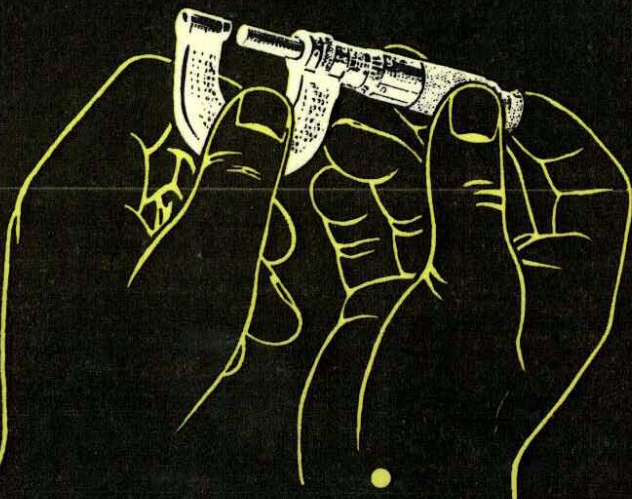


ZETUS PRECISION



**DATA CHARTS AND
REFERENCE TABLES
FOR DRAWING OFFICE
TOOLROOM & WORKSHOP**

65p

**METRIC REVISION
1976**

CONVERSION FACTORS

LENGTH

1 cm	= 0.3937 in	1 in	= 25.4 mm
1 m	= 3.2808 ft	1 ft	= 0.3048 m
1 km	= 0.6214 mile	1 mile	= 1.6093 km

WEIGHT

1 g	= 0.0353 oz	1 oz	= 28.35 g
1 kg	= 2.2046 lb	1 lb	= 0.4536 kg
1 tonne	= 0.9842 ton	1 ton	= 1.016 tonne

AREA

1 m ²	= 1.196 yard ²	1 in ²	= 645.2 mm ²
1 hectare	= 2.471 acre	1 yard ²	= 0.8361 m ²
		1 acre	= 0.4047 hectare
		1 sq mile	= 259 hectare

CAPACITY

1 cm ³	= 0.061 in ³	1 in ³	= 16.387 cm ³
1 m ³	= 1.308 yard ³	1 yard ³	= 0.7646 m ³
1 litre	= 1.761 pints	1 pint	= 0.57 litre
1 litre	= 0.22 gallons	1 gallon	= 4.5461 litre

VELOCITY

1 km/h	= 0.6215 mile/h	1 mile/h	= 1.609 km/h
1 m/s	= 3.2808 ft/s	1 ft/s	= 0.3048 m/s

Light 182,282 mile/s = 299.79 M m/s

$\pi \approx 3.14159$

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on behalf of the Proprietors:

**TECHNICAL INFORMATION COMPANY
P.O. BOX 59, JERSEY
BRITISH CHANNEL ISLANDS**



STANDARD DRILL SIZES AND DECIMAL EQUIVALENTS

STANDARD SIZES			STANDARD SIZES			STANDARD SIZES			No. OR LET- TER	STD. MET- RIC SIZE
in.	m.m.	Dec.	in.	m.m.	Dec.	in.	m.m.	Dec.		
	0.20	0.0079		1.70	0.0669		4.70	0.1850	80	.35
	0.22	0.0087		1.75	0.0689	5/16		0.1875	79	.38
	0.25	0.0099		1.80	0.0709		4.80	0.1890	78	.40
	0.28	0.0110		1.85	0.0728		4.90	0.1929	77	.45
	0.30	0.0118		1.90	0.0748		5.00	0.1968	76	.50
	0.32	0.0126		1.95	0.0768		5.10	0.2008	75	.52
	0.35	0.0138	5/64		0.0781	15/64		0.2031	74	.58
	0.36	0.0150		2.00	0.0787		5.20	0.2047	73	.60
1/64		0.0156		2.05	0.0807		5.30	0.2087	72	.65
	0.40	0.0157		2.10	0.0827		5.40	0.2126	71	.65
	0.42	0.0165		2.15	0.0846		5.50	0.2165	70	.70
	0.45	0.0177		2.20	0.0866	7/32		0.2188	69	.75
	0.48	0.0189		2.25	0.0886		5.60	0.2205	68	1/32
	0.50	0.0197		2.30	0.0906		5.70	0.2244	67	.82
	0.52	0.0205		2.35	0.0925		5.80	0.2283	66	.85
	0.55	0.0217	3/32		0.0938		5.90	0.2323	65	.90
	0.58	0.0228		2.40	0.0945	15/64		0.2344	64	.92
	0.60	0.0236		2.45	0.0965		6.00	0.2362	63	.95
	0.62	0.0244		2.50	0.0984		6.10	0.2402	62	.98
	0.65	0.0256		2.55	0.1004		6.20	0.2441	61	1.00
	0.68	0.0268		2.60	0.1024		6.30	0.2480	60	1.00
	0.70	0.0276		2.65	0.1043	1/4		0.2500	59	1.05
	0.72	0.0283		2.70	0.1063		6.40	0.2520	58	1.05
	0.75	0.0295		2.75	0.1083		6.50	0.2559	57	1.10
	0.78	0.0307	7/64		0.1094		6.60	0.2598	56	3/64
1/32		0.0312		2.80	0.1102		6.70	0.2638	55	1.30
	0.80	0.0315		2.85	0.1122	3/16		0.2656	54	1.40
	0.82	0.0323		2.90	0.1142		6.80	0.2677	53	1.50
	0.85	0.0335		2.95	0.1161		6.90	0.2717	52	1.60
	0.88	0.0346		3.00	0.1181		7.00	0.2756	51	1.70
	0.90	0.0354		3.10	0.1220		7.10	0.2795	50	1.80
	0.92	0.0362	1/8		0.1250	5/32		0.2812	49	1.85
	0.95	0.0374		3.20	0.1260		7.20	0.2835	48	1.95
	0.98	0.0386		3.30	0.1299		7.30	0.2874	47	2.00
	1.00	0.0394		3.40	0.1339		7.40	0.2913	46	2.05
	1.05	0.0413		3.50	0.1378		7.50	0.2953	45	2.10
	1.10	0.0433	9/64		0.1406	3/16		0.2969	44	2.20
	1.15	0.0453		3.60	0.1417		7.60	0.2992	43	2.25
3/64		0.0469		3.70	0.1457		7.70	0.3032	42	3/16
	1.20	0.0472		3.80	0.1496		7.80	0.3071	41	2.45
	1.25	0.0492		3.90	0.1535		7.90	0.3110	40	2.50
	1.30	0.0512	5/32		0.1562	1/8		0.3125	39	2.55
	1.35	0.0532		4.00	0.1575		8.00	0.3150	38	2.60
	1.40	0.0551		4.10	0.1614		8.10	0.3189	37	2.65
	1.45	0.0571		4.20	0.1654		8.20	0.3228	36	2.70
	1.50	0.0591		4.30	0.1693		8.30	0.3268	35	2.80
	1.55	0.0610	11/64		0.1719	3/16		0.3281	34	2.80
1/16		0.0625		4.40	0.1732		8.40	0.3307	33	2.85
	1.60	0.0630		4.50	0.1772		8.50	0.3346	32	2.95
	1.65	0.0650		4.60	0.1811		8.60	0.3386	31	3.00

STANDARD DRILL SIZES SUPERSEDING GAUGE AND LETTER SIZES

STANDARD SIZES			STANDARD SIZES			STANDARD SIZES			No. OR LET- TER	STD. MET- RIC SIZE
in.	m.m.	Dec.	in.	m.m.	Dec.	in.	m.m.	Dec.		
	8.70	0.3425		12.60	0.4961		19.00	0.7480	30	3.30
11/32		0.3438	1/2	12.70	0.500	3/4		0.7500	29	3.50
	8.80	0.3465		12.80	0.5039		19.25	0.7579	28	3/64
	8.90	0.3504		12.90	0.5079	4 1/4		0.7656	27	3.70
	9.00	0.3543		13.00	0.5118		19.50	0.7677	26	3.70
	9.10	0.3583	3 3/4		0.5156		19.75	0.7776	25	3.80
23/64		0.3594		13.10	0.5157	2 5/32		0.7812	24	3.90
	9.20	0.3622		13.20	0.5197		20.00	0.7874	23	3.90
	9.30	0.3661		13.30	0.5236	5 1/64		0.7969	22	4.00
	9.40	0.3701		13.40	0.5276		20.25	0.7972	21	4.00
3/8		0.3750	1 1/2		0.5312		20.50	0.8071	20	4.10
	9.60	0.3780		13.50	0.5315	1 1/16		0.8125	19	4.20
	9.70	0.3819		13.60	0.5354		20.75	0.8169	18	4.30
	9.80	0.3858		13.70	0.5394		21.00	0.8268	17	4.40
	9.90	0.3898	3 5/8		0.5469	3 3/4		0.8281	16	4.50
25/64		0.3906		13.80	0.5433		21.25	0.8366	15	4.60
	10.00	0.3937	3 3/4		0.5472	2 1/2		0.8438	14	4.60
	10.10	0.3976		13.90	0.5512		21.50	0.8465	13	4.70
	10.20	0.4016	3/16		0.5610		21.75	0.8563	12	4.80
	10.30	0.4055		14.00	0.5512	5 5/64		0.8594	11	4.90
1 1/32		0.4062		14.50	0.5709		22.00	0.8661	10	4.90
	10.40	0.4094	3 1/4		0.5781	7/8		0.8750	9	5.00
	10.50	0.4134		14.75	0.5807		22.25	0.8760	8	5.10
	10.60	0.4173	1 1/2		0.5906		22.50	0.8858	7	5.10
	10.70	0.4213		15.00	0.5938	6 1/4		0.8906	6	5.20
5/16		0.4219		15.25	0.6004		22.75	0.8957	5	5.20
	10.80	0.4252	3 5/8		0.6094		23.00	0.9055	4	5.30
	10.90	0.4291		15.50	0.6102	5 3/8		0.9062	3	5.40
	11.00	0.4331		15.75	0.6201		23.25	0.9154	2	5.60
7/16		0.4370	3/8		0.6250	5 1/4		0.9219	1	5.80
	11.10	0.4370		16.00	0.6259		23.50	0.9252	A	1 3/64
	11.20	0.4409		16.25	0.6398		23.75	0.9350	B	6.00
	11.30	0.4449	1 1/4		0.6406	1 5/16		0.9375	C	6.10
	11.40	0.4488		16.50	0.6496		24.00	0.9449	D	6.20
	11.50	0.4528	1 1/2		0.6562	6 3/4		0.9531	E	1/4
2 1/4		0.4531		16.75	0.6594		24.25	0.9547	F	6.50
	11.60	0.4567	3 3/4		0.6693		24.50	0.9646	G	6.60
	11.70	0.4606		17.00	0.6719	3 1/2		0.9688	H	1 1/64
	11.80	0.4646		17.25	0.6791		24.75	0.9744	I	6.90
	11.90	0.4685	1 1/16		0.6875		25.00	0.9843	J	7.00
1 1/2		0.4688		17.50	0.6890	6 1/4		0.9844	K	3/32
	12.00	0.4724		17.75	0.6988	1		1.0000	L	7.40
	12.10	0.4764	1 5/8		0.7031				M	7.50
	12.20	0.4803		18.00	0.7087				N	7.70
3 1/4		0.4843	2 1/2		0.7188				O	8.00
	12.30	0.4844		18.25	0.7185				P	8.20
	12.40	0.4882	4 1/4		0.7283				Q	8.40
	12.50	0.4921		18.50	0.7344				R	8.60
				18.75	0.7382				S	8.80

STANDARDS
RISE IN
INCREMENTS
OF 1/64 in.
AND 0.50 m.m.

STANDARD DRILL SIZES SUPERSEDING GAUGE AND LETTER SIZES

STANDARD DRILL SIZES AND
DECIMAL EQUIVALENTS

No. OR LET- TER	STD. MET- RIC SIZE
30	3.30
29	3.50
28	3/64
27	3.70
26	3.70
25	3.80
24	3.90
23	3.90
22	4.00
21	4.00
20	4.10
19	4.20
18	4.30
17	4.40
16	4.50
15	4.60
14	4.60
13	4.70
12	4.80
11	4.90
10	4.90
9	5.00
8	5.10
7	5.10
6	5.20
5	5.20
4	5.30
3	5.40
2	5.60
1	5.80
A	1 3/64
B	6.00
C	6.10
D	6.20
E	1/4
F	6.50
G	6.60
H	1 1/64
I	6.90
J	7.00
K	3/32
L	7.40
M	7.50
N	7.70
O	8.00
P	8.20
Q	8.40
R	8.60
S	8.80
T	9.10
U	9.30
V	3/8
W	9.80
X	10.10
Y	10.30
Z	10.50

B.A. STANDARD THREADS

B.A.	O. DIA.	CORE	PITCH	DEPTH	RADIUS	T.P.I.
0	.2362	.1890	.0394	.0236	.0072	25.38
1	.2087	.1663	.0354	.0212	.0064	28.25
2	.1850	.1468	.0319	.0191	.0058	31.35
3	.1614	.1270	.0287	.0172	.0052	34.84
4	.1417	.1105	.0260	.0156	.0047	38.46
5	.1260	.0980	.0232	.0139	.0042	43.10
6	.1102	.0852	.0209	.0125	.0038	47.85
7	.0984	.0758	.0189	.0113	.0034	52.91
8	.0866	.0664	.0169	.0101	.0031	59.17
9	.0748	.0564	.0154	.0092	.0028	64.94
10	.0669	.0503	.0138	.0083	.0025	72.46
11	.0591	.0445	.0122	.0073	.0022	81.97
12	.0511	.0375	.0110	.0066	.0020	90.91

B.S.F. THREADS (55°)

DIA.	O. DIA.	CORE	PITCH	DEPTH	RADIUS	EFFEC.	T.P.I.
$\frac{3}{16}$ "	.1875	.1475	.0312	.0200	.0046	.1675	32
$\frac{7}{32}$ "	.2188	.1730	.0357	.0229	.0049	.1958	28
$\frac{1}{4}$ "	.2500	.2008	.0385	.0246	.0053	.2254	26
$\frac{5}{16}$ "	.3125	.2543	.0454	.0291	.0062	.2834	22
$\frac{3}{8}$ "	.3750	.3110	.0500	.0320	.0069	.3430	20
$\frac{7}{16}$ "	.4375	.3663	.0555	.0356	.0076	.4019	18
$\frac{1}{2}$ "	.5000	.4200	.0625	.0400	.0086	.4600	16
$\frac{9}{16}$ "	.5625	.4825	.0625	.0400	.0086	.5225	16
$\frac{5}{8}$ "	.6250	.5336	.0714	.0457	.0098	.5793	14
$\frac{3}{4}$ "	.7500	.6432	.0833	.0534	.0114	.6966	12
$\frac{7}{8}$ "	.8750	.7586	.0909	.0582	.0125	.8168	11
1"	1.0000	.8720	.1000	.0640	.0137	.9360	10
$1\frac{1}{8}$ "	1.1250	.9828	.1111	.0711	.0153	1.0539	9
$1\frac{1}{4}$ "	1.2500	1.1078	.1111	.0711	.0153	1.1789	9
$1\frac{3}{8}$ "	1.3750	1.2150	.1250	.0800	.0172	1.2950	8
$1\frac{1}{2}$ "	1.5000	1.3400	.1250	.0800	.0172	1.4200	8
$1\frac{5}{8}$ "	1.6250	1.4649	.1250	.0800	.0172	1.5450	8
$1\frac{3}{4}$ "	1.7500	1.5670	.1429	.0915	.0196	1.6585	7
2"	2.0000	1.8170	.1429	.0915	.0196	1.9085	7
$2\frac{1}{4}$ "	2.2500	2.0366	.1666	.1067	.0229	2.1433	6
$2\frac{1}{2}$ "	2.5000	2.2866	.1666	.1067	.0229	2.3933	6
$2\frac{3}{4}$ "	2.7500	2.5366	.1666	.1067	.0225	2.6433	6
3"	3.0000	2.7439	.2000	.1280	.0275	2.8719	5

TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
B.A.	Drill	Dec.	Drill	Dec.	m. m.	Dec.
0	m. m. 5.10	.2008	m. m. 5.00	.1968	6.00	0.2362
1	4.50	.1772	4.45	.1752	5.40	0.2126
2	4.00	.1575	$\frac{5}{32}$	.1562	4.80	0.1890
3	3.45	.1358	3.40	.1339	4.20	0.1645
4	3.00	.1181	2.95	.1161	3.70	0.1457
5	2.65	.1043	2.60	.1024	3.30	0.1299
6	2.30	.0906	2.25	.0886	2.85	0.1122
7	2.05	.0807	2.00	.0787	2.55	0.1004
8	1.80	.0709	1.75	.0689	2.25	0.0886
9	1.55	.0610	1.50	.0590	1.95	0.0768
10	1.40	.0551	1.35	.0532	1.80	0.0709
11	1.20	.0472	$\frac{3}{64}$	.0469	1.50	0.0591
12	1.05	.0413	1.00	.0394	1.30	0.0512

TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
Dia.	Drill	Dec.	Drill	Dec.	m. m.	Dec.
$\frac{3}{16}$	m. m. $\frac{5}{32}$	.1562	m. m. 3.95	.1555	4.90	0.1929
$\frac{7}{32}$	4.65	.1831	4.60	.1811	5.60	0.2205
$\frac{1}{4}$	5.30	.2087	5.25	.2067	6.50	0.2559
$\frac{5}{16}$	6.75	.2657	$\frac{17}{64}$	.2656	8.00	0.3150
$\frac{3}{8}$	8.25	.3248	8.20	.3228	9.80	0.3858
$\frac{7}{16}$	9.70	.3819	9.60	.3780	$\frac{29}{64}$	0.4531
$\frac{1}{2}$	$\frac{7}{16}$	.4375	11.10	.4370	$\frac{33}{64}$	0.5156
$\frac{9}{16}$	$\frac{1}{2}$	.5000	12.60	.4961	$\frac{37}{64}$	0.5781
$\frac{5}{8}$	14.00	.5512	$\frac{35}{64}$	.5469	$\frac{41}{64}$	0.6406
$\frac{3}{4}$	16.75	.6594	$\frac{21}{32}$	.6562	$\frac{49}{64}$	0.7656
$\frac{7}{8}$	$\frac{25}{32}$	.7812	19.75	.7776	$\frac{57}{64}$	0.8906
1"	22.75	.8957	$\frac{59}{64}$	.8906	$1\frac{1}{64}$	1.0156
$1\frac{1}{8}$	25.50	1.0039	1"	1.0000	$1\frac{3}{64}$	1.1406
$1\frac{1}{4}$	28.75	1.1319	$1\frac{1}{8}$	1.1250	$1\frac{7}{64}$	1.2656
$1\frac{3}{8}$	31.50	1.2402	$1\frac{15}{64}$	1.2344	$1\frac{25}{64}$	1.3906
$1\frac{1}{2}$	$1\frac{23}{64}$	1.3594	35.50	1.3583	$1\frac{39}{64}$	1.5156

All tapping drill sizes (except where shown) and B.S. Primary and Secondary Selection of Fits, are reproduced with the full permission of the British Standards Institution, 2 Park Street, London, W.1. Where possible, British Standards recommended drills should be used, in order to ensure the greatest accuracy.

WHITWORTH THREADS 55°

DIA.	O. DIA.	CORE	PITCH	DEPTH	R'DIUS	EFFEC.	T.P.I.
1/8	.1250	.0930	.0250	.0160	.0034	.1090	40
3/16	.1875	.1341	.0417	.0267	.0057	.1608	24
1/4	.2500	.1860	.0500	.0320	.0069	.2180	20
5/16	.3125	.2414	.0556	.0356	.0076	.2769	18
3/8	.3750	.2950	.0625	.0400	.0086	.3350	16
7/16	.4375	.3460	.0714	.0457	.0098	.3918	14
1/2	.5000	.3933	.0833	.0534	.0114	.4466	12
9/16	.5625	.4558	.0833	.0534	.0114	.5091	12
5/8	.6250	.5086	.0909	.0582	.0125	.5668	11
3/4	.7500	.6219	.1000	.0640	.0137	.6860	10
7/8	.8750	.7327	.1111	.0711	.0153	.8039	9
1"	1.0000	.8399	.1250	.0800	.0172	.9200	8
1 1/8	1.1250	.9420	.1429	.0915	.0196	1.0335	7
1 1/4	1.2500	1.0670	.1429	.0915	.0196	1.1585	7
1 1/2	1.5000	1.2866	.1667	.1067	.0229	1.3933	6
1 3/4	1.7500	1.4939	.2000	.1281	.0275	1.6219	5
2"	2.0000	1.7154	.2222	.1423	.0305	1.8577	4 1/2

TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
Dia.	Drill	Dec.	Drill	Dec.	m.m.	Dec.
1/8	m.m. 2.55	.1004	m.m. 2.50	.0984	3.30	0.1299
3/16	3.70	.1457	3.65	.1437	5.00	0.1968
1/4	5.10	.2008	5.00	.1968	6.50	0.2559
5/16	6.50	.2559	6.40	.2520	8.00	0.3150
3/8	5/16	.3125	7.90	.3110	9.80	0.3858
7/16	9.25	.3642	9.20	.3622	29/64	0.4531
1/2	10.50	.4134	10.40	.4094	33/64	0.5156
9/16	12.10	.4764	12.00	.4724	37/64	0.5781
5/8	13.50	.5315	17/32	.5312	41/64	0.6406
3/4	41/64	.6406	16.25	.6398	49/64	0.7656
7/8	19.25	.7579	3/4	.7500	57/64	0.8906
1"	22.00	.8661	55/64	.8594	1 1/64	1.0156
1 1/8	24.75	.9744	31/32	.9688	19/64	1.1406
1 1/4	1 1/32	1.0938	27.50	1.0827	17/64	1.2656
1 1/2	33.50	1.3189	1 5/16	1.3125	1 33/64	1.5156
1 3/4	39.00	1.5354	1 17/32	1.5312	1 57/64	1.8906
2"	44.50	1.7520	1 3/4	1.7500	2 1/64	2.0156

BRITISH STANDARD PIPE THREADS

Size	O.D.	Core	Pitch	Depth	Radius	Effec.	T.P.I.	O.D.P.
1/8	.383	.337	.0357	.0229	.0049	.3601	28	1 3/32
1/4	.518	.451	.0526	.0335	.0072	.4845	19	1 1/32
3/8	.656	.589	.0526	.0335	.0072	.6225	19	1 1/16
1/2	.825	.734	.0714	.0457	.0098	.7793	14	2 7/32
5/8	.902	.811	.0714	.0457	.0098	.8563	14	1 5/16
3/4	1.041	.950	.0714	.0457	.0098	.9953	14	1 1/16
7/8	1.189	1.098	.0714	.0457	.0098	1.1433	14	1 7/32
1"	1.309	1.193	.0909	.0582	.0125	1.2508	11	1 3/8
1 1/4	1.650	1.534	.0909	.0582	.0125	1.5918	11	1 1/4
1 1/2	1.882	1.766	.0909	.0582	.0125	1.8238	11	1 29/32
1 3/4	2.116	2.000	.0909	.0582	.0125	2.0578	11	2 5/32
2"	2.347	2.231	.0909	.0582	.0125	2.2888	11	2 3/8

TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
Dia.	Drill	Dec.	Drill	Dec.	m.m.	Dec.
1/8	m.m. 8.75	.3445	m.m. 11/32	.3438	9.80	0.3858
1/4	11.80	.4646	11.75	.4626	17/32	0.5312
3/8	15.25	.6004	19/32	.5938	43/64	0.6719
1/2	3/4	.7500	19.00	.7480	53/64	0.8281
5/8	53/64	.8281	21.00	.8268	29/32	0.9062
3/4	24.50	.9646	24.25	.9547	1 3/64	1.0469
7/8	28.25	1.1122	1 7/64	1.1094	1 13/64	1.2031
1"	30.75	1.2106	1 13/64	1.2031	1 5/16	1.3125
1 1/4	39.50	1.5551	1 35/64	1.5469	1 21/32	1.6562
1 1/2	1 25/32	1.7812	45.00	1.7716	1 57/64	1.8906
1 3/4	51.00	2.0079	—	—	2 1/8	2.1250
2"	2 1/4	2.2500	57.00	2.2442	2 23/64	2.3594

UNIFIED SCREW THREADS BELOW 1/4" FOR ATTACHMENT PURPOSES

Designation	O.Dia.	Core Nut	Dia. Bolt	Pitch	Depth	Effec.
4-40 UNC	.112	.0849	.0813	.02500	.01534	.0958
6-32 UNC	.138	.1042	.0997	.03125	.01917	.1177
8-32 UNC	.164	.1302	.1257	.03125	.01917	.1437
10-32 UNF	.190	.1562	.1517	.03125	.01917	.1697
*10-24 UNC	.190	.1449	.1389	.04167	.02556	.1629

* Non Preferred

A.N.C. THREADS (60°)

No.	O.DIA.	CORE	PITCH	DEPTH	FLAT	EFFEC.	T.P.I.
1	.0730	.0527	.0156	.0101	.0019	.0629	64
2	.0860	.0628	.0178	.0116	.0022	.0744	56
3	.0990	.0719	.0208	.0135	.0026	.0855	48
4	.1120	.0795	.0250	.0162	.0031	.0958	40
5	.1250	.0925	.0250	.0162	.0031	.1088	40
6	.1380	.0974	.0312	.0203	.0039	.1177	32
8	.1640	.1234	.0312	.0203	.0039	.1437	32
10	.1900	.1359	.0416	.0270	.0052	.1629	24
12	.2160	.1619	.0416	.0270	.0052	.1889	24

TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
Dia.	Drill	Dec.	Drill	Dec.	m.m.	Dec.
1	m.m. 1.55	.0610	m.m. 1.50	.0590	1.95	0.0768
2	1.85	.0728	1.80	.0709	2.25	0.0886
3	2.10	.0827	2.05	.0807	2.65	0.1043
4	2.35	.0925	2.30	.0906	2.95	0.1161
5	2.65	.1043	2.60	.1024	3.30	0.1299
6	2.85	.1122	2.80	.1102	3.64	0.1406
8	3.50	.1378	3.45	.1358	4.30	0.1693
10	3.90	.1535	3.85	.1516	5.00	0.1968
12	4.55	.1791	4.50	.1772	5.60	0.2205

A.N.F. THREADS (60°)

No.	O.DIA.	CORE	PITCH	DEPTH	FLAT	EFFEC.	T.P.I.
0	.0600	.0438	.0125	.0081	.0015	.0519	80
1	.0730	.0550	.0139	.0091	.0017	.0640	72
2	.0860	.0657	.0156	.0101	.0019	.0759	64
3	.0990	.0758	.0178	.0116	.0022	.0874	56
4	.1120	.0849	.0208	.0135	.0026	.0985	48
5	.1250	.0955	.0227	.0147	.0028	.1102	44
6	.1380	.1055	.0250	.0162	.0031	.1218	40
8	.1640	.1279	.0278	.0180	.0035	.1460	36
10	.1900	.1494	.0312	.0203	.0039	.1697	32
12	.2160	.1696	.0357	.0232	.0044	.1928	28

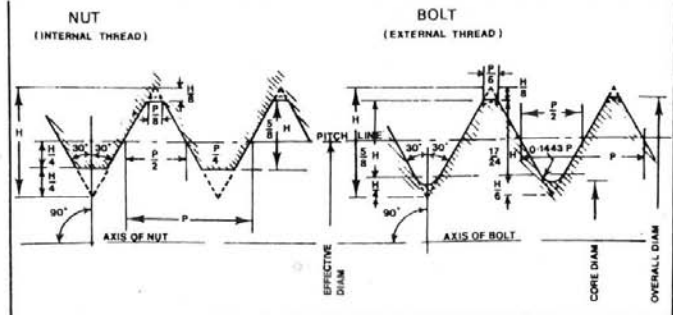
TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
Dia.	Drill	Dec.	Drill	Dec.	m.m.	Dec.
0	m.m. 1.25	.0492	m.m. 1.20	.0472	1.70	0.0669
1	1.60	.0630	1.56	.0625	2.00	0.0787
2	1.90	.0748	1.85	.0728	2.32	0.0938
3	2.15	.0846	2.10	.0827	2.70	0.1063
4	2.40	.0945	2.32	.0938	2.95	0.1161
5	2.70	.1063	2.65	.1043	3.50	0.1378
6	2.95	.1161	2.90	.1142	3.70	0.1457
8	3.55	.1398	3.50	.1378	4.40	0.1732
10	4.10	.1614	4.05	.1595	5.00	0.1968
12	4.65	.1831	4.60	.1811	5.60	0.2205

I.S.O. METRIC COARSE THREADS

NOTE:—All dimensions in mm.'s

O.Dia.	Core	Pitch	Depth	Flat	Effec.	Tapp'g Drill	Cl'ance Drill
1.6	1.1706	0.35	0.2147	0.04375	1.373	1.25	1.65
1'8	1.3706	0.35	0.2147	0.04375	1.573	1.45	1.85
2.0	1.5092	0.40	0.2454	0.05000	1.740	1.60	2.05
2.2	1.6480	0.45	0.2760	0.05625	1.908	1.75	2.25
2.5	1.9480	0.45	0.2760	0.05625	2.208	2.05	2.60
3.0	2.3866	0.50	0.3067	0.06250	2.675	2.50	3.10
3.5	2.7638	0.60	0.3681	0.07500	3.110	2.90	3.60
4.0	3.1412	0.70	0.4294	0.08750	3.545	3.30	4.10
4.5	3.5798	0.75	0.4601	0.09375	4.013	3.80	4.60
5.0	4.0184	0.80	0.4908	0.10000	4.480	4.20	5.10
6.0	4.7732	1.00	0.6134	0.12500	5.350	5.00	6.10
7.0	5.7732	1.00	0.6134	0.12500	6.350	6.00	7.20
8.0	6.4664	1.25	0.7668	0.15625	7.188	6.80	8.20
10.0	8.1596	1.50	0.9202	0.18750	9.026	8.50	10.20
12.0	9.8530	1.75	1.0735	0.21875	10.863	10.20	12.20
14.0	11.5462	2.00	1.2269	0.25000	12.701	12.00	14.25
16.0	13.5462	2.00	1.2269	0.25000	14.701	14.00	16.25
18.0	14.9328	2.50	1.5336	0.31250	16.376	15.50	18.25
20.0	16.9328	2.50	1.5336	0.31250	18.376	17.50	20.25
22.0	18.9328	2.50	1.5336	0.31250	20.376	19.50	22.25
24.0	20.3194	3.00	1.8403	0.37500	22.051	21.00	24.25
27.0	23.3194	3.00	1.8403	0.37500	25.051	24.00	27.25
30.0	25.7060	3.50	2.1470	0.43750	27.727	26.50	30.50
33.0	28.7060	3.50	2.1470	0.43750	30.727	29.50	33.50
36.0	31.0924	4.00	2.4538	0.50000	33.402	32.00	36.50
39.0	34.0924	4.00	2.4538	0.50000	36.402	35.00	39.50
42.0	36.4790	4.50	2.7605	0.56250	39.077	37.50	42.50
45.0	39.4790	4.50	2.7605	0.56250	42.077	40.50	45.50
48.0	41.8646	5.00	3.0672	0.62500	44.752	43.00	48.75
52.0	45.8646	5.00	3.0672	0.62500	48.752	47.00	52.75
56.0	49.2522	5.50	3.3739	0.68750	52.428	50.50	56.75
60.0	53.2522	5.50	3.3739	0.68750	56.428	54.50	60.75
64.0	56.6388	6.00	3.6806	0.75000	60.103	58.00	64.75
68.0	60.6388	6.00	3.6806	0.75000	64.103	62.00	68.75



**U.N.F.
FINE THREAD SERIES
UNIFIED SCREW THREADS (BASIC SIZES)**

B.S. 1580: 1962

DESIG'TION	O.DIA. Maj. dia	CORE DIA. Nuc †	DIA. Bolt ‡	PITCH	DEPTH	EFFEC.
¼-28 UNF	0.2500	0.2113	0.2062	.03571	.02191	0.2268
5/16-24 UNF	0.3125	0.2674	0.2614	.04167	.02556	0.2854
3/8-24 UNF	0.3750	0.3299	0.3239	.04167	.02556	0.3479
7/16-20 UNF	0.4375	0.3834	0.3762	.05000	.03067	0.4050
½-20 UNF	0.5000	0.4459	0.4387	.05000	.03067	0.4675
9/16-18 UNF	0.5625	0.5024	0.4943	.05556	.03408	0.5264
5/8-18 UNF	0.6250	0.5649	0.5568	.05556	.03408	0.5889
¾-16 UNF	0.7500	0.6823	0.6733	.06250	.03834	0.7094
7/8-14 UNF	0.8750	0.7977	0.7874	.07143	.04382	0.8286
1"-12 UNF	1.0000	0.9098	0.8978	.08333	.05112	0.9459
1 1/8-12 UNF	1.1250	1.0348	1.0228	.08333	.05112	1.0709
1 1/4-12 UNF	1.2500	1.1598	1.1478	.08333	.05112	1.1959
1 3/8-12 UNF	1.3750	1.2848	1.2728	.08333	.05112	1.3209
1 1/2-12 UNF	1.5000	1.4098	1.3978	.08333	.05112	1.4459

† Corresponds to a Flat of P/4; ‡ Corresponds to a Radius of .144 P (No Allowance)

TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
Dia.	Drill	Dec.	Drill	Dec.	m.m.	Dec.
1/4	m.m. 5.50	.2165	m.m. 5.40	.2126	6.50	0.2559
5/16	6.90	.2717	6.80	.2677	8.00	0.3150
3/8	8.50	.3346	8.40	.3307	9.80	0.3858
7/16	9.90	.3898	9.80	.3858	29/64	0.4531
1/2	11.40	.4488	—	—	33/64	0.5156
9/16	12.90	.5079	12.80	.5039	37/64	0.5781
5/8	14.50	.5709	—	—	41/64	0.6406
3/4	11/16	.6875	—	—	49/64	0.7656
7/8	*.804	*.804	—	—	57/64	0.8906
1"	23.25	.9154	—	—	1 1/64	1.0156
1 1/8	26.50	1.0433	—	—	1 9/64	1.1406
1 1/4	29.50	1.1614	—	—	1 7/8	1.2656
1 3/8	*1.290	*1.290	—	—	1 25/64	1.3906
1 1/2	36.00	1.4173	—	—	1 33/64	1.5156

*New Stock Sizes

**U.N.C.
COARSE THREAD SERIES
UNIFIED SCREW THREADS (BASIC SIZES)**

B.S. 1580: 1962

DESIG'TION	O.DIA.	CORE NUT†	DIA. BOLT‡	PITCH	DEPTH	EFFECT
1/4- 20 UNC	0.2500	0.1959	0.1887	.05000	.03067	0.2175
5/16- 18 UNC	0.3125	0.2524	0.2443	.05556	.03408	0.2764
3/8- 16 UNC	0.3750	0.3073	0.2983	.06250	.03834	0.3344
7/16- 14 UNC	0.4375	0.3602	0.3499	.07143	.04382	0.3911
1/2- 13 UNC	0.5000	0.4167	0.4056	.07692	.04719	0.4500
9/16- 12 UNC	0.5625	0.4723	0.4603	.08333	.05112	0.5084
5/8- 11 UNC	0.6250	0.5266	0.5135	.09091	.05577	0.5660
3/4- 10 UNC	0.7500	0.6417	0.6273	.10000	.06134	0.6850
7/8- 9 UNC	0.8750	0.7547	0.7387	.11111	.06816	0.8028
1"- 8 UNC	1.0000	0.8647	0.8466	.12500	.07668	0.9188
1 1/8- 7 UNC	1.1250	0.9704	0.9497	.14286	.08763	1.0322
1 1/4- 7 UNC	1.2500	1.0954	1.0747	.14286	.08763	1.1572
1 3/8- 6 UNC	1.3750	1.1946	1.1705	.16667	.10224	1.2667
1 1/2- 6 UNC	1.5000	1.3196	1.2955	.16667	.10224	1.3917
1 3/4- 5 UNC	1.7500	1.5335	1.5046	.20000	.12269	1.6201
2"- 4 1/2 UNC	2.0000	1.7594	1.7274	.22222	.13632	1.8557

† Corresponds to a Flat of P/4; ‡ Corresponds to Radius of .144 P (No Allowance)

TAPPING DRILLS

B.S.I. RECOMMENDED			B.S.I. ALTERNATE		CLEARANCE DRILLS	
Dia.	Drill	Dec.	Drill	Dec.	m.m.	Dec.
1/4	m.m. 5.20	.2047	m.m. 13/64	.2031	6.50	0.2559
5/16	6.60	.2598	6.50	.2559	8.00	0.3150
3/8	8.00	.3150	5/16	.3125	9.80	0.3858
7/16	9.40	.3701	9.30	.3661	29/64	0.4531
1/2	10.80	.4253	10.75	.4232	33/64	0.5156
9/16	12.25	.4823	12.20	.4803	37/64	0.5781
5/8	13.50	.5315	17/32	.5312	41/64	0.6406
3/4	16.50	.6496	—	—	49/64	0.7656
7/8	19.50	.7656	19.25	.7579	57/64	0.8906
1"	22.25	.8760	7/8	.8750	1 1/64	1.0156
1 1/8	25.50	.9844	25.00	.9842	1 9/64	1.1406
1 1/4	28.75	1.1094	28.00	1.1024	1 7/8	1.2656
1 3/8	30.75	1.2106	1 1/4	1.2031	1 25/64	1.3906
1 1/2	33.00	1.3281	—	—	1 33/64	1.5156
1 3/4	35.50	1.4469	39.00	1.5354	1 57/64	1.8906
2"	38.00	1.7812	45.00	1.7716	2 1/64	2.0156

Extracted from BS 4500:1969		BRITISH STANDARD DATA SHEET No. 4500 A.											
SELECTED ISO FIT—HOLE BASIS (SHEET No.1.)													
Clearance fits													
Holes													
Diagram to scale for 25mm Dia													
Shafts													
Nom sizes		Tolerance		Tolerance		Tolerance		Tolerance		Tolerance		Tolerance	
Over	To	H11	c11	H9	d10	H9	e9	H8	f7	H7	g6	H7	h6
mm	mm	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001
—	3	+60 0	-60 -120	+25 0	-20 -60	+25 0	-14 -39	+14 0	-6 -16	+10 0	-2 -8	+10 0	-6 0
3	6	+75 0	-70 -145	+30 0	-30 -78	+30 0	-20 -50	+18 0	-10 -22	+12 0	-4 -12	+12 0	-8 0
6	10	+90 0	-80 -170	+36 0	-40 -98	+36 0	-25 -61	+22 0	-13 -28	+18 0	-5 -14	+18 0	-9 0
10	18	+110 0	-95 -205	+43 0	-50 -129	+43 0	-32 -75	+27 0	-16 -34	+18 0	-6 -17	+18 0	-11 0
18	30	+130 0	-110 -240	+52 0	-65 -149	+52 0	-40 -92	+33 0	-20 -41	+21 0	-7 -20	+21 0	-13 0
30	40	+160 0	-120 -280	+62 0	-80 -180	+62 0	-50 -112	+39 0	-25 -50	+25 0	-9 -25	+25 0	-16 0
40	50	+160 0	-130 -290	+62 0	-80 -180	+62 0	-50 -112	+39 0	-25 -50	+25 0	-9 -25	+25 0	-16 0
50	65	+190 0	-140 -330	+74 0	-100 -220	+74 0	-60 -134	+46 0	-30 -60	+30 0	-10 -29	+30 0	-19 0
65	80	+190 0	-150 -340	+74 0	-100 -220	+74 0	-60 -134	+46 0	-30 -60	+30 0	-10 -29	+30 0	-19 0
80	100	+220 0	-170 -390	+87 0	-120 -260	+87 0	-72 -159	+54 0	-36 -71	+35 0	-12 -34	+35 0	-22 0
100	120	+220 0	-180 -400	+87 0	-120 -260	+87 0	-72 -159	+54 0	-36 -71	+35 0	-12 -34	+35 0	-22 0
120	140	+250 0	-200 -450	+100 0	-145 -305	+100 0	-84 -185	+63 0	-43 -83	+40 0	-14 -39	+40 0	-25 0
140	160	+250 0	-210 -460	+100 0	-145 -305	+100 0	-84 -185	+63 0	-43 -83	+40 0	-14 -39	+40 0	-25 0
160	180	+250 0	-230 -480	+100 0	-145 -305	+100 0	-84 -185	+63 0	-43 -83	+40 0	-14 -39	+40 0	-25 0
180	200	+290 0	-240 -530	+115 0	-170 -355	+115 0	-100 -215	+72 0	-50 -96	+46 0	-15 -44	+46 0	-29 0
200	225	+290 0	-260 -550	+115 0	-170 -355	+115 0	-100 -215	+72 0	-50 -96	+46 0	-15 -44	+46 0	-29 0
225	250	+290 0	-280 -570	+115 0	-170 -355	+115 0	-100 -215	+72 0	-50 -96	+46 0	-15 -44	+46 0	-29 0
250	280	+320 0	-300 -620	+130 0	-190 -400	+130 0	-110 -240	+81 0	-56 -108	+52 0	-17 -49	+52 0	-32 0
280	315	+320 0	-330 -650	+130 0	-190 -400	+130 0	-110 -240	+81 0	-56 -108	+52 0	-17 -49	+52 0	-32 0
315	355	+360 0	-360 -720	+140 0	-210 -440	+140 0	-125 -265	+89 0	-62 -119	+57 0	-18 -54	+57 0	-36 0
355	400	+360 0	-400 -760	+140 0	-210 -440	+140 0	-125 -265	+89 0	-62 -119	+57 0	-18 -54	+57 0	-36 0
400	450	+400 0	-440 -840	+155 0	-230 -480	+155 0	-135 -290	+97 0	-68 -131	+63 0	-20 -60	+63 0	-40 0
450	500	+400 0	-480 -880	+155 0	-230 -480	+155 0	-135 -290	+97 0	-68 -131	+63 0	-20 -60	+63 0	-40 0

Extracted from BS 4500:1969		BRITISH STANDARD SHEET No. 4500 A.										
SELECTED ISO FITS — HOLE BASIS (Sheet No.2.)												
+ Holes  Diagram to scale for 25mm Dia Shafts 	Transition fits				Interference fits							
												
Nom sizes		Tolerance		Tolerance		Tolerance		Tolerance		Tolerance		
Over	To	H7	k6	H7	n6	H7	p6	H7	s6	H7	s6	
mm	mm	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001	0-001	
	3	+10 0	+6 0	+10 0	+10 0	+10 0	+12 0	+10 0	+12 0	+10 0	+12 0	
3	6	+12 0	+9 0	+12 0	+12 0	+12 0	+12 0	+12 0	+12 0	+12 0	+12 0	
6	10	+15 0	+10 0	+15 0	+15 0	+15 0	+15 0	+15 0	+15 0	+15 0	+15 0	
10	18	+18 0	+12 0	+18 0	+18 0	+18 0	+18 0	+18 0	+18 0	+18 0	+18 0	
18	30	+21 0	+15 0	+21 0	+21 0	+21 0	+21 0	+21 0	+21 0	+21 0	+21 0	
30	40	+25 0	+18 0	+25 0	+25 0	+25 0	+25 0	+25 0	+25 0	+25 0	+25 0	
40	50	+25 0	+18 0	+25 0	+25 0	+25 0	+25 0	+25 0	+25 0	+25 0	+25 0	
50	65	+30 0	+21 0	+30 0	+30 0	+30 0	+30 0	+30 0	+30 0	+30 0	+30 0	
65	80	+30 0	+21 0	+30 0	+30 0	+30 0	+30 0	+30 0	+30 0	+30 0	+30 0	
80	100	+35 0	+25 0	+35 0	+35 0	+35 0	+35 0	+35 0	+35 0	+35 0	+35 0	
100	120	+35 0	+25 0	+35 0	+35 0	+35 0	+35 0	+35 0	+35 0	+35 0	+35 0	
120	140	+40 0	+28 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	
140	160	+40 0	+28 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	
160	180	+40 0	+28 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	+40 0	
180	200	+46 0	+33 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	
200	225	+46 0	+33 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	
225	250	+46 0	+33 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	+46 0	
250	280	+52 0	+36 0	+52 0	+52 0	+52 0	+52 0	+52 0	+52 0	+52 0	+52 0	
280	315	+52 0	+36 0	+52 0	+52 0	+52 0	+52 0	+52 0	+52 0	+52 0	+52 0	
315	355	+57 0	+40 0	+57 0	+57 0	+57 0	+57 0	+57 0	+57 0	+57 0	+57 0	
355	400	+57 0	+40 0	+57 0	+57 0	+57 0	+57 0	+57 0	+57 0	+57 0	+57 0	
400	450	+63 0	+45 0	+63 0	+63 0	+63 0	+63 0	+63 0	+63 0	+63 0	+63 0	
450	500	+63 0	+45 0	+63 0	+63 0	+63 0	+63 0	+63 0	+63 0	+63 0	+63 0	

HARDNESS COMPARISON TABLE

BY COURTESY OF MACHINERY PUBLISHING CO LTD

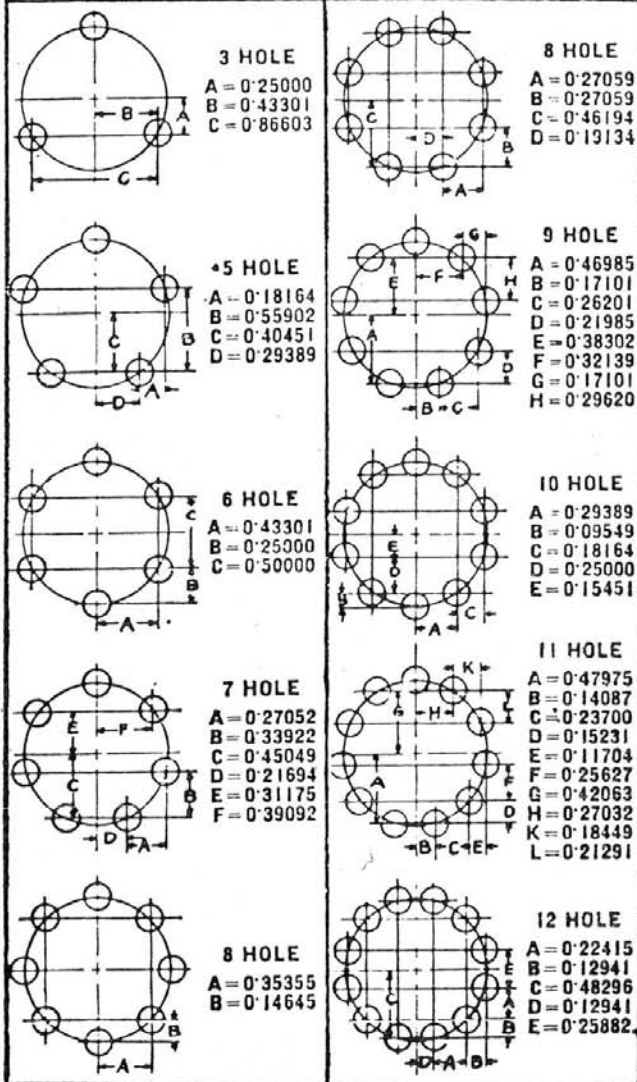
BRINELL 10 m/m Ball 3000 Kg Load.	FIRTH or YICKERS 120 Kg.	ROCKWELL C.Scale 120° Cone 150 Kg. Load.	ROCKWELL B.Scale 1/16 Ball 100 Kg. Load.	BRINELL 10 m/m Ball 3000 Kg Load.	FIRTH or YICKERS 120 Kg.	ROCKWELL C.Scale 120° Cone 150 Kg. Load.	ROCKWELL B.Scale 1/16 Ball 100 Kg. Load.
800	—	72	—	276	278	30	105
780	1220	71	—	269	272	29	104
760	1170	70	—	261	261	28	103
745	1114	68	—	258	258	27	102
725	1060	67	—	255	255	26	102
712	1021	66	—	249	250	25	101
682	940	65	—	245	246	24	100
668	905	64	—	240	240	23	99
652	867	63	—	237	235	23	99
626	803	62	—	229	226	22	98
614	775	61	—	224	221	21	97
601	746	60	—	217	217	20	96
590	727	59	—	211	213	19	95
576	694	57	—	206	209	18	94
552	649	56	—	203	201	17	94
545	639	55	—	200	199	16	93
529	606	54	—	196	197	15	92
514	587	53	120	191	190	14	92
502	565	52	119	187	186	13	91
495	551	51	119	185	184	12	91
477	534	49	118	183	183	11	90
461	502	48	117	180	177	10	89
451	489	47	117	175	174	9	88
444	474	46	116	170	171	7	87
427	460	45	115	167	168	6	87
415	435	44	115	165	165	5	86
401	423	43	114	163	162	4	85
388	401	42	114	160	159	3	84
375	390	41	113	156	154	2	83
370	385	40	112	154	152	1	82
362	380	39	111	152	150	—	82
351	361	38	111	150	149	—	81
346	352	37	110	147	147	—	80
341	344	37	110	145	146	—	79
331	335	36	109	143	144	—	79
323	320	35	109	141	142	—	78
311	312	34	108	140	141	—	77
301	305	33	107	135	135	—	75
293	291	32	106	130	130	—	72
285	285	31	105	—	—	—	—

* THE ABOVE TABLES ARE APPROXIMATE.

HARDNESS COMPARISON TABLE

CO-ORDINATES FOR LOCATING EQUALLY SPACED HOLES IN JIG BORING

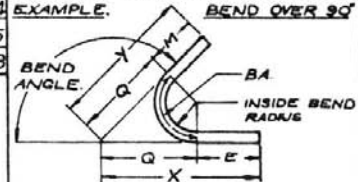
Multiply values shown by diameter of pitch circle



The constants in the table are multiplied by the diameter of the bolt-hole pitch circle to obtain the longitudinal and lateral adjustments of the right-angle slides of the jig borer, in boring equally spaced holes. While holes may be located by these right-angular measurements, an auxiliary rotary table provides a more direct method. With a rotary table the holes are spaced by precise angular movements after adjustment to the required radius.

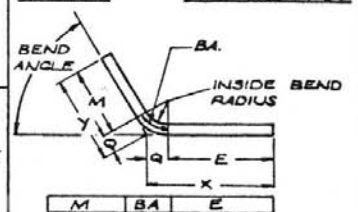
FOR BENDS OVER AND UNDER 90°
 LENGTH OF MTL. REQUIRED TO
 FORM BEND = $E + BA + M$
 WHERE $[E = X - Q]$, $[M = Y - Q]$,
 BA = BEND ALLOWANCE AND
 $Q = [INSIDE BEND RADIUS + THE$
 $THICKNESS] \times TANGENT VALUE$
 OF HALF BEND ANGLE.

EXAMPLE.  BEND OVER 90°



M	BA	E
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EXAMPLE	BEND UNDER 90°
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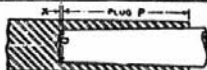
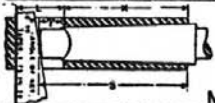


MORSE TAPER SLEEVES.



A - No. MORSE TAPER OUTSIDE B - No. MORSE TAPER INSIDE

A	B	C	D	E	F	G	H	I	K	L	M
2	1	3 ⁹ / ₁₆	0.700	5/8	1/4	7/16	2 ³ / ₁₆	0.475	2 ¹ / ₁₆	3/4	.213
3	1	3 ¹⁵ / ₁₆	0.938	1/4	5/16	9/16	2 ³ / ₁₆	0.475	2 ¹ / ₁₆	3/4	.213
3	2	4 ⁷ / ₁₆	0.938	3/4	5/16	9/16	2 ⁵ / ₈	0.700	2 ¹ / ₂	7/8	.260
4	1	4 ⁷ / ₈	1.231	1/4	15/32	5/8	2 ³ / ₁₆	0.475	2 ¹ / ₁₆	3/4	.213
4	2	4 ⁷ / ₈	1.231	1/4	15/32	5/8	2 ⁵ / ₈	0.700	2 ¹ / ₂	7/8	.260
4	3	5 ³ / ₈	1.231	3/4	15/32	5/8	3 ¹ / ₄	0.938	3 ¹ / ₁₆	1 ¹ / ₁₆	.322
5	1	6 ¹ / ₈	1.748	1/4	5/8	3/4	2 ³ / ₁₆	0.475	2 ¹ / ₁₆	3/4	.213
5	2	6 ¹ / ₈	1.748	1/4	5/8	3/4	2 ⁵ / ₈	0.700	2 ¹ / ₂	7/8	.260
5	3	6 ¹ / ₈	1.748	1/4	5/8	3/4	3 ¹ / ₄	0.938	3 ¹ / ₁₆	1 ¹ / ₁₆	.322
5	4	6 ⁵ / ₈	1.748	3/4	5/8	3/4	4 ¹ / ₈	1.231	3 ⁷ / ₈	1 ¹ / ₄	.478
6	1	8 ⁵ / ₈	2.494	3/8	3/4	1 ¹ / ₈	2 ³ / ₁₆	0.475	2 ¹ / ₁₆	3/4	.213
6	2	8 ⁵ / ₈	2.494	3/8	3/4	1 ¹ / ₈	2 ⁵ / ₈	0.700	2 ¹ / ₂	7/8	.260
6	3	8 ⁵ / ₈	2.494	3/8	3/4	1 ¹ / ₈	3 ¹ / ₄	0.938	3 ¹ / ₁₆	1 ¹ / ₁₆	.322
6	4	8 ⁵ / ₈	2.494	3/8	3/4	1 ¹ / ₈	4 ¹ / ₈	1.231	3 ⁷ / ₈	1 ¹ / ₄	.478
6	5	8 ⁵ / ₈	2.494	3/8	3/4	1 ¹ / ₈	5 ¹ / ₄	1.748	4 ¹⁵ / ₁₆	1 ¹ / ₂	.635
7	3	11 ⁵ / ₈	3.270	3/8	1 ¹ / ₈	1 ³ / ₈	3 ¹ / ₄	0.938	3 ¹ / ₁₆	1 ¹ / ₁₆	.322
7	4	11 ⁵ / ₈	3.270	3/8	1 ¹ / ₈	1 ³ / ₈	4 ¹ / ₈	1.231	3 ⁷ / ₈	1 ¹ / ₄	.478
7	5	11 ⁵ / ₈	3.270	3/8	1 ¹ / ₈	1 ³ / ₈	5 ¹ / ₄	1.748	4 ¹⁵ / ₁₆	1 ¹ / ₂	.635
7	6	12 ¹ / ₂	3.270	1 ¹ / ₄	1 ¹ / ₈	1 ³ / ₈	7 ³ / ₈	2.494	7	1 ³ / ₄	.760



MORSE TAPER SHANK

Taper No.	Dia. of Small End	Dia. at End of Socket	SHANK		Depth of Bore	Standard Plug Depth	TONGUE		KEYWAY		End of Socket to Keyway	Cutter Radius	Taper per Foot
			Whole Length	Depth			Thickness	Length	Width	Length			
	D	A	B	S	H	P	t	T	W	L	K	R	
0	.252	.356	2 ¹¹ / ₃₂	2 ⁷ / ₃₂	2 ¹ / ₃₂	2 ¹ / ₃₂	5 ¹ / ₃₂	1/4	.160	9/16	1 ¹⁵ / ₁₆	5 ¹ / ₃₂	.6246
1	.369	.475	2 ⁹ / ₁₆	2 ⁷ / ₁₆	2 ³ / ₁₆	2 ¹ / ₈	1 ¹ / ₈	3/8	.213	3/4	2 ¹ / ₁₆	3 ¹ / ₁₆	.5986
2	.572	.700	3 ¹ / ₈	2 ¹⁵ / ₁₆	2 ⁵ / ₈	2 ⁹ / ₁₆	1/4	7/16	.260	7/8	2 ¹ / ₂	1/4	.5994
3	.778	.938	3 ⁷ / ₈	3 ¹ / ₁₆	3/4	3 ³ / ₁₆	5/16	9/16	.322	1 ¹ / ₁₆	3 ¹ / ₁₆	9 ¹ / ₃₂	.6023
4	1.020	1.231	4 ⁷ / ₈	4 ⁵ / ₈	4 ¹ / ₈	4 ¹ / ₁₆	15/32	5/8	.478	1 ¹ / ₄	3 ⁷ / ₈	5 ¹ / ₁₆	.6233
5	1.475	1.748	6 ¹ / ₈	5 ⁷ / ₈	5 ¹ / ₄	5 ⁵ / ₁₆	5/8	3/4	.635	1 ¹ / ₂	4 ¹⁵ / ₁₆	3 ⁷ / ₈	.6315
6	2.116	2.494	8 ⁹ / ₁₆	8 ¹ / ₄	7 ³ / ₈	7 ¹ / ₄	3/4	1 ¹ / ₈	.760	1 ³ / ₄	7	1 ¹ / ₂	.6256

TAN - Taper per Foot divided by 24 and then multiplied by 2