Also Being Manufactured in Brass

STAINLESS STEEL TRUNCATED MACHINE SCREWS



MEX16MM
MATERIAL - SS304, SS316
FINISH AVAILABLE - POL.
PACKING - FLEXIBLE (As Per Customer Requirements)

HEAD STYLE



Post

STEEL SELF TAPPING SCREW



TECHNICAL DATA

SCREW NO.	DIA. OF HEAD	THREADED SIZE	DEPTH OF HEAD
2	4.30	2.20	1.30
4	5.50	2.90	1.70
6	6.80	3.50	2.10
8	8.10	4.20	2.50
10	9.50	4.80	3.00
12	10.80	5.50	3.40
14	12.40	6.20	3.80

FINISH AVAILABLE - ZP, SC, NP, ZPYP, BLACK, OLIVE GREEN
PACKING - FLEXIBLE (As Per Customer Requirements)

HEAD STYLE



Slotted



Phillips



Post

WIRE NAILS

- Ring Shank Nails
- Clout Nails
- Threaded Nails
- Round Wire Nails
- Drywall Screws
- Chipboard Screws
- Twin Thread Screws



THREADED NAILS
Sizes: 1" to 3"



RING SHANK NAILS
Sizes: 1" to 3"



CLOUT NAILS
Sizes: ½" to 2"



ROUND WIRE NAILS
Sizes: ½" to 5"

FINISH AVAILABLE - ZP, SC, NP, ZPYP, BLACK, OLIVE GREEN
PACKING - FLEXIBLE (As Per Customer Requirements)

SCREWS & THREADED RODS



TWIN THREAD

M 12



CHIPBOARD

M 8



DRY WALL

M 16

GT1 to GT6 (M6 to M16)
FINISH AVAILABLE - ZP, SC, NP, ZPYP, BLACK, OLIVE GREEN
PACKING - FLEXIBLE (As Per Customer Requirements)