

Australian Standard®

**General purpose metric screw
threads**

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Australian Standard®

General purpose metric screw threads

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PREFACE

This edition of this standard was prepared by the Association's Committee on Screw Threads, to supersede AS 1721-1975. AS 1721-1975 was intended to cover the anticipated needs of Australian industry, under the metric system, for general purpose metric screw threads.

Since AS 1721 was first published, the major ISO standards dealing with metric screw threads (see later listing) have been revised, and are now in conflict with the information given in AS 1721-1975. This is particularly true with respect to the graded pitch series of screw threads, the root curvature for external threads, and the limits specified for the thread roots of both external and internal threads.

A further important consideration is that the ISO standards for metric screw threads are now being adopted virtually unchanged by most developed and developing countries, and therefore it is important that the Australian standards be aligned with their ISO counterparts as much as possible. This has been the aim in this edition of AS 1721.

During the preparation of AS 1721 in the early 1970s, it was noted by the committee that the ISO symbols used for the various screw thread parameters were illogical, and so a more logical system was introduced in the Australian standards. This was supported by sustained comment to ISO/TC1 proposing the Australian symbols. Unfortunately the Australian proposals were not accepted by ISO/TC1 and the original ISO symbols were retained. One of the major changes in this edition therefore has been to introduce the ISO symbols for the screw thread parameters.

Another major change has been to include in total the ISO diameter/pitch combinations, for both the graded and constant pitch thread series.

When AS 1721-1975 was being prepared, the ISO standards contained only a fairly comprehensive coarse pitch series, a restricted fine pitch series and a constant pitch series. The latter featured several choices of pitches which could be associated with any given diameter. It was considered that if these had been included in the Australian standard, in that form, at that time, the result almost certainly would have been an over-proliferation of diameter/pitch combinations, to the detriment of Australian industry.

The committee realized that in the early days of metric conversion, industry would need guidance on the selection of suitable diameter/pitch combinations, because there was little experience with respect to metric screw threads. It therefore seemed practical to base the graded pitch screw thread series on previous experience with inch screw threads. With this in mind the following action was taken:

- (a) *To adopt the ISO coarse pitch series*, but extend the size range to 250 mm diameter, by utilizing a constant 6 mm pitch for sizes over 68 mm. The ISO series covers diameters from 1 mm to 68 mm inclusive.
- (b) *To adopt the ISO fine pitch series*, but interpolate additional sizes and extend the size range to 300 mm diameter by utilizing a 3 mm pitch for diameters from 36 mm to 52 mm inclusive, a 4 mm pitch for diameters from 55 mm to 250 mm inclusive, and a 6 mm pitch for diameters from 255 mm to 300 mm inclusive.
- (c) *Not to adopt the ISO constant pitch series*.
- (d) To devise an extra-fine pitch series covering diameters from 8 mm to 300 mm inclusive.
- (e) To devise an extra-coarse pitch series covering diameters from 1.6 mm to 24 mm inclusive.

The above were included in AS 1721-1975, and again were proposed for adoption by ISO. In the 1980 edition of ISO 965, some of the Australian comment was adopted, more specifically that dealing with the fine-pitch thread series, which has now been substantially extended.

At the same time experience in Australia has shown that items (d) and (e) above have received little or no support from Australian industry; item (b) in sizes over about 36 mm also was not used, but there was a growing requirement for the ISO diameter/pitch combinations by various sectors of industry.

It was therefore agreed that this edition of AS 1721 would feature only the ISO diameter/pitch combinations.

The final major change is with regard to the limits given for the thread roots on both external and internal threads. In AS 1721-1975 these limits were completely specified, whereas in the ISO standards only the minimum minor diameter is specified for external threads and the nominal (basic) major diameter is given for internal threads; the actual limits being indirectly controlled by the length of straight flanks.

Furthermore a root curvature for external threads is only specified for threads intended for fasteners of property Class 8.8 and above. All other external threads may have a root configuration in accordance with the basic/design profile.

It was considered that the ISO approach on the limits for the thread roots was practical and should be adopted, because this would permit maximum flexibility in manufacture without being unduly detrimental to either the strength of the screw thread or to its assembly properties. However, the ISO root curvature for external threads taken to the extreme could cause problems by introducing a notch effect, which may lead to fatigue failure in threads in some steels which have a high tensile level and/or have been severely cold worked. A cautionary statement to this effect has therefore been included in this edition.

This standard has been based on and is in complete alignment with the following ISO standards:

ISO 68—1973	ISO General Purpose Screw Threads — Basic Profile
ISO 261—1973	ISO General Purpose Metric Screw Threads — General Plan
ISO 262—1973	ISO General Purpose Metric Screw Threads — Selected Sizes for Screws, Bolts and Nuts
ISO 724—1978	ISO Metric Screw Threads — Basic Dimensions
ISO 965/1—1980	ISO General Purpose Metric Screw Threads — Tolerances Part 1 - Principles and Basic Data
ISO 965/2—1980	ISO General Purpose Metric Screw Threads — Tolerances Part 2 - Limits of Size for General Purpose Bolt and Nut Threads — Medium Quality
ISO 965/3—1980	ISO General Purpose Metric Screw Threads — Tolerances Part 3 — Deviations for Constructional Threads

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STANDARDS ASSOCIATION OF AUSTRALIA
Australian Standard
for
GENERAL PURPOSE METRIC SCREW THREADS

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for single start parallel metric screw threads having the ISO basic profile for triangular screw threads, covering the size range from 1 mm diameter to 355 mm diameter inclusive.

The metric screw thread system comprises the following series:

- (a) The ISO coarse pitch series, which gives graded diameter/pitch combinations in diameters from 1 mm to 68 mm inclusive, and is predominantly intended for commercially produced threaded fasteners.
- (b) The ISO fine pitch series, which gives graded diameter/pitch combinations in diameters from 1 mm to 33 mm inclusive.
- (c) The ISO constant pitch series, which gives a series of standard pitches to be associated with diameters from 8 mm to 355 mm inclusive.

The standard gives information on screw thread parameters, tolerances, deviations, thread classes, designation and symbols.

Due to the methods adopted by ISO for rounding the tabulated values (see Appendix A), the values for the various parameters given in the tables are to be taken as authoritative for the application of this standard.

Appendices are included giving the basis of the tabulated values, guidelines (with examples) for calculating the limits of size of untabulated screw threads and notes on the production of screw threads.

NOTE: The ISO metric screw thread system, as given in this standard, does not provide for interference fit threads.

1.2 APPLICATION. This standard gives information on the design, manufacture and use of the ISO metric parallel screw thread system.

The standard is intended for adoption by industry and government authorities concerned with the design, manufacture and/or use of metric screw threads.

1.3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

- AS 1014 Gauging of Metric Screw Threads
- AS 1098 Roller-type Screw Calliper Gauges
- AS 1110 ISO Metric Hexagon Precision Bolts and Screws
- AS 1214 Hot-dip Galvanized Coatings on Threaded Fasteners (ISO Metric Coarse Thread Series)
- AS 1252 High-strength Steel Bolts with Associated Nuts and Washers for Structural Engineering
- AS 1654 Limits and Fits for Engineering
- AS 1897 Electroplated Coatings on Threaded Components (Metric Coarse Series)

AS 2052 Metallic Conduits and Fittings
 AS 2053 Non-metallic Conduits and Fittings
 AS XXXX Glossary of Terms for Screw Threads*

1.4 DEFINITIONS. For the purpose of this standard, the definitions given in AS XXXX apply.

1.5 SYMBOLS. The symbols used in this standard to define the screw thread parameters are given in Table 1.1.

NOTE: These are now aligned with the ISO symbols. For comparison of the current symbols with those used in AS 1721-1975, see Appendix C.

TABLE 1.1
SYMBOLS

Symbol	Explanation
D	basic major diameter of internal thread
D_1	basic minor diameter of internal thread
D_2	basic pitch diameter of internal thread
d	basic major diameter of external thread
d_1	basic minor diameter of external thread
d_2	basic pitch diameter of external thread
P	pitch
H	height of fundamental triangle
R	root radius of external thread
S	designation for lengths of thread engagement group Short
N	designation for lengths of thread engagement group Normal
L	designation for lengths of thread engagement group Long
T	tolerance
T_{D_1}	tolerance on minor diameter of internal thread
T_{D_2}	tolerance on pitch diameter of internal thread
T_d	tolerance on major diameter of external thread
T_{d_2}	tolerance on pitch diameter of external thread
G, H	fundamental deviations for internal threads
e, f, g, h	fundamental deviations for external threads
A_s	nominal stress area (external threads)

1.6 VERIFICATION. The form and dimensions of screw threads to this standard should preferably be verified by gauging in accordance with AS 1014.

The method(s) of verification (inspection) to be used on any particular occasion will however, depend on such things as the thread diameter, the thread class, the number of items produced, the method of manufacture, etc.

Where gauging is impractical, the threads may be verified by direct measurement or by optical methods; or a combination of both.

* In course of preparation.

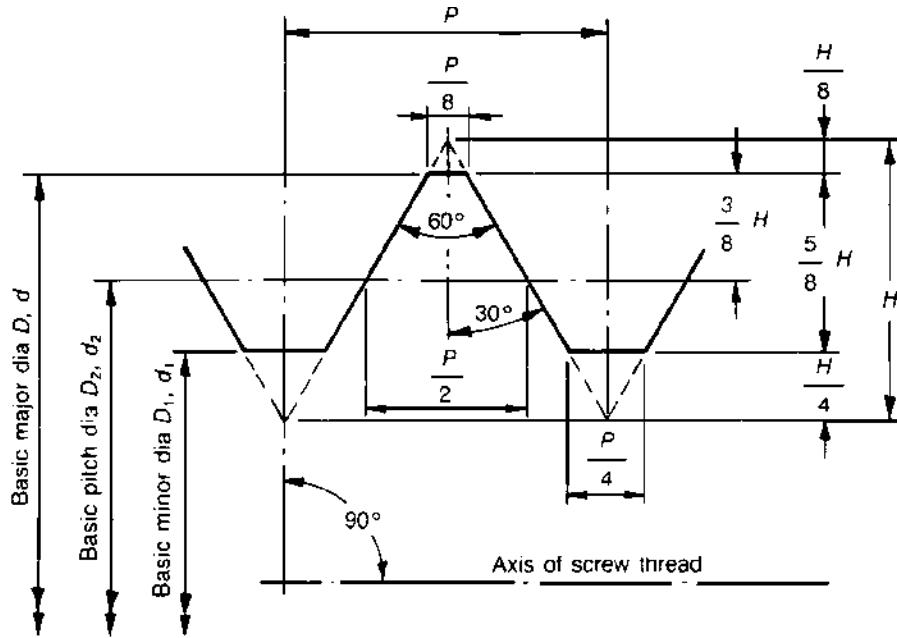
SECTION 2. SCREW THREAD PROFILES

2.1 SCOPE OF SECTION. This Section specifies the basic profile, the maximum material profiles and limiting profiles for external and internal metric screw threads. The Section also includes information on and values of the main elements used to derive the basic screw thread parameters.

2.2 BASIC PROFILE. The basic profile of ISO general purpose metric screw threads is shown in Fig. 2.1. The dimensions for the various pitches are given in Table 2.1.

2.3 MAXIMUM MATERIAL PROFILE.

2.3.1 Maximum material profile — internal thread. The profile of an internal screw thread at its maximum material condition is shown in Fig. 2.2. It is the same as the basic profile except that in practice, the root is rounded and cleared beyond a width of $P/8$.



$$H = \frac{\sqrt{3}}{2} P = 0.866 025 404 P$$

P = pitch

H = height of fundamental triangle

NOTE: For explanation of symbols, see Table 1.1.

Fig. 2.1. ISO BASIC PROFILE

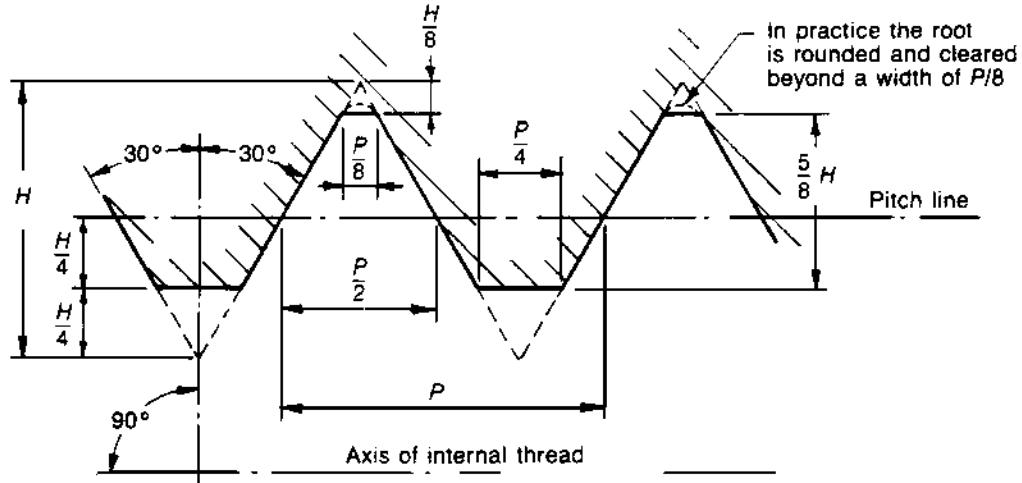


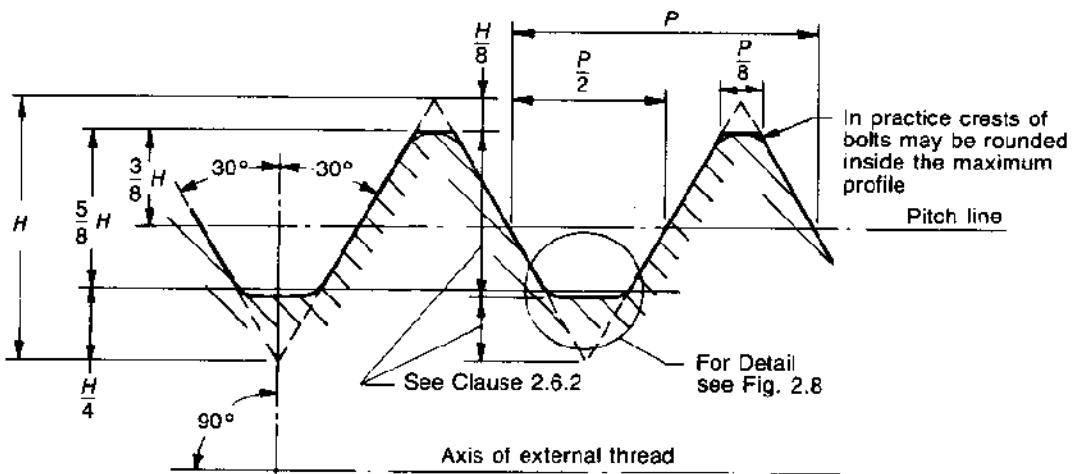
Fig. 2.2. MAXIMUM MATERIAL PROFILE OF AN INTERNAL THREAD

2.3.2 Maximum material profile—external thread. The profile of an external screw thread at its maximum material condition is shown in Fig. 2.3. It is the same as the basic profile, except that—

- (a) in practice the crests may be rounded inside the maximum profile as shown by the dotted line; and
- (b) the thread roots (minor diameter) may require to be modified in accordance with Clause 2.6.2.

TABLE 2.1
DIMENSIONS OF THE BASIC PROFILE

Pitch <i>P</i>	<i>H</i>	$5/8H$	$3/8H$	$H/4$	$H/8$	millimetres
0.2	0.173 205	0.108 253	0.064 952	0.043 301	0.021 651	
0.25	0.216 506	0.135 316	0.081 190	0.054 127	0.027 063	
0.3	0.259 808	0.162 380	0.097 428	0.064 952	0.032 476	
0.35	0.303 109	0.189 443	0.113 666	0.075 777	0.037 889	
0.4	0.346 410	0.216 506	0.129 904	0.086 603	0.043 301	
0.45	0.389 711	0.243 570	0.146 142	0.097 428	0.048 714	
0.5	0.433 013	0.270 633	0.162 380	0.108 253	0.054 127	
0.6	0.519 615	0.324 760	0.194 856	0.129 904	0.064 952	
0.7	0.606 218	0.378 886	0.227 332	0.151 554	0.075 777	
0.75	0.649 519	0.405 949	0.243 570	0.162 380	0.081 190	
0.8	0.692 820	0.433 013	0.259 808	0.173 205	0.086 603	
1	0.866 025	0.541 266	0.324 760	0.216 506	0.108 253	
1.25	1.082 532	0.676 582	0.405 949	0.270 633	0.135 316	
1.5	1.299 038	0.811 899	0.487 139	0.324 760	0.162 380	
1.75	1.515 544	0.947 215	0.568 329	0.378 886	0.189 443	
2	1.732 051	1.082 532	0.649 519	0.433 013	0.216 506	
2.5	2.165 063	1.353 165	0.811 899	0.541 266	0.270 633	
3	2.598 076	1.623 798	0.974 279	0.649 519	0.324 760	
3.5	3.031 089	1.894 431	1.136 658	0.757 772	0.378 886	
4	3.464 102	2.165 063	1.299 038	0.866 025	0.433 013	
4.5	3.897 114	2.435 696	1.461 418	0.974 279	0.487 139	
5	4.330 127	2.706 329	1.623 798	1.082 532	0.541 266	
5.5	4.763 140	2.976 962	1.786 177	1.190 785	0.595 392	
6	5.196 152	3.247 595	1.948 557	1.299 038	0.649 519	
8	6.928 203	4.330 127	2.598 076	1.732 051	0.866 025	



NOTES:

1. For details of root curvature, see Clause 2.6.2 and Fig. 2.8.
2. The actual form of any rounding of the crests or roots of the thread will not be detected by conventional gauging since such gauges are cleared at the crest and root and only assess the straight flanks over the height of the basic profile, i.e. $5/8H$ radial depth.
3. If assessment of the root curvature is required, verification by optical projection is necessary and it is to be stated in the design requirements.

Fig. 2.3. MAXIMUM MATERIAL PROFILE OF AN EXTERNAL THREAD

2.4 LEAST MATERIAL PROFILE. The least material profile of both internal and external threads is derived from the maximum material profile using the information given in Section 4.

2.5 LIMITING PROFILES.

2.5.1 Limiting profiles — internal threads. Typical limiting profiles for internal screw threads, involving

tolerance positions H and G, are shown in Figs 2.4 and 2.5 respectively.

2.5.2 Limiting profiles — external threads. Typical limiting profiles for external screw threads, involving tolerance position h, are shown in Fig. 2.6, and involving tolerance positions e, f and g, are shown in Fig. 2.7.

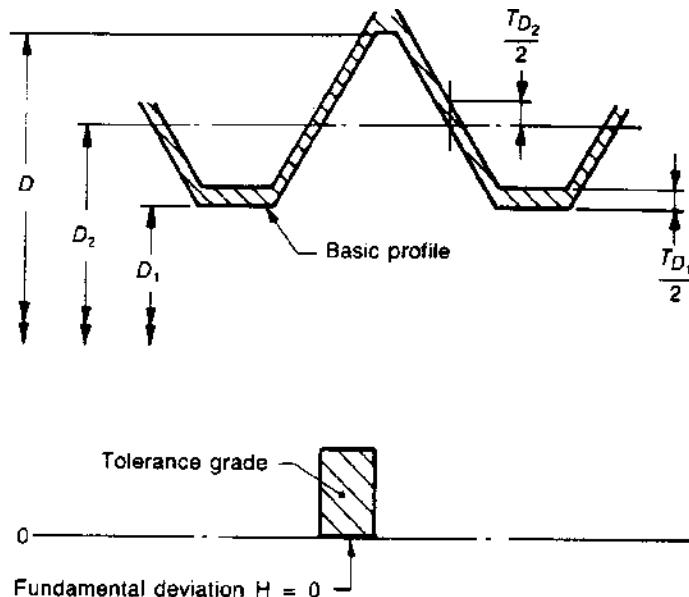


Fig. 2.4. LIMITING PROFILES FOR INTERNAL THREADS—TOLERANCE POSITION H

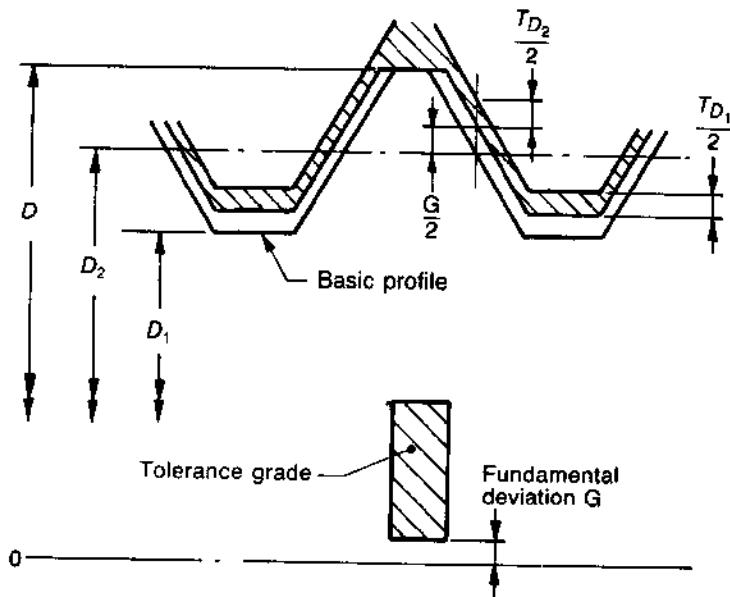


Fig. 2.5. LIMITING PROFILES FOR INTERNAL THREADS—TOLERANCE POSITION G

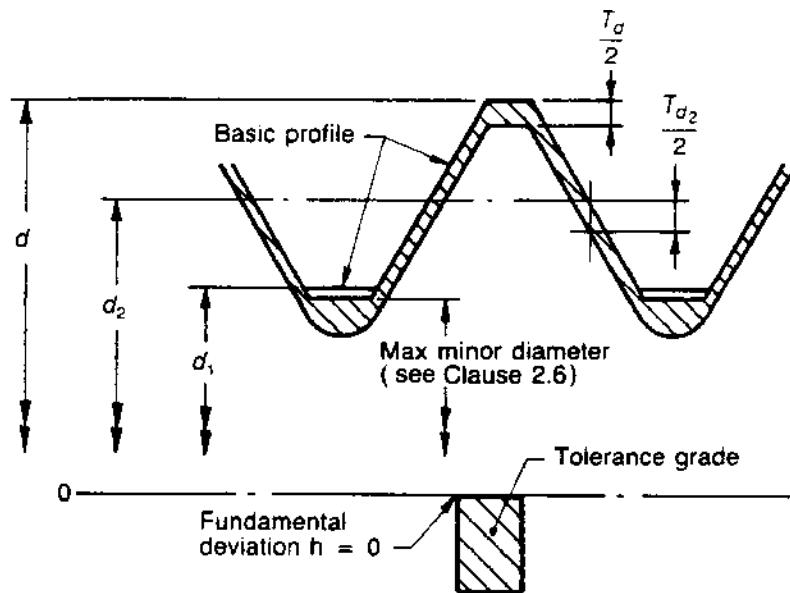


Fig. 2.6. LIMITING PROFILES FOR EXTERNAL THREADS — TOLERANCE POSITION h

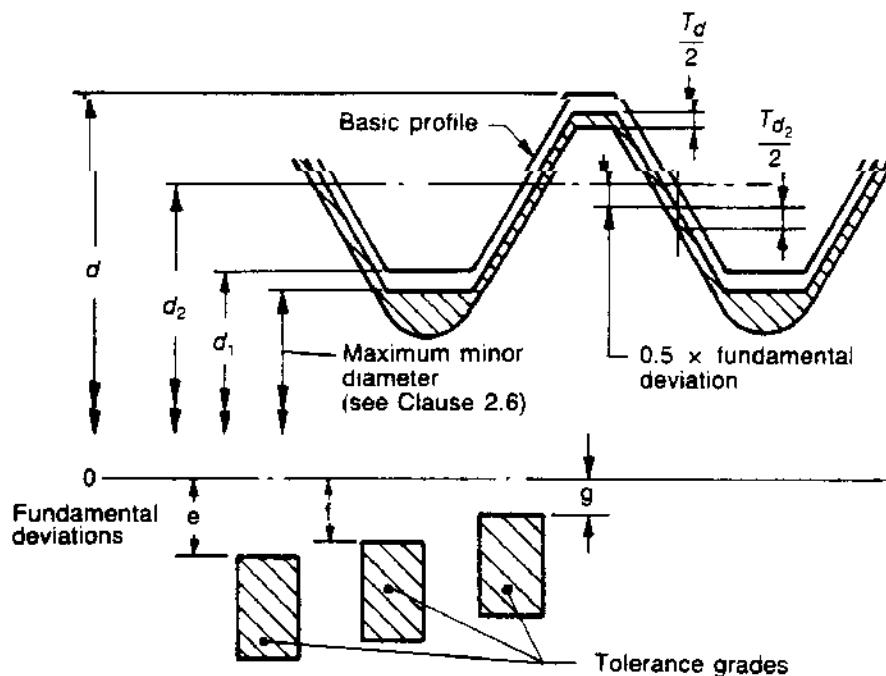


Fig. 2.7. LIMITING PROFILES FOR EXTERNAL THREADS — TOLERANCE POSITIONS e , f , AND g

2.6 ROOT CONTOURS.

2.6.1 Internal threads. The actual root contour shall not at any point transgress the basic profile. In practice the taps used to produce internal threads will normally produce a rounded thread root cleared beyond a width of $P/8$ as shown in Fig. 2.2.

2.6.2 External threads. The actual root contour shall not at any point transgress the basic profile. However it is recommended that the root profile should not be flat, with sharp corners, but should be smoothly rounded.

For threads on fasteners of property Class 8.8 and higher (see AS 1110 and AS 1252) and those on materials with similar properties, the root profile shall have a non-reversing curvature, no portion of which shall have a radius less than R_{\min} , which is tangential to the thread flank. The root profile may be comprised of arcs of minimum radius R_{\min} , to which the flanks and a flat at the root are tangential (see Fig. 2.8). The values of R_{\min} are given in Table 2.2.

The maximum truncation is—

$$\frac{H}{4} - R_{\min} \left\{ 1 - \cos \left[60^\circ - \arccos \left(1 - \frac{T_{d_2}}{4 \times R_{\min}} \right) \right] \right\} + \frac{T_{d_2}}{2}$$

and the minimum truncation is —

$$0.125P \approx H/7$$

The above principle is recommended for all other external threads, particularly those used in applications subject to fatigue or impact.

External threads must be accepted by a GO screw ring or GO screw calliper gauge.

It is not practical to specify limits for the minor diameter of an external thread. A minimum minor diameter can be derived when the blend radius equals $0.125P$, and the flanks are at the least material condition, but as the flanks approach the maximum material condition the maximum minor diameter will tend to reduce and the limiting values are dependent on the actual crest diameter and pitch diameter of the gauge as well as the subject screw thread (see Fig. 2.8).

As noted in Fig. 2.3, conventional gauging will not examine the root contours and it is recommended that gauging be supplemented by profile projection of the external thread root.

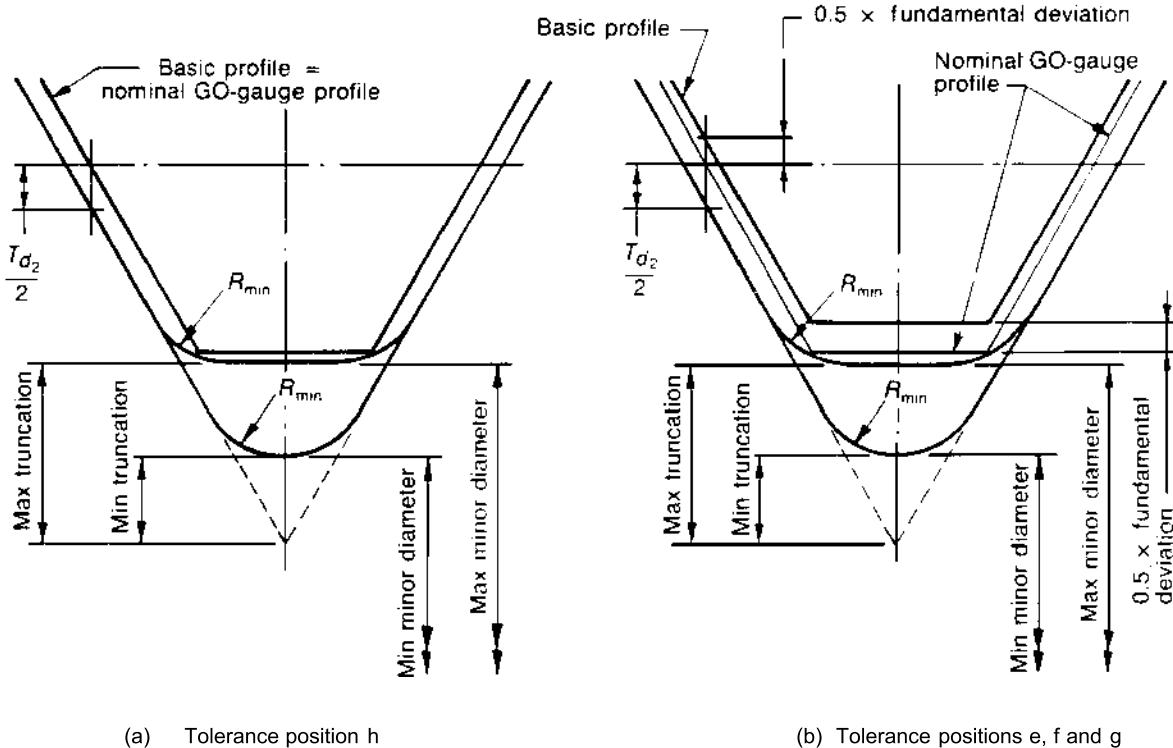


Fig. 2.8. ROOT CONTOURS FOR EXTERNAL THREADS
(See Clause 2.6.2)

TABLE 2.2
MINIMUM ROOT RADII

Pitch <i>P</i>	<i>R</i>_{min}	millimetres
0.2	0.025	
0.25	0.031	
0.3	0.038	
0.35	0.044	
0.4	0.050	
0.45	0.056	
0.5	0.063	
0.6	0.075	
0.7	0.088	
0.75	0.094	
0.8	0.100	
1	0.125	
1.25	0.156	
1.5	0.188	
1.75	0.219	
2	0.250	
2.5	0.313	
3	0.375	
3.5	0.438	
4	0.500	
4.5	0.563	
5	0.625	
5.5	0.688	
6	0.750	
8	1.000	

NOTE: $R_{\min} = 0.125P$.

SECTION 3. GENERAL PLAN

3.1 SCOPE OF SECTION. This Section sets out the general plan, and specifies the basic dimensions for ISO general purpose metric screw threads in diameters from 1 mm to 300 mm inclusive. It covers diameter/pitch combinations for the ISO coarse, fine and constant pitch series together with information on the selection of diameter/pitch combinations not tabled in this standard.

It should be noted that the terms ‘coarse series’ and ‘fine series’ relate to the pitch of the thread and no concept of quality should be attached to these terms.

3.2 THREAD SERIES.

3.2.1 General. The ISO metric thread series consists of a graded series of diameters associated with suitable pitches. The pitches selected may vary with diameter or may be constant. Both types of series are included in this standard and are given in Table 3.1.

3.2.2 Coarse pitch series. The coarse pitch series is mainly intended for metric threaded fasteners and other general engineering applications. This series gives good resistance to stripping and is suitable for use with the lower strength and brittle materials such as cast iron, low carbon steels and non-ferrous metals.

3.2.3 Fine pitch series. The fine pitch series is suitable for use where a finer pitch series than the coarse pitch series is required. This series is less resistant to stripping and to repeated tightening than the coarse pitch series. It is not recommended for high duty fasteners over 24 mm diameter, but provided that the length of axial engagement is adequate, it should give sufficient resistance to stripping to develop the full tensile load carrying capacity of the externally threaded member; and subject to the same provisions may be used satisfactorily in the softer materials. The threads of this series have a greater stress area than those of the coarse pitch series.

Particular attention is drawn to the fact that this series has finer pitches than those associated with either the British Standard Whitworth fine series (BSF) or the Unified fine series (UNF). Therefore it should not be assumed that size for size it is always suitable for particular uses for which the BSF or UNF series were previously employed; quite often the coarse pitch series would be more appropriate.

3.2.4 Constant pitch series. The constant pitch series is mainly intended for use in special circumstances, for which the coarse or fine pitch series is unsuitable or inadequate. It is arranged to provide a graded system of diameter/pitch combinations.

3.2.5 Selection of diameter/pitch combinations.

3.2.5.1. Standard series. Having regard to the information given in Clauses 3.2.2, 3.2.3 and 3.2.4, the choice should first be made from the coarse pitch series, then the fine pitch series. If these are not suitable, then select from the constant pitch series using one of the standard pitches for a given diameter wherever possible (see Table 3.1).

The diameter should be selected on the basis of the preferences listed in Table 3.1.

3.2.5.2 Non-standard series. If screw threads finer than those given in Table 3.1 are necessary, only the following pitches shall be used:

3, 2, 1.5, 1, 0.75, 0.5, 0.35, 0.25, 0.2 mm

It should be noted that it becomes increasingly difficult in production to comply with the thread tolerances as the diameter is increased for any given pitch. The recommended maximum diameter to be associated with a particular pitch is given in Table 3.2.

In the diameter range 150 mm to 355 mm, where it is necessary to use a thread with a pitch coarser than 6 mm, the 8 mm pitch should be used.

3.3 BASIC DIMENSIONS. Values for the basic pitch diameter and basic minor diameter for all the diameter/pitch combinations given in Table 3.1 are given in Table 3.3.

These values rounded to the third decimal place have been calculated from the following formulas:

$$D_2 = D - 2 \times 3/8H = D - 0.6495P$$

$$d_2 = d - 2 \times 3/8H = d - 0.6495P$$

$$D_1 = D - 2 \times 5/8H = D - 1.0825P$$

$$d_1 = d - 2 \times 5/8H = d - 1.0825P$$

TABLE 3.1
DIAMETER/PITCH COMBINATIONS

Nominal diameters			Pitches							millimetres	
Col 1 1st choice	Col 2 2nd choice	Col 3 3rd choice	Coarse pitch series	Fine pitch series	Constant pitch series						0.75
					3	2	1.5	1.25	1		
1	—	—	0.25	0.2	—	—	—	—	—	—	—
1.2	1.1 1.4	—	0.25 0.25 0.3	0.2 0.2 0.2	—	—	—	—	—	—	—
1.6	1.8	—	0.35 0.35 0.4	0.2 0.2 0.25	—	—	—	—	—	—	—
2	2.2	—	0.45 0.45 0.5	0.25 0.35 0.35	—	—	—	—	—	—	—
2.5	3.5 4.5	—	0.6 0.7 0.75	0.35 0.5 0.5	—	—	—	—	—	—	—
3	—	5.5	0.8 1	0.5 (0.5) 0.75	—	—	—	—	—	—	—
4	—	$\frac{7}{9}$	$\frac{1}{1.25}$ $\frac{1}{1.25}$	0.75 1	—	—	—	—	—	$\frac{1}{1}$	0.75 0.75
5	—	11	$\frac{1.5}{1.5}$ $\frac{1.5}{1.75}$	1.25 1.25	—	—	—	—	—	$\frac{1}{1}$	0.75 0.75
6	14	15	2 2	1.5 1.5	—	—	1.5	1.25 ⁽²⁾	1	$\frac{1}{1}$	—
10	—	18	17	2.5 2.5	1.5 1.5	—	2	1.5	—	$\frac{1}{1}$	—
12	22	25	2.5 3	1.5 2	—	2	2	1.5	—	$\frac{1}{1}$	—
16	—	27	26 28	3	2	—	2	$\frac{1.5}{1.5}$ $\frac{1.5}{1.5}$	—	$\frac{1}{1}$	—
20	33	32 35	3.5 3.5	2 2	(3) (3)	—	2	$\frac{1.5}{1.5}$ $\frac{1.5}{1.5}$ $\frac{1.5}{1.5}$	—	1	—
24	36	38	4 4	—	3 3	2 2	—	$\frac{1.5}{1.5}$ $\frac{1.5}{1.5}$	—	—	—

1. Pitches shown in brackets are to be avoided as far as possible.
2. The following diameter/pitch combinations are considered standard only for the particular applications indicated:

M14 × 1.25 for spark plugs for engines.

M35 × 1.5 for locking nuts for bearings.

M63 × 1.5 for conduits and fittings in accordance with AS 2052 and AS 2053 only.

TABLE 3.1 (continued)
DIAMETER/PITCH COMBINATIONS

Nominal diameters			Coarse pitch series	Pitches					millimetres	
Col 1 1st choice	Col 2 2nd choice	Col 3 3rd choice		Constant pitch series						
				6	4	3	2	1.5		
42	45	40 4.5 4.5	—	4 4	3 3 3	2 2 2	1.5 1.5 1.5			
48	52	50 5	—	4 4	3 3	2 2	1.5 1.5			
56		55 58 5.5	—	4 4 4	3 3 3	2 2	1.5 1.5 1.5			
64	60 62 63	60 62 63 5.5	—	4 4 4	3 3 3	2 2	1.5 1.5 1.5 ⁽²⁾			
—	68	65 70 6	6	4 4 4	3 3 3	2 2	1.5 1.5 1.5			
72	76	75 —	6 6	4 4 4	3 3 3	2 2	1.5 1.5 1.5			
80		78 82 —	6	4	3	2 2	1.5			
90	85 95	— —	6 6 6	4 4 4	3 3 3	2 2	—			
100 110	105	— —	6 6 6	4 4 4	3 3 3	2 2	—			
125	115 120	— —	6 6 6	4 4 4	3 3 3	2 2	—			
140	130 135	— —	6 6 6	4 4 4	3 3 3	2 2	—			
—	150 145 155	— —	6 6 6	4 4 4	3 3 3	2 2	—			
160	170	165 —	6 6 6	4 4 4	3 3 3	—	—			

TABLE 3.1 (continued)
DIAMETER/PITCH COMBINATIONS

Nominal diameters			Coarse pitch series	Pitches					millimetres		
Col 1 1st choice	Col 2 2nd choice	Col 3 3rd choice		Constant pitch series							
				6	4	3	2	1.5			
180	—	175	—	6 6 6	4 4 4	3 3 3	—	—			
		185									
200	—	190	—	6 6 6	4 4 4	3 3 3	—	—			
		195									
—	210	205	—	6 6 6	4 4 4	3 3 3	—	—			
		215									
220	—	225	—	6 6 6	4 4 4	3 3 3	—	—			
		230									
—	240	235	—	6 6 6	4 4 4	3 3 3	—	—			
		245									
250	—	255	—	6 6 6	4 4 4	3	—	—			
		260									
—	—	265	—	6 6 6	4 4 4	—	—	—			
		270									
—	—	275									
280	—	285	—	6 6 6	4 4 4	—	—	—			
		290									
—	—	300	—	6 6	4 4	—	—	—			

TABLE 3.2
RECOMMENDED MAXIMUM DIAMETERS
AND ASSOCIATED PITCHES

millimetres	
Pitch	Maximum diameter
0.5	22
0.75	33
1	80
1.5	150
2	200
3	300

TABLE 3.3
BASIC DIMENSIONS

millimetres			
Basic major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter	Minor diameter
1	0.25	0.838	0.729
	0.2	0.870	0.783
1.1	0.25	0.938	0.829
	0.2	0.970	0.883
1.2	0.25	1.038	0.929
	0.2	1.070	0.983
1.4	0.3	1.205	1.075
	0.2	1.270	1.183
1.6	0.35	1.373	1.221
	0.2	1.470	1.383
1.8	0.35	1.573	1.421
	0.2	1.670	1.583
2	0.4	1.740	1.567
	0.25	1.838	1.729
2.2	0.45	1.908	1.713
	0.25	2.038	1.929
2.5	0.45	2.208	2.013
	0.35	2.273	2.121
3	0.5	2.675	2.459
	0.35	2.773	2.621
3.5	0.6	3.110	2.850
	0.35	3.273	2.121
4	0.7	3.545	3.242
	0.5	3.675	3.459
4.5	0.75	4.013	3.688
	0.5	4.175	3.959
5	0.8	4.480	4.134
	0.5	4.675	4.459
5.5	0.5	5.175	4.959
6	1	5.350	4.917
	0.75	5.513	5.188
7	1	6.350	5.917
	0.75	6.513	6.188
8	1.25	7.188	6.647
	1	7.350	6.917
	0.75	7.513	7.188
9	1.25	8.188	7.647
	1	8.350	7.917
	0.75	8.513	8.188
10	1.5	9.026	8.376
	1.25	9.188	8.647
	1	9.350	8.917
	0.75	9.513	9.188
11	1.5	10.026	9.376
	1	10.350	9.917
	0.75	10.513	10.188
12	1.75	10.863	10.106
	1.5	11.026	10.376
	1.25	11.188	10.647
	1	11.350	10.917
14	2	12.701	11.835
	1.5	13.026	12.376
	1.25	13.188	12.647
	1	13.350	12.917

millimetres			
Basic major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter	Minor diameter
15	1.5	14.026	13.376
	1	14.350	13.917
16	2	14.701	13.835
	1.5	15.026	14.376
	1	15.350	14.917
17	1.5	16.026	15.376
	1	16.350	15.917
18	2.5	16.376	15.294
	2	16.701	15.835
	1.5	17.026	16.376
	1	17.350	16.917
20	2.5	18.376	17.294
	2	18.701	17.835
	1.5	19.026	18.376
	1	19.350	18.917
22	2.5	20.376	19.294
	2	20.701	19.835
	1.5	21.026	20.376
	1	21.350	20.917
24	3	22.051	20.752
	2	22.701	21.835
	1.5	23.026	22.376
	1	23.350	22.917
25	2	23.701	22.835
	1.5	24.026	23.376
	1	24.350	23.917
26	1.5	25.026	24.376
27	3	25.051	23.752
	2	25.701	24.835
	1.5	26.026	25.376
	1	26.350	25.917
28	2	26.701	25.835
	1.5	27.026	26.376
	1	27.350	26.917
30	3.5	27.727	26.211
	3	28.051	26.752
	2	28.701	27.835
	1.5	29.026	28.376
	1	29.350	28.917
32	2	30.701	29.835
	1.5	31.026	30.376
33	3.5	30.727	29.211
	3	31.051	29.752
	2	31.701	30.835
	1.5	32.026	31.376
35	1.5	34.026	33.376
36	4	33.402	31.670
	3	34.051	32.752
	2	34.701	33.835
	1.5	35.026	34.376
38	1.5	37.026	36.376
39	4	36.402	34.670
	3	37.051	35.752
	2	37.701	36.835
	1.5	38.026	37.376
40	3	38.051	36.752
	2	38.701	37.835
	1.5	39.026	38.376

TABLE 3.3 (continued)
BASIC DIMENSIONS

millimetres				millimetres			
Basic major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter	Minor diameter	Basic major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter	Minor diameter
42	4.5	39.077	37.129	70	6	66.103	63.505
	4	39.402	37.670		4	67.402	65.670
	3	40.051	38.752		3	68.051	66.752
	2	40.701	39.835		2	68.701	67.835
	1.5	41.026	40.376		1.5	69.026	68.376
45	4.5	42.077	40.129	72	6	68.103	65.505
	4	42.402	40.670		4	69.402	67.670
	3	43.051	41.752		3	70.051	68.752
	2	43.701	42.835		2	70.701	69.835
	1.5	44.026	43.376		1.5	71.026	70.376
48	5	44.752	42.587	75	4	72.402	70.670
	4	45.402	43.670		3	73.051	71.752
	3	46.051	44.752		2	73.701	72.835
	2	46.701	45.835		1.5	74.026	73.376
	1.5	47.026	46.376		6	72.103	69.505
50	3	48.051	46.752	76	4	73.402	71.670
	2	48.701	47.835		3	74.051	72.752
	1.5	49.026	48.376		2	74.701	73.835
52	5	48.752	46.587		1.5	75.026	74.376
	4	49.402	47.670		6	76.701	75.835
	3	50.051	48.752		78	76.701	75.835
	2	50.701	49.835		6	76.103	73.505
	1.5	51.026	50.376		4	77.402	75.670
55	4	52.402	50.670	80	3	78.051	76.752
	3	53.051	51.752		2	78.701	77.835
	2	53.701	52.835		1.5	79.026	78.376
	1.5	54.026	53.376		6	80.701	79.835
56	5.5	52.428	50.046		6	81.103	78.505
	4	53.402	51.670		4	82.402	80.670
	3	54.051	52.752		3	83.051	81.752
	2	54.701	53.835		2	83.701	82.835
	1.5	55.026	54.376		6	86.103	83.505
58	4	55.402	53.670	85	4	87.402	85.670
	3	56.051	54.752		3	88.051	86.752
	2	56.701	55.835		2	88.701	87.835
	1.5	57.026	56.376		6	91.103	88.505
60	5.5	56.428	54.046		4	92.402	90.670
	4	57.402	55.670		3	93.051	91.752
	3	58.051	56.752		2	93.701	92.835
	2	58.701	57.835		6	96.103	93.505
	1.5	59.026	58.376		4	97.402	95.670
62	4	59.402	57.670	100	3	98.051	96.752
	3	60.051	58.752		2	98.701	97.835
	2	60.701	59.835		6	101.103	98.505
	1.5	61.026	60.376		4	102.402	100.670
63	1.5	62.026	61.376		3	103.051	101.752
64	6	60.103	57.505		2	103.701	102.835
	4	61.402	59.670		6	106.103	103.505
	3	62.051	60.752		4	107.402	105.670
	2	62.701	61.835		3	108.051	106.752
	1.5	63.026	62.376		2	108.701	107.835
65	4	62.402	60.670	110	6	111.103	108.505
	3	63.051	61.752		4	112.402	110.670
	2	63.701	62.835		3	113.051	111.752
	1.5	64.026	63.376		2	113.701	112.835
68	6	64.103	61.505		6	116.103	113.505
	4	65.402	63.670		4	117.402	115.670
	3	66.051	64.752		3	118.051	116.752
	2	66.701	65.835		2	118.701	117.835
	1.5	67.026	66.376				

TABLE 3.3 (continued)
BASIC DIMENSIONS

millimetres			
Basic major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter	Minor diameter
125	6	121.103	118.505
	4	122.402	120.670
	3	123.051	121.752
	2	123.701	122.835
130	6	126.103	123.505
	4	127.402	125.670
	3	128.051	126.752
	2	128.701	127.835
135	6	131.103	128.505
	4	132.402	130.670
	3	133.051	131.752
	2	133.701	132.835
140	6	136.103	133.505
	4	137.402	135.670
	3	138.051	136.752
	2	138.701	137.835
145	6	141.103	138.505
	4	142.402	140.670
	3	143.051	141.752
	2	143.701	142.835
150	6	146.103	143.505
	4	147.402	145.670
	3	148.051	146.752
	2	148.701	147.835
155	6	151.103	148.505
	4	152.402	150.670
	3	153.051	151.752
160	6	156.103	153.505
	4	157.402	155.670
	3	158.051	156.752
165	6	161.103	158.505
	4	162.402	160.670
	3	163.051	161.752
170	6	166.103	163.505
	4	167.402	165.670
	3	168.051	166.752
175	6	171.103	168.505
	4	172.402	170.670
	3	173.051	171.752
180	6	176.103	173.505
	4	177.402	175.670
	3	178.051	176.752
185	6	181.103	178.505
	4	182.402	180.670
	3	183.051	181.752
190	6	186.103	183.505
	4	187.402	185.670
	3	188.051	186.752
195	6	191.103	188.505
	4	192.402	190.670
	3	193.051	191.752
200	6	196.103	193.505
	4	197.402	195.670
	3	198.051	196.752
205	6	201.103	198.505
	4	202.402	200.670
	3	203.051	201.752

millimetres			
Basic major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter	Minor diameter
210	6	206.103	203.505
	4	207.402	205.670
	3	208.051	206.752
215	6	211.103	208.505
	4	212.402	210.670
	3	213.051	211.752
220	6	216.103	213.505
	4	217.402	215.670
	3	218.051	216.752
225	6	221.103	218.505
	4	222.402	220.670
	3	223.051	221.752
230	6	226.103	223.505
	4	227.402	225.670
	3	228.051	226.752
235	6	231.103	228.505
	4	232.402	230.670
	3	233.051	231.752
240	6	236.103	233.505
	4	237.402	235.670
	3	238.051	236.752
245	6	241.103	238.505
	4	242.402	240.670
	3	243.051	241.752
250	6	246.103	243.505
	4	247.402	245.670
	3	248.051	246.752
255	6	251.103	248.505
	4	252.402	250.670
260	6	256.103	253.505
	4	257.402	255.670
265	6	261.103	258.505
	4	262.402	260.670
270	6	266.103	263.505
	4	267.402	265.670
275	6	271.103	268.505
	4	272.402	270.670
280	6	276.103	273.505
	4	277.402	275.670
285	6	281.103	278.505
	4	282.402	280.670
290	6	286.103	283.505
	4	287.402	285.670
295	6	291.103	288.505
	4	292.402	290.670
300	6	296.103	293.505
	4	297.402	295.670

NOTE: No basic dimensions given for diameters
 $> 300 \leq 350$ mm.

SECTION 4. TOLERANCES, DEVIATIONS AND TOLERANCE CLASSES

4.1 SCOPE OF SECTION. This Section sets out the ISO thread tolerance system and gives information on the tolerance grades, fundamental deviations and tolerance classes used for metric threads.

The Section also gives information on the lengths of thread engagement, together with recommended tolerance qualities for external and internal threads and their suggested application. Also included are tabulated values of the upper and lower deviations for the pitch diameter and minor diameter of internal threads, and the pitch diameter and major diameter of external threads, for all the tolerance classes covered by the thread tolerance system.

Formulas for the derivation of the tolerance grades and fundamental deviations are given in Appendix A.

It should be noted that because of the rounding rules used for the tabulated values, such values should be taken as authoritative in the application of the thread system. (For further information, see Appendix A.)

4.2 TOLERANCE POSITIONS. The following tolerance positions are given in this standard:

(a) For internal threads:

G with a positive fundamental deviation.

H with zero fundamental deviation.

See Figs 2.4 and 2.5.

(b) For external threads:

e, f and g with a negative fundamental deviation.

h with zero fundamental deviation.

Values of the fundamental deviations are given in Table 4.1

NOTE: Tolerance position e is limited to pitches 0.5 mm and coarser, and tolerance position f to pitches 0.35 mm and coarser.

4.3 FUNDAMENTAL DEVIATIONS.

4.3.1 General. This standard only covers screw threads which are intended to assemble without interference. The minimum clearance between mating threads is assured by applying the fundamental deviation to both the internal and external threads. The fundamental deviations are designated by upper case letters for internal threads and lower case letters for external threads, and positioned with respect to basic size as shown in Fig. 4.1.

4.3.2 Internal threads. The system provides two fundamental deviations for internal threads designated G

and H. Values for the fundamental deviations are given in Table 4.1. The deviations are applicable to the pitch diameter and minor diameter, and should be algebraically added to the basic pitch diameter or basic minor diameter as relevant.

4.3.3 External threads. The system provides four fundamental deviations for external threads designated e, f, g and h. Values for the fundamental deviations are given in Table 4.1. The deviations are applicable to the pitch diameter and major diameter, and should be algebraically added to the basic pitch diameter or basic major diameter as relevant.

4.4 TOLERANCE GRADES.

4.4.1 General. The ISO tolerance system for metric threads provides the following tolerance grades:

(a) *Internal threads.*

Parameter	Tolerance grade
Pitch diameter	4, 5, 6, 7, 8
Minor diameter	4, 5, 6, 7, 8

(b) *External threads.*

Parameter	Tolerance grade
Major diameter	4, 6, 8
Pitch diameter	3, 4, 5, 6, 7, 8, 9

NOTES:

1. For information on the tolerances for the internal thread major diameter and external thread minor diameter, see Clauses 4.4.4.1 and 4.4.4.2.
2. The formulas for deriving the values of the tolerance grades are given in Appendix A.
3. The tolerance is algebraically added to the fundamental deviation to form a tolerance class. For further information on tolerance classes for internal and external threads, see Clause 4.5.

4.4.2 Pitch diameter tolerances. The pitch diameter tolerances for all standard pitches of internal threads, tolerance grades 4, 5, 6, 7 and 8, for diameters from 1 mm to 355 mm inclusive, are given in Table 4.2.

The pitch diameter tolerances for all standard pitches of external threads, tolerance grades 3, 4, 5, 6, 7, 8 and 9, for diameters from 1 mm to 355 mm inclusive, are given in Table 4.3.

For data on the calculation of tolerance grades for both internal and external threads, see Appendices A and B.

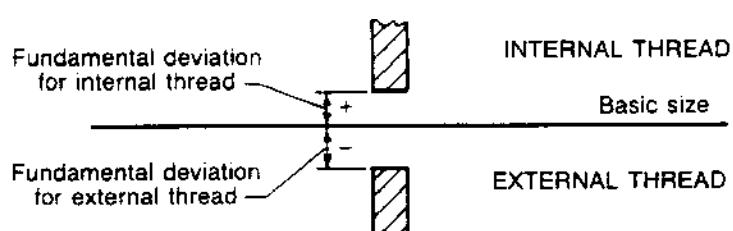


Fig. 4.1. SCREW THREAD DEVIATIONS

4.4.3 Crest diameter tolerances.

4.4.3.1 Internal threads. The minor diameter tolerances for all standard pitches, tolerance grades 4, 5, 6, 7 and 8, are given in Table 4.4.

4.4.3.2 External threads. The major diameter tolerances for all standard pitches, tolerance grades 4, 6 and 8, are given in Table 4.5.

4.4.4 Root diameter tolerances.

4.4.4.1 Internal threads. As indicated in Clause 2.6.1, no specific tolerances are given for the major diameter of internal threads. This parameter is considered acceptable, provided that no portion of the root curvature transgresses the basic profile. For convenience the minimum major diameter, which equals the basic major diameter, is given in the tabulated values of screw thread limits (see Table 5.1).

4.4.4.2 External threads. As indicated in Clause 2.6.2, no specific tolerances are given for the minor diameter of external threads. This parameter is considered acceptable, provided that the root curvature is in agreement with Clause 2.6.2 and the minimum minor diameter is not less than that specified for the appropriate tolerance class in Table 5.1 (for further information see Appendix A, Paragraph A6.1).

4.5 TOLERANCE CLASSES.

4.5.1 General. The method of defining a tolerance class for ISO metric screw threads comprises two elements, and consists of a number describing the selected tolerance grade, followed by an upper or lower case letter describing the selected fundamental deviation —

e.g.

External threads : 6g 6h

Internal threads : 6H 6G

NOTES:

- For external threads it may sometimes be necessary to apply a different tolerance class to the pitch diameter than that chosen for the major diameter. In this case the pitch diameter tolerance class shall precede the major diameter tolerance class in the designation, e.g. 5g/6g (see Section 6).
- The tolerance class system for metric screw threads as given in this standard is in no way related to the general system for limits and fits as given in AS 1654.

4.5.2 Disposition of tolerance classes. The tolerance classes are disposed about the basic pitch and major diameter for external threads and the basic pitch and minor diameter for internal threads as shown in Fig. 4.2.

Fig. 4.2 illustrates the disposition of the various tolerance classes relative to the basic pitch diameter but the same principles apply to the other basic diameters previously noted.

4.5.3 Selection of tolerance classes.

4.5.3.1 General. The tolerance classes for the pitch and crest diameters shall be selected in accordance with Clauses 4.5.3.2 to 4.5.3.4, bearing in mind the intended application of the screw threads.

4.5.3.2 Length of axial thread engagement. The length of thread engagement is classified into three groups, short, normal or long in accordance with Table 4.6. If the actual length of thread engagement is unknown (as in the manufacturing of standard bolts), the normal length of engagement is recommended.

4.5.3.3 Preferred tolerance classes. The tolerance classes shall be selected from those given in Tables 4.7 and 4.8 in order to minimize the number of tools and gauges required to produce and inspect the screw threads.

To further assist in the correct selection of tolerance classes, the tolerance classes have been grouped into tolerance qualities as shown in Tables 4.7 and 4.8.

The tolerance quality 'Fine' is intended for precision threads where little variation of the character of fit between external and internal threads is required.

The tolerance quality 'Medium' is intended for general applications.

The tolerance quality 'Coarse' is intended for cases where manufacturing difficulties may arise, for example threading hot rolled bars or tapping long blind holes.

The tolerance classes shown in Tables 4.7 and 4.8 should be selected as follows:

Tolerance classes within frames — standard bolt and nut threads.

Tolerance classes marked thus* — first choice.

Tolerances classes marked thus** — second choice.

Tolerance classes marked thus*** — third choice.

NOTES:

- Third choice tolerance classes should be avoided wherever possible.
- Any of the recommended tolerance classes for internal threads may be combined with any of the recommended tolerance classes for external threads, except thread sizes 1.4 mm and smaller, where the combination 5H/6h or tighter is to be used. For sizes greater than 1.4 mm, in order to provide sufficient radial engagement, the finished components should preferably form the fits H/g, H/h or G/h.

4.5.3.4 Recommended assembly combinations.

Although there is no direction or guidance given by ISO for the combination of thread classes between an external and an internal thread, the general practice is to select similar tolerance classes for mating components. The following combinations are recommended.

- Commercial quality fasteners — 6H nut with 8g bolt.
- Precision quality fasteners — 6H nut with 6g bolt.
- Close fit connections — 5H internal with 4h external.
- Medium fit connections — 6H internal with 6g external.
- Free fit connections — 6G internal with 6e external.

4.6 DEVIATIONS FOR SCREW THREADS. The upper and lower deviations for the tolerance classes given in Tables 4.7 and 4.8 for diameters from 1 mm to 300 mm inclusive and pitches from 0.2 mm to 6 mm inclusive are given in Table 4.9. These deviations should be algebraically added to the basic major, pitch or minor diameter as relevant.

4.7 COATED THREADS. The tolerances and deviations given in Clause 4.4 apply to the screw threads before coating, unless otherwise stated. After coating the maximum material limits of coated screw threads, except hot-dip galvanized threads*, shall not at any point exceed the maximum material limits given for tolerance position H or h, i.e. the basic size.

NOTE: Fundamental deviations e and f are principally intended for preplate screw thread dimensions. For further information, see AS 1897.

* For hot dip galvanized threads, see AS 1214.

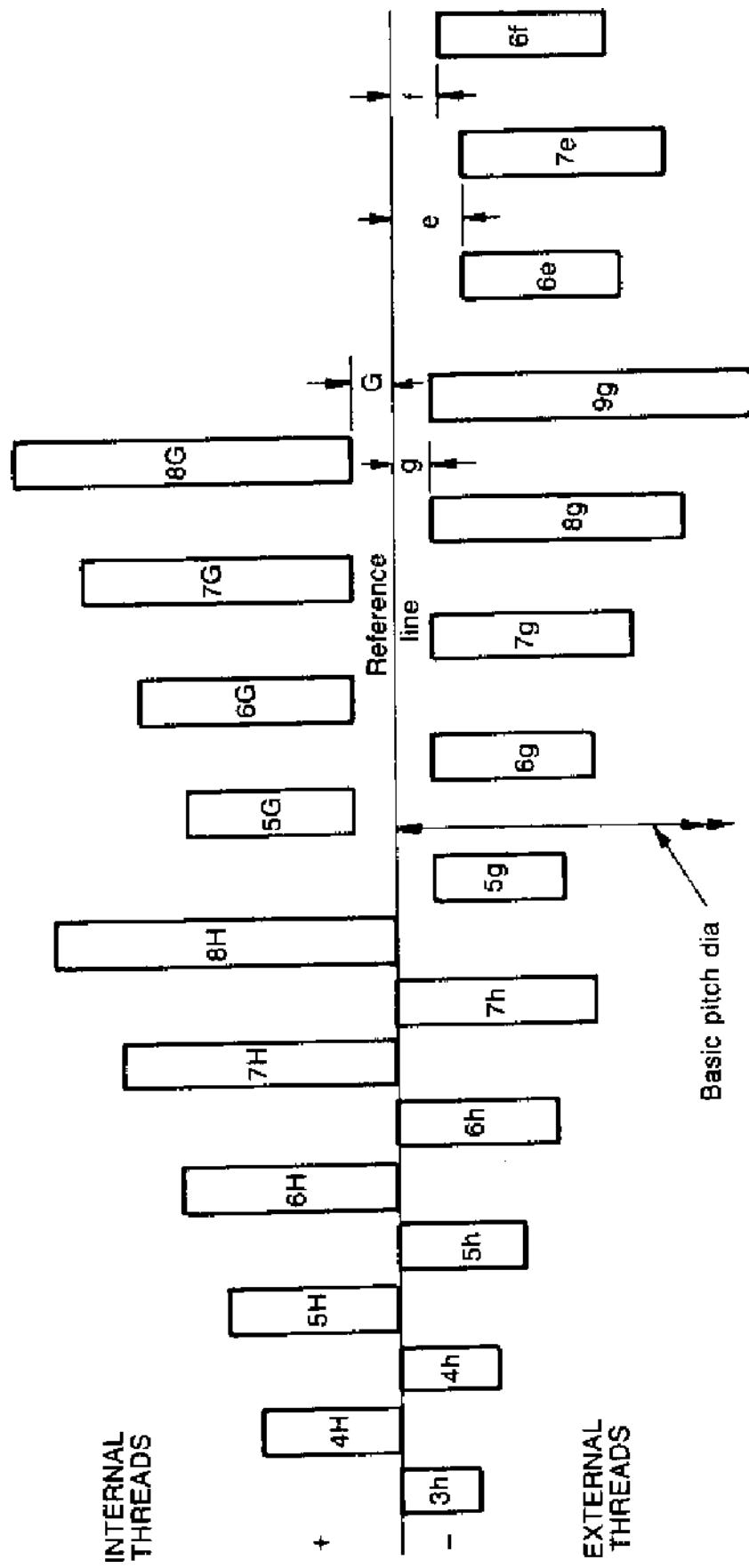


Fig. 4.2. RELATIVE POSITION OF TOLERANCE CLASSES

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TABLE 4.1
FUNDAMENTAL DEVIATIONS

Pitch <i>P</i> mm	Fundamental deviation, μm					
	Internal threads		External threads			
	G	H	e	f	g	h
0.2	+17	0			-17	0
0.25	+18	0			-18	0
0.3	+18	0			-18	0
0.35	+19	0		-34	-19	0
0.4	+19	0		-34	-19	0
0.45	+20	0		-35	-20	0
0.5	+20	0	-50	-36	-20	0
0.6	+21	0	-53	-36	-21	0
0.7	+22	0	-56	-38	-22	0
0.75	+22	0	-56	-38	-22	0
0.8	+24	0	-60	-38	-24	0
1	+26	0	-60	-40	-26	0
1.25	+28	0	-63	-42	-28	0
1.5	+32	0	-67	-45	-32	0
1.75	+34	0	-71	-48	-34	0
2	+38	0	-71	-52	-38	0
2.5	+42	0	-80	-58	-42	0
3	+48	0	-85	-63	-48	0
3.5	+53	0	-90	-70	-53	0
4	+60	0	-95	-75	-60	0
4.5	+63	0	-100	-80	-63	0
5	+71	0	-106	-85	-71	0
5.5	+75	0	-112	-90	-75	0
6	+80	0	-118	-95	-80	0

TABLE 4.2
PITCH DIAMETER TOLERANCES FOR INTERNAL THREADS

Basic major diameter <i>D mm</i>		Pitch <i>P</i> mm	Tolerance, μm				
			Tolerance grade				
Over	Up to and including		4	5	6	7	8
0.99	1.4	0.2	40	—	—	—	—
		0.25	45	56	—	—	—
		0.3	48	60	75	—	—
1.4	2.8	0.2	42	—	—	—	—
		0.25	48	60	—	—	—
		0.35	53	67	85	—	—
		0.4	56	71	90	—	—
		0.45	60	75	95	—	—
2.8	5.6	0.35	56	71	90	—	—
		0.5	63	80	100	125	—
		0.6	71	90	112	140	—
		0.7	75	95	118	150	—
		0.75	75	95	118	150	—
		0.8	80	100	125	160	200
5.6	11.2	0.75	85	106	132	170	—
		1	95	118	150	190	236
		1.25	100	125	160	200	250
		1.5	112	140	180	224	280
11.2	22.4	1	100	125	160	200	250
		1.25	112	140	180	224	280
		1.5	118	150	190	236	300
		1.75	125	160	200	250	315
		2	132	170	212	265	335
		2.5	140	180	224	280	355
22.4	45	1	106	132	170	212	—
		1.5	125	160	200	250	315
		2	140	180	224	280	355
		3	170	212	265	335	425
		3.5	180	224	280	355	450
		4	190	236	300	375	475
		4.5	200	250	315	400	500
45	90	1.5	132	170	212	265	335
		2	150	190	236	300	375
		3	180	224	280	355	450
		4	200	250	315	400	500
		5	212	265	335	425	530
		5.5	224	280	355	450	560
90	180	6	236	300	375	475	600
		2	160	200	250	315	400
		3	190	236	300	375	475
		4	212	265	335	425	530
180	355	6	250	315	400	500	630
		3	212	265	335	425	530
		4	236	300	375	475	600
		6	265	335	425	530	670

TABLE 4.3
PITCH DIAMETER TOLERANCES FOR EXTERNAL THREADS

Basic major diameter d mm		Pitch P mm	Tolerance, μm						
			Tolerance grade						
Over	Up to and including	3	4	5	6	7	8	9	
0.99	1.4	0.2	24	30	38	48	—	—	—
		0.25	26	34	42	53	—	—	—
		0.3	28	36	45	56	—	—	—
1.4	2.8	0.2	25	32	40	50	—	—	—
		0.25	28	36	45	56	—	—	—
		0.35	32	40	50	63	80	—	—
		0.4	34	42	53	67	85	—	—
		0.45	36	45	56	71	90	—	—
2.8	5.6	0.35	34	42	53	67	85	—	—
		0.5	38	48	60	75	95	—	—
		0.6	42	53	67	85	106	—	—
		0.7	45	56	71	90	112	—	—
		0.75	45	56	71	90	112	—	—
		0.8	48	60	75	95	118	150	190
5.6	11.2	0.75	50	63	80	100	125	—	—
		1	56	71	90	112	140	180	224
		1.25	60	75	95	118	150	190	236
		1.5	67	85	106	132	170	212	265
11.2	22.4	1	60	75	95	118	150	190	236
		1.25	67	85	106	132	170	212	265
		1.5	71	90	112	140	180	224	280
		1.75	75	95	118	150	190	236	300
		2	80	100	125	160	200	250	315
		2.5	85	106	132	170	212	265	335
22.4	45	1	63	80	100	125	160	200	250
		1.5	75	95	118	150	190	236	300
		2	85	106	132	170	212	265	335
		3	100	125	160	200	250	315	400
		3.5	106	132	170	212	265	335	425
		4	112	140	180	224	280	355	450
		4.5	118	150	190	236	300	375	475
45	90	1.5	80	100	125	160	200	250	315
		2	90	112	140	180	224	280	355
		3	106	132	170	212	265	335	425
		4	118	150	190	236	300	375	475
		5	125	160	200	250	315	400	500
		5.5	132	170	212	265	335	425	530
		6	140	180	224	280	355	450	560
90	180	2	95	118	150	190	236	300	375
		3	112	140	180	224	280	355	450
		4	125	160	200	250	315	400	500
		6	150	190	236	300	375	475	600
180	355	3	125	160	200	250	315	400	500
		4	140	180	224	280	355	450	560
		6	160	200	250	315	400	500	630

TABLE 4.4
MINOR DIAMETER TOLERANCES FOR INTERNAL THREADS

Pitch <i>P</i> mm	Tolerance, μm				
	Tolerance grade				
	4	5	6	7	8
0.2	38	—	—	—	—
0.25	45	56	—	—	—
0.3	53	67	85	—	—
0.35	63	80	100	—	—
0.4	71	90	112	—	—
0.45	80	100	125	—	—
0.5	90	112	140	180	—
0.6	100	125	160	200	—
0.7	112	140	180	224	—
0.75	118	150	190	236	—
0.8	125	160	200	250	315
1	150	190	236	300	375
1.25	170	212	265	335	425
1.5	190	236	300	375	475
1.75	212	265	335	425	530
2	236	300	375	475	600
2.5	280	355	450	560	710
3	315	400	500	630	800
3.5	355	450	560	710	900
4	375	475	600	750	950
4.5	425	530	670	850	1060
5	450	560	710	900	1120
5.5	475	600	750	950	1180
6	500	630	800	1000	1250

TABLE 4.5
MAJOR DIAMETER TOLERANCES FOR EXTERNAL THREADS

Pitch <i>P</i> mm	Tolerance, μm		
	Tolerance grade		
	4	6	8
0.2	36	56	—
0.25	42	67	—
0.3	48	75	—
0.35	53	85	—
0.4	60	95	—
0.45	63	100	—
0.5	67	106	—
0.6	80	125	—
0.7	90	140	—
0.75	90	140	—
0.8	95	150	236
1	112	180	280
1.25	132	212	335
1.5	150	236	375
1.75	170	265	425
2	180	280	450
2.5	212	335	530
3	236	375	600
3.5	265	425	670
4	300	475	750
4.5	315	500	800
5	335	530	850
5.5	355	560	900
6	375	600	950

TABLE 4.6
LENGTHS OF THREAD ENGAGEMENT

millimetres

Basic major diameter <i>D, d</i>		Pitch <i>P</i>	Length of thread engagement			
			Short	Normal		Long
Over	Up to and including	Up to and including	Over	Up to and including	Over	Over
0.99	1.4	0.2	0.5	0.5	1.4	1.4
		0.25	0.6	0.6	1.7	1.7
		0.3	0.7	0.7	2	2
1.4	2.8	0.2	0.5	0.5	1.5	1.5
		0.25	0.6	0.6	1.9	1.9
		0.35	0.8	0.8	2.6	2.6
		0.4	1	1	3	3
		0.45	1.3	1.3	3.8	3.8
2.8	5.6	0.35	1	1	3	3
		0.5	1.5	1.5	4.5	4.5
		0.6	1.7	1.7	5	5
		0.7	2	2	6	6
		0.75	2.2	2.2	6.7	6.7
		0.8	2.5	2.5	7.5	7.5
5.6	11.2	0.75	2.4	2.1	7.1	7.1
		1	3	3	9	9
		1.25	4	4	12	12
		1.5	5	5	15	15
11.2	22.4	1	3.8	3.8	11	11
		1.25	4.5	4.5	13	13
		1.5	5.6	5.6	16	16
		1.75	6	6	18	18
		2	8	8	24	24
		2.5	10	10	30	30
22.4	45	1	4	4	12	12
		1.5	6.3	6.3	19	19
		2	8.5	8.5	25	25
		3	12	12	36	36
		3.5	15	15	45	45
		4	18	18	53	53
		4.5	21	21	63	63
45	90	1.5	7.5	7.5	22	22
		2	9.5	9.5	28	28
		3	15	15	45	45
		4	19	19	56	56
		5	24	24	71	71
		5.5	28	28	85	85
		6	32	32	95	95
90	180	2	12	12	36	36
		3	18	18	53	53
		4	24	24	71	71
		6	36	36	106	106
180	300	3	20	20	60	60
		4	26	26	80	80
		6	40	40	118	118

TABLE 4.7
TOLERANCE CLASSES FOR INTERNAL THREADS

Tolerance quality	Fundamental deviation					
	G			H		
	Short	Normal	Long	Short	Normal	Long
Fine	—	—	—	4H**	5H*	6H**
Medium	5G***	[6G] ¹	7G***	5H*	[6H]	7H*
Coarse	—	7G***	8G***	—	7H**	8H**

NOTES:

1. For preplate threads for standard nuts (see also Clause 4.7).
2. For explanation of legend, see Clause 4.5.3.3.

TABLE 4.8
TOLERANCE CLASSES FOR EXTERNAL THREADS

Tolerance quality	Fundamental deviation e			Fundamental deviation f			Fundamental deviation g			Fundamental deviation h		
	Short	Normal	Long	Short	Normal	Long	Short	Normal	Long	Short	Normal	Long
Fine	—	—	—	—	—	—	—	—	—	3h4h***	4h*	5h4h****
Medium	—	6e*	7e6e***	—	6f*	—	5g6g***	[6g]	7g6g***	5h6h***	6h**	7h6h***
Coarse	—	—	—	—	—	—	—	[8g]	9g8g***	—	—	—

NOTE: For explanation of legend, see Clause 4.5.3.3.

TABLE 4.9
UPPER AND LOWER DEVIATIONS FOR METRIC THREADS

Basic major diameter D, d		Pitch P	Internal thread						External thread					
			Tolerance class	Deviations				Tolerance class	Deviations					
Over	Up to and including			Pitch diameter		Minor diameter			Pitch diameter		Major diameter			
mm	mm	mm		μm	μm	μm	μm		μm	μm	μm	μm		μm
0.99	1.4	0.2	—	—	—	—	—	3h4h	0	-24	0	-36		
			4H	+40	0	+38	0	4h	0	-30	0	-36		
			5G	—	—	—	—	5g6g	-17	-55	-17	-73		
			5H	—	—	—	—	5h4h	0	-38	0	-36		
			—	—	—	—	—	5h6h	0	-38	0	-56		
			—	—	—	—	—	6e	—	—	—	—		
			—	—	—	—	—	6f	—	—	—	—		
			6G	—	—	—	—	6g	-17	-65	-17	-73		
			6H	—	—	—	—	6h	0	-48	0	-56		
			—	—	—	—	—	7e6e	—	—	—	—		
			7G	—	—	—	—	7g6g	—	—	—	—		
			7H	—	—	—	—	7h6h	—	—	—	—		
			8G	—	—	—	—	8g	—	—	—	—		
			8H	—	—	—	—	9g8g	—	—	—	—		
		0.25	—	—	—	—	—	3h4h	0	-26	0	-42		
			4H	+45	0	+45	0	4h	0	-34	0	-42		
			5G	+74	+18	+74	+18	5g6g	-18	-60	-18	-85		
			5H	+56	0	+56	0	5h4h	0	-42	0	-42		
			—	—	—	—	—	5h6h	0	-42	0	-67		
			—	—	—	—	—	6e	—	—	—	—		
			—	—	—	—	—	6f	—	—	—	—		
			6G	—	—	—	—	6g	-18	-71	-18	-85		
			6H	—	—	—	—	6h	0	-53	0	-67		
			—	—	—	—	—	7e6e	—	—	—	—		
			7G	—	—	—	—	7g6g	—	—	—	—		
			7H	—	—	—	—	7h6h	—	—	—	—		
			8G	—	—	—	—	8g	—	—	—	—		
			8H	—	—	—	—	9g8g	—	—	—	—		
		0.3	—	—	—	—	—	3h4h	0	-28	0	-48		
			4H	+48	0	+53	0	4h	0	-36	0	-48		
			5G	+78	+18	+85	+18	5g6g	-18	-63	-18	-93		
			5H	+60	0	+67	0	5h4h	0	-45	0	-46		
			—	—	—	—	—	5h6h	0	-45	0	-75		
			—	—	—	—	—	6e	—	—	—	—		
			—	—	—	—	—	6f	—	—	—	—		
			6G	+93	+18	+103	+18	6g	-18	-74	-18	-93		
			6H	+75	0	+85	0	6h	0	-56	0	-75		
			—	—	—	—	—	7e6e	—	—	—	—		
			7G	—	—	—	—	7g6g	—	—	—	—		
			7H	—	—	—	—	7h6h	—	—	—	—		
			8G	—	—	—	—	8g	—	—	—	—		
			8H	—	—	—	—	9g8g	—	—	—	—		

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread					
			Tolerance class	Deviations			Tolerance class	Deviations				
Over	Up to and including			Pitch diameter		Minor diameter			Pitch diameter			
	Upper		Lower	Upper	Lower	Upper		Lower	Upper			
mm	mm	mm		μm	μm	μm	μm	μm	μm	μm		
1.4	2.8	0.2	—	—	—	—	3h4h	0	-25	0	-36	
			4H	+42	0	+38	0	4h	0	-32	0	-36
			5G	—	—	—	5g6g	-17	-57	-17	-73	
			5H	—	—	—	5h4h	0	-40	0	-36	
			—	—	—	—	5h6h	0	-40	0	-56	
			—	—	—	—	6e	—	—	—	—	
			—	—	—	—	6f	-32	-82	-32	-88	
			6G	—	—	—	6g	-17	-67	-17	-73	
			6H	—	—	—	6h	0	-50	0	-56	
			—	—	—	—	7e6e	—	—	—	—	
			7G	—	—	—	7g6g	—	—	—	—	
			7H	—	—	—	7h6h	—	—	—	—	
			8G	—	—	—	8g	—	—	—	—	
			8H	—	—	—	9g8g	—	—	—	—	
		0.25	—	—	—	—	3h4h	0	-28	0	-42	
			4H	+48	0	+45	0	4h	0	-36	0	-42
			5G	+78	+18	+74	+18	5g6g	-18	-63	-18	-85
			5H	+60	0	+56	0	5h4h	0	-45	0	-42
			—	—	—	—	5h6h	0	-45	0	-67	
			—	—	—	—	6e	—	—	—	—	
			—	—	—	—	6f	-33	-89	-33	-100	
			6G	—	—	—	6g	-18	-74	-18	-85	
			6H	—	—	—	6h	0	-56	0	-67	
			—	—	—	—	7e6e	—	—	—	—	
			7G	—	—	—	7g6g	—	—	—	—	
			7H	—	—	—	7h6h	—	—	—	—	
			8G	—	—	—	8g	—	—	—	—	
			8H	—	—	—	9g8g	—	—	—	—	
		0.35	—	—	—	—	3h4h	0	-32	0	-53	
			4H	+53	0	+63	0	4h	0	-40	0	-53
			5G	+86	+19	+99	+19	5g6g	-19	-69	-19	-104
			5H	+67	0	+80	0	5h4h	0	-50	0	-53
			—	—	—	—	5h6h	0	-50	0	-85	
			—	—	—	—	6e	—	—	—	—	
			—	—	—	—	6f	-34	-97	-34	-119	
			6G	+104	+19	+119	+19	6g	-19	-82	-19	-104
			6H	+85	0	+100	0	6h	0	-63	0	-85
			—	—	—	—	7e6e	—	—	—	—	
			7G	—	—	—	7g6g	-19	-99	-19	-104	
			7H	—	—	—	7h6h	0	-80	0	-85	
			8G	—	—	—	8g	—	—	—	—	

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread					
Over	Up to and including	Tolerance class	Deviations				Tolerance class	Deviations				
			Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
			Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
1.4	2.8	0.35	8H	—	—	—	—	9g8g	—	—	—	
			0.4	—	—	—	—	3h4h	0	-34	0	
			4H	+56	0	+71	0	4h	0	-42	0	
			5G	+90	+19	+109	+19	5g6g	-19	-72	-19	
			5H	+71	0	+90	0	5h4h	0	-53	0	
			—	—	—	—	—	5h6h	0	-53	0	
			—	—	—	—	—	6e	—	—	—	
			—	—	—	—	—	6f	-34	-101	-34	
			6G	+109	+19	+131	+19	6g	-19	-86	-19	
			6H	+90	0	+112	0	6h	0	-67	0	
			—	—	—	—	—	7e6e	—	—	—	
			7G	—	—	—	—	7g6g	-19	-104	-19	
			7H	—	—	—	—	7h6h	0	-85	0	
			8G	—	—	—	—	8g	—	—	—	
			8H	—	—	—	—	9g8g	—	—	—	
		0.45	—	—	—	—	—	3h4h	0	-36	0	
			4H	+60	0	+80	0	4h	0	-45	0	
			5G	+95	+20	+120	+20	5g6g	-20	-76	-20	
			5H	+75	0	+100	0	5h4h	0	-56	0	
			—	—	—	—	—	5h6h	0	-56	0	
			—	—	—	—	—	6e	—	—	—	
			—	—	—	—	—	6f	-35	-106	-35	
			6G	+115	+20	+145	+20	6g	-20	-91	-20	
			6H	+95	0	+125	0	6h	0	-71	0	
			—	—	—	—	—	7e6e	—	—	—	
			7G	—	—	—	—	7g6g	-20	-110	-20	
			7H	—	—	—	—	7h6h	0	-90	0	
			8G	—	—	—	—	8g	—	—	—	
			8H	—	—	—	—	9g8g	—	—	—	
2.8	5.6	0.35	—	—	—	—	—	3h4h	0	-34	0	
			4H	+56	0	+63	0	4h	0	-42	0	
			5G	+90	+19	+99	+19	5g6g	-19	-72	-19	
			5H	+71	0	+80	0	5h4h	0	-53	0	
			—	—	—	—	—	5h6h	0	-53	0	
			—	—	—	—	—	6e	—	—	—	
			—	—	—	—	—	6f	-34	-101	-34	
			6G	+109	+19	+119	+19	6g	—	—	—	
			6H	+90	0	+100	0	6h	—	—	—	
			—	—	—	—	—	7e6e	—	—	—	
			7G	—	—	—	—	7g6g	-19	-104	-19	
			7H	—	—	—	—	7h6h	0	-85	0	
			8G	—	—	—	—	8g	—	—	—	

TABLE 4.9 (*continued*)

Basic major diameter <i>D, d</i>		Pitch <i>P</i>	Internal thread				External thread					
Over	Up to and including	Tolerance class	Deviations				Tolerance class	Deviations				
			Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
			Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
2.8	5.6	0.35	8H	—	—	—	—	9g8g	—	—	—	
		0.5	—	—	—	—	—	3h4h	0	-38	0	
			4H	+63	0	+90	0	4h	0	-48	0	
			5G	+100	+20	+132	+20	5g6g	-20	-80	-20	
			5H	+80	0	+112	0	5h4h	0	-60	0	
			—	—	—	—	—	5h6h	0	-60	0	
			—	—	—	—	—	6e	-50	-125	-50	
			—	—	—	—	—	6f	-36	-111	-36	
			6G	+120	+20	+160	+20	6g	-20	-95	-20	
			6H	+100	0	+140	0	6h	0	-75	0	
			—	—	—	—	—	7e6e	-50	-145	-50	
			7G	+145	+20	+200	+20	7g6g	-20	-115	-20	
			7H	+125	0	+180	0	7h6h	0	-95	0	
			—	—	—	—	—	8g	—	—	—	
			8H	—	—	—	—	9g8g	—	—	—	
		0.6	—	—	—	—	—	3h4h	0	-42	0	
			4H	+71	0	+100	0	4h	0	-53	0	
			5G	+111	+21	+146	+21	5g6g	-21	-88	-21	
			5H	+90	0	+125	0	5h4h	0	-67	0	
			—	—	—	—	—	5h6h	0	-67	0	
			—	—	—	—	—	6e	-53	-138	-53	
			—	—	—	—	—	6f	-36	-121	-36	
			6G	+133	+21	+181	+21	6g	-21	-106	-21	
			6H	+112	0	+160	0	6h	0	-85	0	
			—	—	—	—	—	7e6e	-53	-159	-53	
			7G	+161	+21	+221	+21	7g6g	-21	-127	-21	
			7H	+140	0	+200	0	7h6h	0	-106	0	
			8G	—	—	—	—	8g	—	—	—	
		0.7	—	—	—	—	—	9g8g	—	—	—	
			—	—	—	—	—	3h4h	0	-45	0	
			4H	+75	0	+112	0	4h	0	-56	0	
			5G	+117	+22	+162	+22	5g6g	-22	-93	-22	
			5H	+95	0	+140	0	5h4h	0	-71	0	
			—	—	—	—	—	5h6h	0	-71	0	
			—	—	—	—	—	6e	-56	-146	-56	
			—	—	—	—	—	6f	-38	-128	-38	
			6G	+140	+22	+202	+22	6g	-22	-112	-22	
			6H	+118	0	+180	0	6h	0	-90	0	
			—	—	—	—	—	7e6e	-56	-168	-56	
			7G	+172	+22	+246	+22	7g6g	-22	-134	-22	
			7H	+150	0	+224	0	7h6h	0	-112	0	
			8G	—	—	—	—	8g	—	—	—	

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread						External thread							
Over	Up to and including	Tolerance class	Deviations				Tolerance class	Deviations				Pitch diameter		Major diameter		
			Pitch diameter		Minor diameter			Pitch diameter		Major diameter		Upper	Lower	Upper	Lower	
			Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	μm	μm	μm	μm	
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
2.8	5.6	0.7	8H	—	—	—	—	9g8g	—	—	—	—	—	—	—	
			—	—	—	—	—	3h4h	0	-45	0	-90	—	—	—	
			4H	+75	0	+118	0	4h	0	-56	0	-90	—	—	—	
			5G	+117	+22	+172	+22	5g6g	-22	-93	-22	-162	—	—	—	
			5H	+95	0	+150	0	5h4h	0	-71	0	-90	—	—	—	
			—	—	—	—	—	5h6h	0	-71	0	-140	—	—	—	
			—	—	—	—	—	6e	-56	-146	-56	-196	—	—	—	
			—	—	—	—	—	6f	-38	-128	-38	-178	—	—	—	
			6G	+140	+22	+212	+22	6g	-22	-112	-22	-162	—	—	—	
			6H	+118	0	+190	0	6h	0	-90	0	-140	—	—	—	
			—	—	—	—	—	7e6e	-56	-168	-56	-196	—	—	—	
			7G	+172	+22	+258	+22	7g6g	-22	-134	-22	-162	—	—	—	
			7H	+150	0	+236	0	7h6h	0	-112	0	-140	—	—	—	
			8G	—	—	—	—	8g	—	—	—	—	—	—	—	
			8H	—	—	—	—	9g8g	—	—	—	—	—	—	—	
		0.8	—	—	—	—	—	3h4h	0	-48	0	-95	—	—	—	
			4H	+80	0	+125	0	4h	0	-60	0	-95	—	—	—	
			5G	+124	+24	+184	+24	5g6g	-24	-99	-24	-174	—	—	—	
			5H	+100	0	+160	0	5h4h	0	-75	0	-95	—	—	—	
			—	—	—	—	—	5h6h	0	-75	0	-150	—	—	—	
			—	—	—	—	—	6e	-60	-155	-60	-210	—	—	—	
			—	—	—	—	—	6f	-38	-133	-38	-188	—	—	—	
			6G	+149	+24	+224	+24	6g	-24	-119	-24	-174	—	—	—	
			6H	+125	0	+200	0	6h	0	-95	0	-150	—	—	—	
			—	—	—	—	—	7e6e	-60	-178	-60	-210	—	—	—	
			7G	+184	+24	+274	+24	7g6g	-24	-142	-24	-174	—	—	—	
			7H	+160	0	+250	0	7h6h	0	-118	0	-150	—	—	—	
			8G	+224	+24	+339	+24	8g	-24	-174	-24	-260	—	—	—	
			8H	+200	0	+315	0	9g8g	-24	-214	-24	-260	—	—	—	
5.6	11.2	0.75	—	—	—	—	—	3h4h	0	-50	0	-90	—	—	—	
			4H	+85	0	+118	0	4h	0	-63	0	-90	—	—	—	
			5G	+128	+22	+172	+22	5g6g	-22	-102	-22	-162	—	—	—	
			5H	+106	0	+150	0	5h4h	0	-80	0	-90	—	—	—	
			—	—	—	—	—	5h6h	0	-80	0	-140	—	—	—	
			—	—	—	—	—	6e	-56	-156	-56	-196	—	—	—	
			—	—	—	—	—	6f	-38	-138	-38	-178	—	—	—	
			6G	+154	+22	+212	+22	6g	-22	-122	-22	-162	—	—	—	
			6H	+132	0	+190	0	6h	0	-100	0	-140	—	—	—	
			—	—	—	—	—	7e6e	-56	-181	-56	-196	—	—	—	
			7G	+192	+22	+258	+22	7g6g	-22	-147	-22	-162	—	—	—	
			7H	+170	0	+236	0	7h6h	0	-125	0	-140	—	—	—	
			8G	—	—	—	—	8g	—	—	—	—	—	—	—	

TABLE 4.9 (*continued*)

Basic major diameter D, d Over		Pitch P	Internal thread				External thread						
			Tolerance class	Deviations				Tolerance class	Deviations				
				Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
				Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	
mm	mm	mm		μm	μm	μm	μm		μm	μm	μm	μm	
5.6	11.2	0.75	8H	—	—	—	—	9g8g	—	—	—	—	
			1	—	—	—	—	3h4h	0	-56	0	-112	
				4H	+95	0	+150	0	4h	0	-71	0	-112
				5G	+144	+26	+216	+26	5g6g	-26	-116	-26	-206
				5H	+118	0	+190	0	5h4h	0	-90	0	-112
				—	—	—	—	5h6h	0	-90	0	-180	
				—	—	—	—	6e	-60	-172	-60	-240	
				—	—	—	—	6f	-40	-152	-40	-220	
				6G	+176	+26	+262	+26	6g	-26	-138	-26	-206
				6H	+150	0	+236	0	6h	0	-112	0	-180
				—	—	—	—	7e6e	-60	-200	-60	-240	
				7G	+216	+26	+326	+26	7g6g	-26	-166	-26	-206
				7H	+190	0	+300	0	7h6h	0	-140	0	-180
				8G	+262	+26	+401	+26	8g	-26	-206	-26	-306
				8H	+236	0	+375	0	9g8g	-26	-250	-26	-306
			1.25	—	—	—	—	3h4h	0	-60	0	-132	
				4H	+100	0	+170	0	4h	0	-75	0	-132
				5G	+153	+28	+240	+28	5g6g	-28	-123	-28	-240
				5H	+125	0	+212	0	5h4h	0	-95	0	-132
				—	—	—	—	5h6h	0	-95	0	-212	
				—	—	—	—	6e	-63	-181	-63	-275	
				—	—	—	—	6f	-42	-160	-42	-254	
				6G	+188	+28	+293	+28	6g	-28	-146	-28	-240
				6H	+160	0	+265	0	6h	0	-118	0	-212
				—	—	—	—	7e6e	-63	-213	-63	-275	
				7G	+228	+28	+363	+28	7g6g	-28	-178	-28	-240
				7H	+200	0	+335	0	7h6h	0	-150	0	-212
				8G	+278	+28	+453	+28	8g	-28	-218	-28	-363
				8H	+250	0	+425	0	9g8g	-28	-264	-28	-363
			1.5	—	—	—	—	3h4h	0	-67	0	-150	
				4H	+112	0	+190	0	4h	0	-85	0	-150
				5G	+172	+32	+268	+32	5g6g	-32	-138	-32	-268
				5H	+140	0	+236	0	5h4h	0	-106	0	-150
				—	—	—	—	5h6h	0	-106	0	-236	
				—	—	—	—	6e	-67	-199	-67	-303	
				—	—	—	—	6f	-45	-177	-45	-281	
				6G	+212	+32	+332	+32	6g	-32	-164	-32	-268
				6H	+180	0	+300	0	6h	0	-132	0	-236
				—	—	—	—	7e6e	-67	-237	-67	-303	
				7G	+256	+32	+407	+32	7g6g	-32	-202	-32	-268
				7H	+224	0	+375	0	7h6h	0	-170	0	-236
				8G	+312	+32	+507	+32	8g	-32	-244	-32	-407

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread						
			Tolerance class	Deviations				Tolerance class	Deviations				
Over	Up to and including			Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
	Upper		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower		
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
5.6	11.2	1.5	8H	+280	0	+475	0	9g8g	-32	-297	-32	-407	
11.2	22.4	1	—	—	—	—	—	3h4h	0	-60	0	-112	
			4H	+100	0	+150	0	4h	0	-75	0	-112	
			5G	+151	+26	+216	+26	5g6g	-26	-121	-26	-206	
			5H	+125	0	+190	0	5h4h	0	-95	0	-112	
			—	—	—	—	—	5h6h	0	-95	0	-180	
			—	—	—	—	—	6e	-60	-178	-60	-240	
			—	—	—	—	—	6f	-40	-158	-40	-220	
			6G	+186	+26	+262	+26	6g	-26	-144	-26	-206	
			6H	+160	0	+236	0	6h	0	-118	0	-180	
			—	—	—	—	—	7e6e	-60	-210	-60	-240	
			7G	+226	+26	+326	+26	7g6g	-26	-176	-26	-206	
			7H	+200	0	+300	0	7h6h	0	-150	0	-180	
			8G	+276	+26	+401	+26	8g	-26	-216	-26	-306	
			8H	+250	0	+375	0	9g8g	-26	-262	-26	-306	
		1.25	—	—	—	—	—	3h4h	0	-67	0	-132	
			4H	+112	0	+170	0	4h	0	-85	0	-132	
			5G	+168	+28	+240	+28	5g6g	-28	-134	-28	-240	
			5H	+140	0	+212	0	5h4h	0	-106	0	-132	
			—	—	—	—	—	5h6h	0	-106	0	-212	
			—	—	—	—	—	6e	-63	-195	-63	-275	
			—	—	—	—	—	6f	-42	-174	-42	-254	
			6G	+208	+28	+293	+28	6g	-28	-160	-28	-240	
			6H	+180	0	+265	0	6h	0	-132	0	-212	
			—	—	—	—	—	7e6e	-63	-233	-63	-275	
			7G	+252	+28	+363	+28	7g6g	-28	-198	-28	-240	
			7H	+224	0	+335	0	7h6h	0	-170	0	-212	
			8G	+308	+28	+453	+28	8g	-28	-240	-28	-363	
			8H	+280	0	+425	0	9g8g	-28	-293	-28	-363	
		1.5	—	—	—	—	—	3h4h	0	-71	0	-150	
			4H	+118	0	+190	0	4h	0	-90	0	-150	
			5G	+182	+32	+268	+32	5g6g	-32	-144	-32	-268	
			5H	+150	0	+236	0	5h4h	0	-112	0	-150	
			—	—	—	—	—	5h6h	0	-112	0	-236	
			—	—	—	—	—	6e	-67	-207	-67	-303	
			—	—	—	—	—	6f	-45	-185	-45	-281	
			6G	+222	+32	+332	+32	6g	-32	-172	-32	-268	
			6H	+190	0	+300	0	6h	0	-140	0	-236	
			—	—	—	—	—	7e6e	-67	-247	-67	-303	
			7G	+268	+32	+407	+32	7g6g	-32	-212	-32	-268	
			7H	+236	0	+375	0	7h6h	0	-180	0	-236	
			8G	+332	+32	+507	+32	8g	-32	-256	-32	-407	

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread					
Over	Up to and including	Tolerance class	Deviations				Tolerance class	Deviations				
			Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
			Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
11.2	22.4	1.5	8H	+300	0	+475	0	9g8g	-32	-312	-32	-407
			—	—	—	—	—	3h4h	0	-75	0	-170
			4H	+125	0	+212	0	4h	0	-95	0	-170
			5G	+194	+34	+299	+34	5g6g	-34	-152	-34	-299
			5H	+160	0	+265	0	5h4h	0	-118	0	-170
			—	—	—	—	—	5h6h	0	-118	0	-265
			—	—	—	—	—	6e	-71	-221	-71	-336
			—	—	—	—	—	6f	-48	-198	-48	-313
			6G	+234	+34	+369	+34	6g	-34	-184	-34	-299
			6H	+200	0	+335	0	6h	0	-150	0	-265
			—	—	—	—	—	7e6e	-71	-261	-71	-336
			7G	+284	+34	+459	+34	7g6g	-34	-224	-34	-299
			7H	+250	0	+425	0	7h6h	0	-190	0	-265
			8G	+349	+34	+564	+34	8g	-34	-270	-34	-459
			8H	+315	0	+530	0	9g8g	-34	-334	-34	-459
		2	—	—	—	—	—	3h4h	0	-80	0	-180
			4H	+132	0	+236	0	4h	0	-100	0	-180
			5G	+208	+38	+338	+38	5g6g	-38	-163	-38	-318
			5H	+170	0	+300	0	5h4h	0	-125	0	-180
			—	—	—	—	—	5h6h	0	-125	0	-280
			—	—	—	—	—	6e	-71	-231	-71	-351
			—	—	—	—	—	6f	-52	-212	-52	-332
			6G	+250	+38	+413	+38	6g	-38	-198	-38	-318
			6H	+212	0	+375	0	6h	0	-160	0	-280
			—	—	—	—	—	7e6e	-71	-271	-71	-351
			7G	+303	+38	+513	+38	7g6g	-38	-238	-38	-318
			7H	+265	0	+475	0	7h6h	0	-200	0	-280
			8G	+373	+38	+638	+38	8g	-38	-288	-38	-488
			8H	+335	0	+600	0	9g8g	-38	-353	-38	-488
		2.5	—	—	—	—	—	3h4h	0	-85	0	-212
			4H	+140	0	+280	0	4h	0	-106	0	-212
			5G	+222	+42	+397	+42	5g6g	-42	-174	-42	-377
			5H	+180	0	+355	0	5h4h	0	-132	0	-212
			—	—	—	—	—	5h6h	0	-132	0	-335
			—	—	—	—	—	6e	-80	-250	-80	-415
			—	—	—	—	—	6f	-58	-228	-58	-393
			6G	+266	+42	+492	+42	6g	-42	-212	-42	-377
			6H	+224	0	+450	0	6h	0	-170	0	-335
			—	—	—	—	—	7e6e	-80	-292	-80	-415
			7G	+322	+42	+602	+42	7g6g	-42	-254	-42	-377
			7H	+280	0	+560	0	7h6h	0	-212	0	-335
			8G	+397	+42	+752	+42	8g	-42	-307	-42	-572

TABLE 4.9 (*continued*)

Basic major diameter D, d			Pitch P	Internal thread				External thread						
Over	Up to and including	Tolerance class		Deviations				Tolerance class	Deviations					
				Pitch diameter		Minor diameter			Pitch diameter		Major diameter			
				Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower		
mm	mm	mm		μm	μm	μm	μm		μm	μm	μm	μm		
11.2	22.4	2.5	8H	+355	0	+710	0	9g8g	-42	-377	-42	-572		
22.4	45	1	—	—	—	—	—	3h4h	0	-63	0	-112		
			4H	+106	0	+150	0	4h	0	-80	0	-112		
			5G	+158	+26	+216	+26	5g6g	-26	-126	-26	-206		
			5H	+132	0	+190	0	5h4h	0	-100	0	-112		
			—	—	—	—	—	5h6h	0	-100	0	-180		
			—	—	—	—	—	6e	-60	-185	-60	-240		
			—	—	—	—	—	6f	-40	-165	-40	-220		
			6G	+196	+26	+262	+26	6g	-26	-151	-26	-206		
			6H	+170	0	+236	0	6h	0	-125	0	-180		
			—	—	—	—	—	7e6e	-60	-220	-60	-240		
			7G	+238	+26	+326	+26	7g6g	-26	-186	-26	-206		
			7H	+212	0	+300	0	7h6h	0	-160	0	-180		
			8G	—	—	—	—	8g	-26	-226	-26	-306		
			8H	—	—	—	—	9g8g	-26	-276	-26	-306		
		1.5	—	—	—	—	—	3h4h	0	-75	0	-150		
			4H	+125	0	+190	0	4h	0	-95	0	-150		
			5G	+192	+32	+268	+32	5g6g	-32	-150	-32	-268		
			5H	+160	0	+236	0	5h4h	0	-118	0	-150		
			—	—	—	—	—	5h6h	0	-118	0	-236		
			—	—	—	—	—	6e	-67	-217	-67	-303		
			—	—	—	—	—	6f	-45	-195	-45	-281		
			6G	+232	+32	+332	+32	6g	-32	-182	-32	-268		
			6H	+200	0	+300	0	6h	0	-150	0	-236		
			—	—	—	—	—	7e6e	-67	-257	-67	-303		
			7G	+282	+32	+407	+32	7g6g	-32	-222	-32	-268		
		2	7H	+250	0	+375	0	7h6h	0	-190	0	-236		
			8G	+347	+32	+507	+32	8g	-32	-268	-32	-407		
			8H	+315	0	+475	0	9g8g	-32	-332	-32	-407		

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread					
Over	Up to and including	Tolerance class	Deviations				Tolerance class	Deviations				
			Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
			Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
22.4	45	2	8H	+355	0	+600	0	9g8g	-38	-373	-38	-488
22.4	45	3	—	—	—	—	—	3h4h	0	-100	0	-236
			4H	+170	0	+315	0	4h	0	-125	0	-236
			5G	+260	+48	+448	+48	5g6g	-48	-208	-48	-423
			5H	+212	0	+400	0	5h4h	0	-160	0	-236
			—	—	—	—	—	5h6h	0	-160	0	-375
			—	—	—	—	—	6e	-85	-285	-85	-460
			—	—	—	—	—	6f	-63	-263	-63	-438
			6G	+313	+48	+548	+48	6g	-48	-248	-48	-423
			6H	+265	0	+500	0	6h	0	-200	0	-375
			—	—	—	—	—	7e6e	-85	-335	-85	-460
			7G	+383	+48	+678	+48	7g6g	-48	-298	-48	-423
			7H	+335	0	+630	0	7h6h	0	-250	0	-375
			8G	+473	+48	+848	+48	8g	-48	-363	-48	-648
			8H	+425	0	+800	0	9g8g	-48	-448	-48	-648
		3.5	—	—	—	—	—	3h4h	0	-106	0	-265
			4H	+180	0	+355	0	4h	0	-132	0	-265
			5G	+277	+53	+503	+53	5g6g	-53	-223	-53	-478
			5H	+224	0	+450	0	5h4h	0	-170	0	-265
			—	—	—	—	—	5h6h	0	-170	0	-425
			—	—	—	—	—	6e	-90	-302	-90	-515
			—	—	—	—	—	6f	-70	-282	-70	-495
			6G	+333	+53	+613	+53	6g	-53	-265	-53	-478
			6H	+280	0	+560	0	6h	0	-212	0	-425
			—	—	—	—	—	7e6e	-90	-355	-90	-515
			7G	+408	+53	+763	+53	7g6g	-53	-318	-53	-478
			7H	+355	0	+710	0	7h6h	0	-265	0	-425
			8G	+503	+53	+953	+53	8g	-53	-388	-53	-723
			8H	+450	0	+900	0	9g8g	-53	-478	-53	-723
		4	—	—	—	—	—	3h4h	0	-112	0	-300
			4H	+190	0	+375	0	4h	0	-140	0	-300
			5G	+296	+60	+535	+60	5g6g	-60	-240	-60	-535
			5H	+236	0	+475	0	5h4h	0	-180	0	-300
			—	—	—	—	—	5h6h	0	-180	0	-475
			—	—	—	—	—	6e	-95	-319	-95	-570
			—	—	—	—	—	6f	-75	-299	-75	-550
			6G	+360	+60	+660	+60	6g	-60	-284	-60	-535
			6H	+300	0	+600	0	6h	0	-224	0	-475
			—	—	—	—	—	7e6e	-95	-375	-95	-570

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread					
Over	Up to and including	Tolerance class	Deviations				Tolerance class	Deviations				
			Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
			Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
22.4	45	4	8H	+475	0	+950	0	9g8g	-60	-510	-60	-810
			—	—	—	—	—	3h4h	0	-118	0	-315
			4H	+200	0	+425	0	4h	0	-150	0	-315
			5G	+313	+63	+593	+63	5g6g	-63	-253	-63	-563
			5H	+250	0	+530	0	5h4h	0	-190	0	-315
			—	—	—	—	—	5h6h	0	-190	0	-500
			—	—	—	—	—	6e	-100	-336	-100	-600
			—	—	—	—	—	6f	-80	-316	-80	-580
			6G	+378	+63	+733	+63	6g	-63	-299	-63	-563
			6H	+315	0	+670	0	6h	0	-236	0	-500
			—	—	—	—	—	7e6e	-100	-400	-100	-600
			7G	+463	+63	+913	+63	7g6g	-63	-363	-63	-563
			7H	+400	0	+850	0	7h6h	0	-300	0	-500
			8G	+563	+63	+1123	+63	8g	-63	-438	-63	-863
			8H	+500	0	+1060	0	9g8g	-63	-538	-63	-863
45	90	1.5	—	—	—	—	—	3h4h	0	-80	0	-150
			4H	+132	0	+190	0	4h	0	-100	0	-150
			5G	+202	+32	+268	+32	5g6g	-32	-157	-32	-268
			5H	+170	0	+236	0	5h4h	0	-125	0	-150
			—	—	—	—	—	5h6h	0	-125	0	-236
			—	—	—	—	—	6e	-67	-227	-67	-303
			—	—	—	—	—	6f	-45	-205	-45	-281
			6G	+244	+32	+332	+32	6g	-32	-192	-32	-268
			6H	+212	0	+300	0	6h	0	-160	0	-236
			—	—	—	—	—	7e6e	-67	-267	-67	-303
			7G	+297	+32	+407	+32	7g6g	-32	-232	-32	-268
			7H	+265	0	+375	0	7h6h	0	-200	0	-236
			8G	+367	+32	+507	+32	8g	-32	-282	-32	-407
			8H	+335	0	+475	0	9g8g	-32	-347	-32	-407
		2	—	—	—	—	—	3h4h	0	-90	0	-180
			4H	+150	0	+236	0	4h	0	-112	0	-180
			5G	+228	+38	+338	+38	5g6g	-38	-178	-38	-318
			5H	+190	0	+300	0	5h4h	0	-140	0	-180
			—	—	—	—	—	5h6h	0	-140	0	-280
			—	—	—	—	—	6e	-71	-251	-71	-351
			—	—	—	—	—	6f	-52	-232	-52	-332
			6G	+274	+38	+413	+38	6g	-38	-218	-38	-318
			6H	+236	0	+375	0	6h	0	-180	0	-280
			—	—	—	—	—	7e6e	-71	-295	-71	-351
			7G	+338	+38	+513	+38	7g6g	-38	-262	-38	-318
			7H	+300	0	+475	0	7h6h	0	-224	0	-280
			8G	+413	+38	+638	+38	8g	-38	-318	-38	-488

TABLE 4.9 (*continued*)

Basic major diameter D, d			Pitch P	Internal thread				External thread						
Over	Up to and including	Tolerance class		Deviations				Tolerance class	Deviations					
				Pitch diameter		Minor diameter			Pitch diameter		Major diameter			
				Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower		
mm	mm	mm		μm	μm	μm	μm		μm	μm	μm	μm		
45	90	2	8H	+375	0	+600	0	9g8g	-38	-393	-38	-488		
		3	—	—	—	—	—	3h4h	0	-106	0	-236		
			4H	+180	0	+315	0	4h	0	-132	0	-236		
			5G	+272	+48	+448	+48	5g6g	-48	-218	-48	-423		
			5H	+244	0	+400	0	5h4h	0	-170	0	-236		
			—	—	—	—	—	5h6h	0	-170	0	-375		
			—	—	—	—	—	6e	-85	-297	-85	-460		
			—	—	—	—	—	6f	-63	-275	-63	-438		
			6G	+328	+48	+548	+48	6g	-48	-260	-48	-423		
			6H	+280	0	+500	0	6h	0	-212	0	-375		
			—	—	—	—	—	7e6e	-85	-350	-85	-460		
			7G	+403	+48	+678	+48	7g6g	-48	-313	-48	-423		
			7H	+355	0	+630	0	7h6h	0	-265	0	-375		
			8G	+498	+48	+848	+48	8g	-48	-383	-48	-648		
			8H	+450	0	+800	0	9g8g	-48	-473	-48	-648		
		4	—	—	—	—	—	3h4h	0	-118	0	-300		
			4H	+200	0	+375	0	4h	0	-150	0	-300		
			5G	+310	+60	+535	+60	5g6g	-60	-250	-60	-535		
			5H	+250	0	+475	0	5h4h	0	-190	0	-300		
			—	—	—	—	—	5h6h	0	-190	0	-475		
			—	—	—	—	—	6e	-95	-331	-95	-570		
			—	—	—	—	—	6f	-75	-311	-75	-550		
			6G	+375	+60	+660	+60	6g	-60	-296	-60	-535		
			6H	+315	0	+600	0	6h	0	-236	0	-475		
			—	—	—	—	—	7e6e	-95	-395	-95	-570		
			7G	+460	+60	+810	+60	7g6g	-60	-360	-60	-535		
			7H	+400	0	+750	0	7h6h	0	-300	0	-475		
			8G	+560	+60	+1010	+60	8g	-60	-435	-60	-810		
			8H	+500	0	+950	0	9g8g	-60	-535	-60	-810		
		5	—	—	—	—	—	3h4h	0	-125	0	-335		
			4H	+212	0	+450	0	4h	0	-160	0	-335		
			5G	+336	+71	+631	+71	5g6g	-71	-271	-71	-601		
			5H	+265	0	+560	0	5h4h	0	-200	0	-335		
			—	—	—	—	—	5h6h	0	-200	0	-530		
			—	—	—	—	—	6e	-106	-356	-106	-636		
			—	—	—	—	—	6f	-85	-335	-85	-615		
			6G	+406	+71	+781	+71	6g	-71	-321	-71	-601		
			6H	+335	0	+710	0	6h	0	-250	0	-530		
			—	—	—	—	—	7e6e	-106	-421	-106	-636		
			7G	+496	+71	+971	+71	7g6g	-71	-386	-71	-601		
			7H	+425	0	+900	0	7h6h	0	-315	0	-530		
			8G	+601	+71	+1191	+71	8g	-71	-471	-71	-921		

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread								
			Tolerance class	Deviations				Tolerance class	Deviations						
Over	Up to and including			Pitch diameter		Minor diameter			Pitch diameter		Major diameter				
				Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower			
mm	mm	mm		μm	μm	μm	μm		μm	μm	μm	μm			
45	90	5	8H	+530	0	+1120	0	9g8g	-71	-571	-71	-921			
		5.5	—	—	—	—	—	3h4h	0	-132	0	-355			
			4H	+224	0	+475	0	4h	0	-170	0	-355			
			5G	+335	+75	+675	+75	5g6g	-75	-287	-75	-635			
			5H	+280	0	+600	0	5h4h	0	-212	0	-355			
			—	—	—	—	—	5h6h	0	-212	0	-560			
			—	—	—	—	—	6e	-112	-377	-112	-672			
			—	—	—	—	—	6f	-90	-355	-90	-650			
			6G	+430	+75	+825	+75	6g	-75	-340	-75	-635			
			6H	+355	0	+750	0	6h	0	-265	0	-560			
			—	—	—	—	—	7e6e	-112	-447	-112	-672			
			7G	+525	+75	+1025	+75	7g6g	-75	-410	-75	-635			
			7H	+450	0	+950	0	7h6h	0	-335	0	-560			
			8G	+635	+75	+1255	+75	8g	-75	-500	-75	-975			
			8H	+560	0	+1180	0	9g8g	-75	-605	-75	-975			
		6	—	—	—	—	—	3h4h	0	-140	0	-375			
			4H	+236	0	+500	0	4h	0	-180	0	-375			
			5G	+380	+80	+710	+80	5g6g	-80	-304	-80	-680			
			5H	+300	0	+830	0	5h4h	0	-224	0	-375			
			—	—	—	—	—	5h6h	0	-224	0	-600			
			—	—	—	—	—	6e	-118	-398	-118	-718			
			—	—	—	—	—	6f	-95	-375	-95	-695			
			6G	+455	+80	+880	+80	6g	-80	-360	-80	-680			
			6H	+375	0	+800	0	6h	0	-280	0	-600			
			—	—	—	—	—	7e6e	-118	-473	-118	-718			
			7G	+555	+80	+1080	+80	7g6g	-80	-435	-80	-680			
			7H	+475	0	+1000	0	7h6h	0	-355	0	-600			
			8G	+680	+80	+1330	+80	8g	-80	-530	-80	-1030			
			8H	+600	0	+1250	0	9g8g	-80	-640	-80	-1030			
	180	2	—	—	—	—	—	3h4h	0	-95	0	-180			
			4H	+160	0	+236	0	4h	0	-118	0	-180			
			5G	+238	+38	+338	+38	5g6g	-38	-188	-38	-318			
			5H	+200	0	+300	0	5h4h	0	-150	0	-180			
			—	—	—	—	—	5h6h	0	-150	0	-280			
			—	—	—	—	—	6e	-71	-261	-71	-351			
			—	—	—	—	—	6f	-52	-242	-52	-332			
			6G	+288	+38	+413	+38	6g	-38	-228	-38	-318			
			6H	+250	0	+375	0	6h	0	-190	0	-280			
			—	—	—	—	—	7e6e	-71	-307	-71	-351			
			7G	+353	+38	+513	+38	7g6g	-38	-274	-38	-318			
			7H	+315	0	+475	0	7h6h	0	-236	0	-280			
			8G	+438	+38	+638	+38	8g	-38	-338	-38	-488			

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread						
Over	Up to and including		Tolerance class	Deviations				Tolerance class	Deviations				
				Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
mm	mm	mm		Upper	Lower	Upper	Lower		Upper	Lower	Upper	Lower	
				μm	μm	μm	μm		μm	μm	μm	μm	
90	180	2	8H	+400	0	+600	0	9g8g	-38	-413	-38	-488	
			—	—	—	—	—	3h4h	0	-112	0	-236	
			4H	+190	0	+315	0	4h	0	-140	0	-236	
			5G	+284	+48	+448	+48	5g6g	-48	-228	-48	-423	
			5H	+236	0	+400	0	5h4h	0	-180	0	-236	
			—	—	—	—	—	5h6h	0	-180	0	-375	
			—	—	—	—	—	6e	-85	-309	-85	-460	
			—	—	—	—	—	6f	-63	-287	-63	-438	
			6G	+348	+48	+548	+48	6g	-48	-272	-48	-423	
			6H	+300	0	+500	0	6h	0	-224	0	-375	
			—	—	—	—	—	7e6e	-85	-365	-85	-460	
			7G	+423	+48	+678	+48	7g6g	-48	-328	-48	-423	
			7H	+375	0	+630	0	7h6h	0	-280	0	-375	
			8G	+523	+48	+848	+48	8g	-48	-403	-48	-648	
			8H	+475	0	+800	0	9g8g	-48	-498	-48	-648	
		4	—	—	—	—	—	3h4h	0	-125	0	-300	
			4H	+212	0	+375	0	4h	0	-160	0	-300	
			5G	+325	+60	+535	+60	5g6g	-60	-260	-60	-535	
			5H	+265	0	+475	0	5h4h	0	-200	0	-300	
			—	—	—	—	—	5h6h	0	-200	0	-475	
			—	—	—	—	—	6e	-95	-345	-95	-570	
			—	—	—	—	—	6f	-75	-325	-75	-550	
			6G	+395	+60	+660	+60	6g	-60	-310	-60	-535	
			6H	+335	0	+600	0	6h	0	-250	0	-475	
			—	—	—	—	—	7e6e	-95	-410	-95	-570	
			7G	+485	+60	+810	+60	7g6g	-60	-375	-60	-535	
			7H	+425	0	+750	0	7h6h	0	-315	0	-475	
			8G	+590	+60	+1010	+60	8g	-60	-460	-60	-810	
			8H	+530	0	+950	0	9g8g	-60	-560	-60	-810	
		6	—	—	—	—	—	3h4h	0	-150	0	-375	
			4H	+250	0	+500	0	4h	0	-190	0	-375	
			5G	+395	+80	+710	+80	5g6g	-80	-316	-80	-680	
			5H	+315	0	+630	0	5h4h	0	-236	0	-375	
			—	—	—	—	—	5h6h	0	-236	0	-600	
			—	—	—	—	—	6e	-118	-418	-118	-718	
			—	—	—	—	—	6f	-95	-395	-95	-695	
			6G	+480	+80	+880	+80	6g	-80	-380	-80	-680	
			6H	+400	0	+800	0	6h	0	-300	0	-600	
			—	—	—	—	—	7e6e	-118	-493	-118	-718	
			7G	+580	+80	+1080	+80	7g6g	-80	-455	-80	-680	
			7H	+500	0	+1000	0	7h6h	0	-375	0	-600	
			8G	+710	+80	+1330	+80	8g	-80	-555	-80	-1030	

TABLE 4.9 (*continued*)

Basic major diameter D, d		Pitch P	Internal thread				External thread						
Over	Up to and including		Tolerance class	Deviations				Tolerance class	Deviations				
				Pitch diameter		Minor diameter			Pitch diameter		Major diameter		
mm	mm	mm		μm	μm	μm	μm		μm	μm	μm	μm	
90	180	6	8H	+630	0	+1250	0	9g8g	-80	-680	-80	-1030	
180	300		—	—	—	—	—	3h4h	0	-125	0	-236	
			4H	+212	0	+315	0	4h	0	-160	0	-236	
			5G	+313	+48	+448	+48	5g6g	-48	-248	-48	-423	
			5H	+265	0	+400	0	5h4h	0	-200	0	-236	
			—	—	—	—	—	5h6h	0	-200	0	-375	
			—	—	—	—	—	6e	-85	-335	-85	-460	
			—	—	—	—	—	6f	-63	-313	-63	-438	
			6G	+383	+48	+548	+48	6g	-48	-298	-48	-423	
			6H	+335	0	+500	0	6h	0	-250	0	-375	
			—	—	—	—	—	7e6e	-85	-400	-85	-460	
			7G	+473	+48	+678	+48	7g6g	-48	-363	-48	-423	
			7H	+425	0	+630	0	7h6h	0	-315	0	-375	
			8G	+578	+48	+848	+48	8g	-48	-448	-48	-648	
			8H	+530	0	+800	0	9g8g	-48	-548	-48	-648	
		4	—	—	—	—	—	3h4h	0	-140	0	-300	
			4H	+236	0	+375	0	4h	0	-180	0	-300	
			5G	+360	+60	+535	+60	5g6g	-60	-284	-60	-535	
			5H	+300	0	+475	0	5h4h	0	-224	0	-300	
			—	—	—	—	—	5h6h	0	-224	0	-475	
			—	—	—	—	—	6e	-95	-375	-95	-570	
			—	—	—	—	—	6f	-75	-355	-75	-550	
			6G	+435	+60	+660	+60	6g	-60	-340	-60	-535	
			6H	+375	0	+600	0	6h	0	-280	0	-475	
			—	—	—	—	—	7e6e	-95	-450	-95	-570	
			7G	+535	+60	+810	+60	7g6g	-60	-415	-60	-535	
			7H	+475	0	+750	0	7h6h	0	-355	0	-475	
			8G	+660	+60	+1010	+60	8g	-60	-510	-60	-810	
		6	8H	+600	0	+950	0	9g8g	-60	-620	-60	-810	
			—	—	—	—	—	3h4h	0	-160	0	-375	
			4H	+265	0	+500	0	4h	0	-200	0	-375	
			5G	+415	+80	+710	+80	5g6g	-80	-330	-80	-680	
			5H	+335	0	+630	0	5h4h	0	-250	0	-375	
			—	—	—	—	—	5h6h	0	-250	0	-600	
			—	—	—	—	—	6e	-118	-433	-118	-718	
			—	—	—	—	—	6f	-95	-410	-95	-695	
			6G	+505	+80	+880	+80	6g	-80	-395	-80	-680	
			6H	+425	0	+800	0	6h	0	-315	0	-600	
			—	—	—	—	—	7e6e	-118	-518	-118	-718	
			7G	+610	+80	+1080	+80	7g6g	-80	-480	-80	-680	
			7H	+530	0	+1000	0	7h6h	0	-400	0	-600	
			8G	+750	+80	+1330	+80	8g	-80	-580	-80	-1030	
			8H	+670	0	+1250	0	9g8g	-80	-710	-80	-1030	

SECTION 5. LIMITS OF SIZE FOR COMMONLY USED TOLERANCE CLASSES

5.1 SCOPE OF SECTION. This Section specifies the fundamental deviations, tolerances and limits of size for internal threads, tolerance classes 4H, 5H, 6H, 7H and 6G, and for external threads tolerance classes 4h, 6g, 8g, 6f and 6e, as follows:

- (a) Coarse pitch series threads in the size range from 1 mm to 68 mm diameter inclusive.
- (b) Fine pitch series threads in the size range from 1 mm to 33 mm diameter inclusive.
- (c) Constant pitch series threads in the size range from 8 mm to 300 mm diameter inclusive.

NOTE: Limits for tolerance classes 7H, 6G, 6e and 6f are only given for a restricted range of applications, as follows:

Tolerance class 7H— all thread series and diameters over 3 mm.

Tolerance class 6G— coarse pitch series $\geq 1.6 \text{ mm} \leq 68 \text{ mm}$ diameter.

Tolerance class 6e— coarse pitch series $\geq 3 \text{ mm} \leq 68 \text{ mm}$ diameter.

Tolerance class 6f— coarse pitch series $\geq 1.6 \text{ mm} \leq 68 \text{ mm}$ diameter.

5.2 LIMITS OF SIZE. The limits of size together with the fundamental deviations and tolerances for the above threads are given in Table 5.1.

TABLE 5.1
ISO METRIC SCREW THREADS: LIMITS AND DEVIATIONS AND TOLERANCES FOR FINISHED
UNCOATED THREADS FOR NORMAL LENGTH OF ENGAGEMENT

External threads										Internal threads										
Basic major diameter D_1 , d		Pitch, P		Major diameter		Pitch diameter		Minor diameter		Major diameter		Pitch diameter		Minor diameter		Major diameter		Pitch diameter		
First choice	Second choice	Third choice	Courtesy series	Fine series	Constant series	Tolerance classes	Rand dev.	max.	min.	tol.	max.	min.	tol.	max.	min.	tol.	max.	min.	tol.	
1	0.2	4h	0	1.000	0.036	0.964	0.870	0.030	0.840	0.717	4H	0	1.000	0.910	0.040	0.870	0.821	0.038	0.781	
		6h	0.017	0.983	0.056	0.927	0.953	0.048	0.805	0.682				5.000	0.883	0.045	0.818	0.774	0.045	0.725
		4h	0	1.000	0.042	0.958	0.838	0.034	0.804	0.649	4H	0	1.000	0.900	0.056	0.838	0.785	0.056	0.725	
	0.25	6g	0.018	0.982	0.067	0.915	0.820	0.053	0.767	0.613	5H	0	1.000	1.000	0.056	0.916	0.938	0.056	0.825	
		4h	0	1.000	0.046	0.954	0.970	0.040	0.940	0.817	4H	0	1.000	1.010	0.040	0.970	0.921	0.038	0.861	
		6g	0.017	0.983	0.056	0.927	0.953	0.048	0.895	0.732				5.000	0.938	0.045	0.974	0.874	0.045	0.825
1.1	0.2	4h	0	1.100	0.036	1.064	0.970	0.030	0.940	0.817	4H	0	1.100	1.000	0.045	0.938	0.885	0.056	0.825	
		6g	0.018	1.082	0.067	1.015	0.920	0.053	0.867	0.713	5H	0	1.100	0.994	0.056	0.938	0.885	0.056	0.825	
		4h	0	1.100	0.042	1.058	0.938	0.034	0.904	0.750	4H	0	1.100	0.983	0.045	0.938	0.874	0.045	0.825	
	0.25	6g	0.018	1.082	0.067	1.015	0.920	0.053	0.867	0.713				5.000	0.938	0.045	0.974	0.874	0.045	0.825
		4h	0	1.200	0.036	1.164	1.070	0.030	1.040	0.917	4H	0	1.200	1.110	0.040	1.070	1.021	0.038	0.981	
		6g	0.017	1.183	0.056	1.127	1.053	0.048	1.005	0.882				5.000	0.983	0.045	1.038	0.974	0.045	0.925
1.2	0.25	4h	0	1.200	0.042	1.158	1.038	0.034	1.004	0.850	4H	0	1.200	1.094	0.056	1.038	0.985	0.056	0.925	
		6g	0.018	1.182	0.067	1.115	1.020	0.053	0.967	0.813	5H	0	1.200	1.094	0.056	1.038	0.985	0.056	0.925	
		4h	0	1.400	0.036	1.364	1.270	0.030	1.240	1.112	4H	0	1.400	1.310	0.040	1.270	1.221	0.038	1.181	
	0.3	6g	0.017	1.383	0.056	1.327	1.253	0.048	1.205	1.082				5.000	1.253	0.048	1.205	1.128	0.051	1.071
		4h	0	1.400	0.048	1.352	1.205	0.036	1.169	0.984	4H	0	1.400	1.265	0.060	1.265	1.142	0.067	1.071	
		6g	0.018	1.382	0.075	1.307	1.187	0.056	1.131	0.946	5H	0	1.400	1.280	0.075	1.280	1.160	0.085	1.071	
1.4	0.2	4h	0	1.600	0.036	1.564	1.470	0.032	1.438	1.313	4H	0	1.600	1.512	0.042	1.470	1.421	0.038	1.381	
		6g	0.017	1.583	0.056	1.527	1.453	0.050	1.403	1.280				5.000	1.426	0.048	1.426	1.324	0.051	1.221
		4h	0	1.600	0.048	1.532	1.420	0.036	1.369	1.094	4H	0	1.600	1.373	0.067	1.373	1.301	0.080	1.221	
	0.3	6g	0.018	1.582	0.075	1.307	1.187	0.056	1.131	0.946	5H	0	1.600	1.458	0.085	1.458	1.321	0.100	1.221	
		4h	0	1.600	0.036	1.564	1.470	0.032	1.438	1.313	4H	0	1.600	1.477	0.085	1.477	1.340	0.100	1.241	
		6g	0.017	1.583	0.056	1.527	1.453	0.050	1.403	1.280				5.000	1.426	0.048	1.426	1.324	0.051	1.221
1.6	0.2	4h	0	1.800	0.036	1.764	1.670	0.032	1.638	1.515	4H	0	1.800	1.712	0.042	1.670	1.621	0.038	1.538	
		6g	0	1.800	0.048	1.732	1.653	0.036	1.603	1.480				5.000	1.426	0.053	1.426	1.324	0.051	1.221
		4h	0	1.800	0.053	1.547	1.373	0.040	1.333	1.117	5H	0	1.800	1.626	0.067	1.626	1.501	0.080	1.421	
	0.3	6g	0.019	1.581	0.085	1.496	1.354	0.063	1.291	1.075	5H	0	1.800	1.573	0.085	1.573	1.521	0.100	1.421	
		4h	0	1.800	0.036	1.564	1.470	0.032	1.438	1.313	5H	0	1.800	1.538	0.090	1.538	1.500	0.100	1.421	
		6g	0.019	1.581	0.063	1.481	1.319	0.053	1.260	1.040	6G	0	1.800	1.677	0.095	1.677	1.592	0.100	1.421	
1.8	0.2	4h	0	2.000	0.036	1.764	1.670	0.032	1.638	1.515	4H	0	2.000	1.886	0.048	1.886	1.784	0.056	1.722	
		6g	0.017	1.783	0.056	1.727	1.653	0.050	1.603	1.480				5.000	1.886	0.048	1.886	1.785	0.056	1.722
		4h	0	2.000	0.048	1.732	1.653	0.040	1.603	1.480	4H	0	2.000	1.796	0.056	1.796	1.638	0.063	1.561	
	0.35	6g	0.019	1.781	0.063	1.696	1.554	0.053	1.491	1.275	5H	0	2.000	1.740	0.071	1.740	1.657	0.090	1.561	
		4h	0	2.000	0.036	1.732	1.653	0.032	1.603	1.480	5H	0	2.000	1.840	0.090	1.840	1.740	0.090	1.561	
		6g	0.019	1.781	0.063	1.696	1.554	0.053	1.491	1.275	6G	0	2.000	1.796	0.095	1.796	1.679	0.112	1.561	
2	0.25	4h	0	2.200	0.042	2.138	2.038	0.036	1.902	1.648	4H	0	2.200	2.046	0.048	2.046	1.974	0.045	1.922	
		6g	0.018	2.182	0.067	2.113	2.020	0.036	1.964	1.810	5H	0	2.200	2.098	0.060	2.098	1.983	0.056	1.922	
		4h	0	2.200	0.048	2.138	2.038	0.036	1.902	1.648	4H	0	2.200	2.046	0.048	2.046	1.974	0.045	1.922	
	0.4	6g	0.019	2.182	0.067	2.113	2.020	0.036	1.964	1.810				5.000	2.046	0.048	2.046	1.974	0.045	1.922
		4h	0	2.200	0.063	2.137	2.037	0.045	1.963	1.581	4H	0	2.200	1.948	0.060	1.948	1.793	0.060	1.711	
		6g	0.019	2.182	0.067	2.113	2.020	0.036	1.964	1.810	5H	0	2.200	2.008	0.060	2.008	1.813	0.125	1.711	
2.2	0.25	4h	0	2.200	0.042	2.138	2.038	0.036	1.902	1.648	4H	0	2.200	2.046	0.048	2.046	1.974	0.045	1.922	
		6g	0.018	2.182	0.067	2.113	2.020	0.036	1.964	1.810	5H	0	2.200	2.098	0.060	2.098	1.983	0.056	1.922	
		4h	0	2.200	0.048	2.138	2.038	0.036	1.902	1.648	4H	0	2.200	1.948	0.060	1.948	1.793	0.060	1.711	
	0.45	6g	0.019	2.182	0.067	2.113	2.020	0.036	1.964	1.810				5.000	2.046	0.048	2.046	1.974	0.045	1.922
		4h	0	2.200	0.063	2.137	2.037	0.045	1.963	1.581	4H	0	2.200	2.008	0.060	2.008	1.908	0.125	1.711	
		6g	0.019	2.182	0.067	2.113	2.020	0.036	1.964	1.810	5H	0	2.200	2.098	0.060	2.098	1.813	0.125	1.711	

NOTE: Only the minimum minor diameter for external threads and the nominal major diameter for internal threads is specified.
For further information see Clauses 2.6 and 4.4.

TABLE 5.1 (continued)

Basic major diameter D_d		Pitch, P^*										External threads										Internal threads									
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	Major diameter max.	tol. min.	tol. max.	tol. min.	Pitch diameter	Major diameter min.	Toler- ance class	Fund. dev.	Pitch diameter max.	tol. min.	tol. max.	Pitch diameter	Major diameter min.	Toler- ance class	Fund. dev.	Pitch diameter max.	tol. min.	tol. max.						
2.5			0.35			4h	0	2.500	0.053	2.447	2.273	0.040	2.233	2.017	4H	0	2.500	0.053	2.326	0.063	2.184	0.063	2.121	0.063	2.121						
						6g	0.019	2.481	0.083	2.396	2.254	0.063	2.191	1.975	5H	0	2.500	0.067	2.340	0.080	2.201	0.080	2.121	0.080	2.121						
						4h	0	2.500	0.063	2.437	2.208	0.045	2.163	1.885	5H	0	2.500	0.075	2.283	0.095	2.093	0.080	2.013	0.080	2.013						
						6g	0.020	2.500	0.100	2.480	2.188	0.071	2.117	1.839	6H	0	2.500	0.095	2.303	0.100	2.113	0.100	2.013	0.100	2.013						
						6f	0.035	2.465	0.100	2.365	2.173	0.071	2.102	1.824	6G	0.020	2.500	0.095	2.323	0.100	2.138	0.125	2.033	0.125	2.033						
						4h	0	2.500	0.063	2.437	2.208	0.045	2.163	1.885	5H	0	2.500	0.075	2.283	0.095	2.093	0.080	2.013	0.080	2.013						
3			0.45			4h	0	3.000	0.053	2.947	2.773	0.042	2.731	2.515	4H	0	3.000	0.056	2.829	0.071	2.773	0.080	2.621	0.080	2.621						
			0.35			4h	0	3.000	0.083	2.896	2.754	0.067	2.687	2.471	5H	0	3.000	0.085	2.844	0.090	2.773	0.100	2.621	0.100	2.621						
			0.5			4h	0	3.000	0.067	2.933	2.675	0.048	2.627	2.319	5H	0	3.000	0.075	2.755	0.080	2.773	0.112	2.459	0.112	2.459						
			6f	0.019	2.981	6g	0.019	3.000	0.053	2.984	2.655	0.075	2.580	2.272	6H	0	3.000	0.100	2.775	0.112	2.599	0.140	2.599	0.140	2.599						
			6e	0.050	2.950	6f	0.036	2.964	2.858	2.639	0.073	2.564	2.256	6G	0.020	3.000	0.100	2.795	0.100	2.695	0.140	2.479	0.140	2.479							
			6c	0.050	2.950	6e	0.050	2.950	2.844	2.625	0.075	2.550	2.242	7H	0	3.000	0.125	2.800	0.125	2.675	0.180	2.459	0.180	2.459							
3.5			0.35			4h	0	3.500	0.053	3.447	3.273	0.042	3.231	3.015	4H	0	3.500	0.056	3.279	0.071	3.273	0.184	3.121	0.184	3.121						
			6g	0.019	3.481	6g	0.019	3.500	0.085	3.395	3.254	0.067	3.157	2.971	5H	0	3.500	0.100	3.344	0.100	3.273	0.201	3.121	0.201	3.121						
			6f	0.020	3.479	6g	0.021	3.500	0.080	3.389	3.089	0.065	3.004	2.635	6H	0	3.500	0.112	3.222	0.110	3.110	0.160	2.850	0.160	2.850						
			6f	0.036	3.464	6f	0.036	3.464	3.319	3.074	0.085	2.989	2.620	6G	0.021	3.500	0.112	3.243	0.110	3.131	0.160	2.871	0.160	2.871							
			6c	0.053	3.447	6c	0.053	3.447	3.322	3.057	0.085	2.972	2.603	7H	0	3.500	0.140	3.250	0.140	3.110	0.200	2.850	0.200	2.850							
			0.5			4h	0	4.000	0.067	3.933	3.675	0.048	3.827	3.319	5H	0	4.000	0.080	3.765	0.100	3.675	0.112	3.459	0.112	3.459						
4			0.6			4h	0	3.500	0.080	3.420	3.110	0.053	3.057	2.688	5H	0	3.500	0.090	3.200	0.110	2.975	0.125	2.850	0.125	2.850						
			6g	0.021	3.479	6g	0.021	3.500	0.085	3.354	3.089	0.065	3.004	2.635	6H	0	3.500	0.110	3.222	0.110	3.110	0.160	2.850	0.160	2.850						
			6f	0.036	3.464	6f	0.036	3.464	3.319	3.074	0.085	2.989	2.620	6G	0.021	3.500	0.112	3.243	0.110	3.131	0.160	2.871	0.160	2.871							
			6c	0.053	3.447	6c	0.053	3.447	3.322	3.057	0.085	2.972	2.603	7H	0	3.500	0.140	3.250	0.140	3.110	0.200	2.850	0.200	2.850							
			0.5			4h	0	4.000	0.067	3.933	3.655	0.075	3.580	3.272	6H	0	4.000	0.080	3.765	0.100	3.675	0.112	3.459	0.112	3.459						
			6g	0.020	3.980	6g	0.020	4.000	0.080	3.874	3.655	0.075	3.580	3.272	7H	0	4.000	0.125	3.675	0.125	3.639	0.180	3.459	0.180	3.459						
4.5			0.7			4h	0	4.000	0.090	3.910	3.545	0.056	3.489	3.058	5H	0	4.000	0.095	3.640	0.100	3.545	0.140	3.242	0.140	3.242						
			6g	0.022	3.978	6g	0.022	4.000	0.090	3.838	3.523	0.060	3.433	3.002	6H	0	4.000	0.125	3.665	0.118	3.545	0.160	3.242	0.160	3.242						
			6f	0.038	3.963	6f	0.038	3.963	3.822	3.507	0.090	3.417	2.986	6G	0.022	4.000	0.125	3.665	0.118	3.545	0.160	3.242	0.160	3.242							
			6c	0.056	3.944	6c	0.056	3.944	3.804	3.489	0.090	3.399	2.968	7H	0	4.000	0.140	3.695	0.150	3.545	0.224	3.242	0.224	3.242							
			0.5			4h	0	4.500	0.067	4.433	4.175	0.048	4.127	3.819	5H	0	4.500	0.080	4.255	0.100	4.095	0.140	3.838	0.140	3.838						
			6g	0.020	4.480	6g	0.020	4.500	0.075	4.374	4.155	0.075	4.080	3.772	6H	0	4.500	0.125	4.275	0.100	4.175	0.140	3.959	0.140	3.959						
5			0.75			4h	0	4.500	0.090	4.410	4.013	0.056	3.957	3.485	5H	0	4.500	0.100	4.108	0.095	4.013	0.150	3.838	0.150	3.838						
			6g	0.022	4.478	6g	0.022	4.478	4.338	3.991	0.090	3.901	3.439	6H	0	4.500	0.125	4.500	0.118	4.013	0.190	3.838	0.190	3.838							
			6f	0.038	4.462	6f	0.038	4.462	4.322	3.975	0.090	3.385	3.423	6G	0.022	4.500	0.125	4.530	0.118	4.035	0.190	3.838	0.190	3.838							
			6c	0.056	4.444	6c	0.056	4.444	4.304	3.957	0.090	3.367	3.405	7H	0	4.500	0.140	4.500	0.150	4.013	0.236	3.838	0.236	3.838							
			0.5			4h	0	5.000	0.067	4.933	4.675	0.048	4.627	4.119	5H	0	5.000	0.080	4.755	0.100	4.675	0.112	4.439	0.112	4.439						
			6g	0.020	4.980	6g	0.020	5.000	0.106	4.874	4.655	0.075	4.580	4.212	7H	0	5.000	0.125	4.775	0.125	4.675	0.180	4.439	0.180	4.439						
5.5			0.8			4h	0	5.000	0.095	4.905	4.450	0.060	4.420	3.927	5H	0	5.000	0.100	4.580	0.125	4.294	0.160	4.34	0.160	4.34						
			6g	0.024	4.976	6g	0.024	4.976	4.826	4.456	0.095	4.361	3.868	6H	0	5.000	0.125	4.605	0.125	4.334	0.200	4.34	0.200	4.34							
			6f	0.038	4.962	6f	0.038	4.962	4.815	4.442	0.095	4.347	3.834	6G	0.024	5.000	0.125	4.629	0.125	4.304	0.220	4.34	0.220	4.34							
			6c	0.056	4.940	6c	0.056	4.940	4.790	4.420	0.095	4.325	3.834	7H	0	5.000	0.140	4.640	0.160	4.384	0.250	4.34	0.250	4.34							
			0.5			4h	0	5.500	0.067	5.433	5.175	0.048	5.127	4.819	5H	0	5.500	0.080	5.255	0.100	4.775	0.112	4.439	0.112	4.439						
			6g	0.020	5.480	6g	0.020	5.480	5.174	5.055	0.075	5.030	4.772	7H	0	5.500	0.125	5.225	0.125	5.175	0.180	4.439	0.180	4.439							

TABLE 5.1 (continued)

millimetres

Basic major diameter D_1, d		Pitch, P		External threads						Internal threads						Minor diameter		
First choice	Second choice	Third choice	Coarse series	Flange constant series		Major diameter			Pitch diameter			Major diameter			Pitch diameter			
				Tolerance class	Fund dev.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	
6	1	1	0.75	4h	0	6.000	0.090	5.910	5.513	0.063	5.450	4.988	5H	0	6.000	5.619	0.106	5.513
			6g	0.022	5.978	0.140	5.838	5.491	0.100	5.391	4.929	6H	0	6.000	5.645	0.132	5.513	
			6f	0.026	5.974	0.180	5.794	5.324	0.112	5.112	5.212	6H	0	6.000	5.683	0.170	5.513	
			6g	0.026	5.974	0.280	5.694	5.324	0.180	5.144	4.528	6G	0.026	6.000	5.526	0.150	5.350	
			6f	0.040	5.960	0.180	5.780	5.310	0.112	5.198	4.583	6G	0.026	6.000	5.540	0.190	5.350	
	7	7	0.75	4h	0	7.000	0.090	6.910	6.513	0.063	6.450	5.988	5H	0	7.000	6.619	0.106	6.513
			6g	0.022	6.978	0.140	6.838	6.491	0.100	6.391	5.929	6H	0	7.000	6.645	0.132	6.513	
			6g	0.026	6.974	0.180	6.794	6.324	0.112	6.212	5.596	6H	0	7.000	6.500	0.150	6.350	
			6f	0.026	6.974	0.280	6.694	6.324	0.180	6.144	5.528	6G	0.026	7.000	6.526	0.150	6.376	
			6e	0.060	6.940	0.180	6.780	6.310	0.112	6.198	5.582	7H	0	7.000	6.540	0.190	6.350	
8	1	1	0.75	4h	0	8.000	0.090	7.910	7.513	0.063	7.450	6.988	5H	0	8.000	7.619	0.106	7.513
			6g	0.022	7.978	0.140	7.838	7.491	0.100	7.391	6.929	6H	0	8.000	7.645	0.132	7.513	
			6g	0.026	7.974	0.180	7.794	7.324	0.112	7.212	6.596	6H	0	8.000	7.683	0.170	7.513	
			6f	0.026	7.974	0.280	7.694	7.324	0.180	7.144	6.528	7H	0	8.000	7.700	0.216	7.513	
			6e	0.063	7.937	0.212	7.725	7.125	0.118	7.007	6.217	7H	0	8.000	7.540	0.190	7.350	
	0.75	1	1	4h	0	8.000	0.112	7.888	7.350	0.071	7.279	6.663	5H	0	8.000	7.468	0.118	7.350
			6g	0.026	7.974	0.180	7.794	7.324	0.112	7.212	6.596	6H	0	8.000	7.500	0.150	7.350	
			6g	0.026	7.974	0.280	7.694	7.324	0.180	7.144	6.528	7H	0	8.000	7.540	0.190	7.350	
			6f	0.063	7.937	0.212	7.725	7.125	0.118	7.007	6.217	7H	0	8.000	7.388	0.200	7.188	
			6e	0.125	8.000	0.132	7.868	7.188	0.073	7.113	6.343	5H	0	8.000	7.313	0.125	7.188	
9	1	1	0.75	4h	0	9.000	0.090	8.910	8.513	0.063	8.450	7.988	5H	0	9.000	8.619	0.106	8.513
			6g	0.022	8.978	0.140	8.838	8.491	0.100	8.391	7.929	6H	0	9.000	8.645	0.132	8.513	
			6g	0.026	8.974	0.180	8.794	8.324	0.118	8.042	6.272	6H	0	9.000	8.683	0.170	8.513	
			6f	0.042	8.974	0.212	8.746	7.146	0.118	7.028	6.248	6G	0.028	9.000	7.376	0.160	7.216	
			6e	0.063	8.937	0.212	7.725	7.125	0.118	7.007	6.217	7H	0	9.000	7.388	0.200	7.188	
	1.25	1	1.25	4h	0	8.000	0.112	7.888	7.350	0.071	7.279	6.663	5H	0	8.000	7.468	0.118	7.350
			6g	0.026	7.972	0.212	7.760	7.160	0.118	7.042	6.272	6H	0	8.000	7.348	0.160	7.188	
			6g	0.028	7.972	0.335	7.637	7.160	0.190	6.970	6.200	6H	0	8.000	7.500	0.150	7.350	
			6f	0.042	7.958	0.212	7.746	7.146	0.118	7.028	6.248	6G	0.028	8.000	7.376	0.160	7.216	
			6e	0.063	7.937	0.212	7.725	7.125	0.118	7.007	6.217	7H	0	8.000	7.388	0.200	7.188	
1.25	9	9	0.75	4h	0	9.000	0.112	8.888	8.350	0.071	8.279	7.663	5H	0	9.000	8.468	0.118	8.350
			6g	0.022	8.978	0.140	8.838	8.491	0.100	8.391	7.929	6H	0	9.000	8.619	0.132	8.513	
			6g	0.026	8.974	0.180	8.794	8.324	0.118	8.042	6.272	6H	0	9.000	8.645	0.170	8.513	
			6f	0.042	8.958	0.212	8.746	8.160	0.118	8.042	7.272	6H	0	9.000	8.313	0.125	8.188	
			6e	0.063	8.937	0.212	8.725	8.125	0.118	8.028	7.258	6G	0.028	9.000	8.348	0.160	8.188	
	1.25	9	1	4h	0	9.000	0.112	8.888	8.350	0.071	8.279	7.663	5H	0	9.000	8.468	0.118	8.350
			6g	0.022	8.978	0.140	8.838	8.491	0.100	8.391	7.929	6H	0	9.000	8.619	0.132	8.513	
			6g	0.026	8.974	0.180	8.794	8.324	0.118	8.042	6.272	6H	0	9.000	8.645	0.170	8.513	
			6f	0.042	8.958	0.212	8.746	8.160	0.118	8.042	7.272	6H	0	9.000	8.313	0.125	8.188	
			6e	0.063	8.937	0.212	8.725	8.125	0.118	8.028	7.258	6G	0.028	9.000	8.348	0.160	8.188	

TABLE 5.1 (*continued*)

millimetres

External threads												Internal threads											
Pitch, P												Pitch diameter											
Basic major diameter f_d		Tolerance class		Major diameter		Pitch diameter		Minor diameter		Major diameter		Pitch diameter		Minor diameter									
First choice	Second choice	Third choice	Fourth choice	Fifth series	Constant series	Course series	Fine series	Tolerance class	Fund. dev.	Major diam.	min.	max.	tol.	min.	max.	Tolerance class	Fund. dev.	Major diam.	min.	max.	tol.	min.	
10	1	4h	0.75							9.513	9.450	9.491	0.063	9.491	9.391	SH	0	10.000	9.619	0.106	9.513	9.338	0.150
										9.513	9.450	9.491	0.100	9.491	9.391	SH	0	10.000	9.645	0.132	9.513	9.378	0.190
										9.513	9.450	9.491	0.140	9.491	9.391	SH	0	10.000	9.683	0.170	9.513	9.424	0.236
										9.513	9.450	9.491	0.140	9.491	9.391	SH	0	10.000	9.683	0.170	9.513	9.424	0.236
										9.513	9.450	9.491	0.140	9.491	9.391	SH	0	10.000	9.683	0.170	9.513	9.424	0.236
	1.25	4h	0.022							9.279	8.663	8.700	0.071	8.700	8.528	SH	0	10.000	9.468	0.118	9.350	9.107	0.190
										9.279	8.663	8.700	0.112	8.700	8.528	SH	0	10.000	9.500	0.150	9.350	9.153	0.236
										9.279	8.663	8.700	0.112	8.700	8.528	SH	0	10.000	9.540	0.190	9.350	9.217	0.300
										9.279	8.663	8.700	0.112	8.700	8.528	SH	0	10.000	9.540	0.190	9.350	9.217	0.300
										9.279	8.663	8.700	0.112	8.700	8.528	SH	0	10.000	9.540	0.190	9.350	9.217	0.300
1.5	1	4h	0.026							8.343	7.513	7.600	0.085	7.600	7.343	SH	0	10.000	9.125	0.125	9.188	8.859	0.212
										8.343	7.513	7.600	0.122	7.600	7.343	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
										8.343	7.513	7.600	0.122	7.600	7.343	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
										8.343	7.513	7.600	0.122	7.600	7.343	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
										8.343	7.513	7.600	0.122	7.600	7.343	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
	1.25	4h	0.028							8.272	7.442	7.530	0.085	7.530	7.272	SH	0	10.000	9.106	0.120	9.188	8.859	0.212
										8.272	7.442	7.530	0.122	7.530	7.272	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
										8.272	7.442	7.530	0.122	7.530	7.272	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
										8.272	7.442	7.530	0.122	7.530	7.272	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
										8.272	7.442	7.530	0.122	7.530	7.272	SH	0	10.000	9.148	0.160	9.188	8.912	0.265
1.75	1	4h	0.032							8.188	7.350	7.438	0.085	7.438	7.188	SH	0	11.000	9.018	0.120	9.092	8.756	0.212
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	11.000	9.045	0.160	9.138	8.809	0.265
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	11.000	9.045	0.160	9.138	8.809	0.265
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	11.000	9.045	0.160	9.138	8.809	0.265
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	11.000	9.045	0.160	9.138	8.809	0.265
	1.25	4h	0.032							8.188	7.350	7.438	0.085	7.438	7.188	SH	0	12.000	11.475	0.125	11.350	11.107	0.190
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	12.000	11.510	0.160	11.350	11.153	0.236
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	12.000	11.550	0.200	11.350	11.217	0.300
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	12.000	11.550	0.200	11.350	11.217	0.300
										8.188	7.350	7.438	0.122	7.438	7.188	SH	0	12.000	11.550	0.200	11.350	11.217	0.300

TABLE 5.1 (continued)

External threads												Internal threads																
Basic major diameter D_d			Pitch, P			Major diameter			Pitch diameter			Minor diameter			Major diameter			Pitch diameter			Minor diameter							
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund dev.	max.	tol.	min.	max.	tol.	min.	fund. diam.	dev.	max.	tol.	min.	fund. diam.	dev.	max.	tol.	min.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22							
	4h	6g	8g	1	1.112	1.112	1.112	1.112	0.075	13.350	13.350	13.350	12.659	5H	0	14.000	13.475	0.125	13.350	13.107	0.190	12.917						
	6g	8g	8g	1.180	1.180	1.180	1.180	0.118	13.324	13.324	13.324	13.190	6H	0	14.000	13.510	0.160	13.350	13.153	0.236	12.917							
	6g	8g	8g	1.280	1.280	1.280	1.280	0.118	13.324	13.324	13.324	12.518	7H	0	14.000	13.550	0.200	13.350	13.153	0.236	12.917							
	4h	6g	8g	1.322	1.322	1.322	1.322	0.085	13.868	13.868	13.868	13.103	5H	0	14.000	13.328	0.140	13.188	12.859	0.212	12.647							
	6g	8g	8g	1.3972	1.3972	1.3972	1.3972	0.122	13.972	13.972	13.972	13.160	6H	0	14.000	13.368	0.180	13.188	12.912	0.265	12.647							
	6g	8g	8g	1.3972	1.3972	1.3972	1.3972	0.122	13.637	13.637	13.637	12.948	7H	0	14.000	13.412	0.224	13.188	12.982	0.335	12.647							
	4h	6g	8g	1.4000	1.4000	1.4000	1.4000	0.090	13.850	13.850	13.850	12.012	5H	0	14.000	13.176	0.150	13.026	12.612	0.236	12.376							
	6g	8g	8g	1.4000	1.4000	1.4000	1.4000	0.140	13.968	13.968	13.968	11.930	6H	0	14.000	13.216	0.190	13.026	12.676	0.300	12.376							
	6g	8g	8g	1.3968	1.3968	1.3968	1.3968	0.224	12.994	12.994	12.994	11.846	7H	0	14.000	13.262	0.236	13.026	12.751	0.375	12.376							
2	4h	6g	8g	14.000	14.000	14.000	14.000	0.180	13.820	13.820	13.820	12.701	0.100	12.601	11.369	5H	0	14.000	12.871	0.170	12.701	12.135	0.300	11.835				
	6g	8g	8g	13.962	13.962	13.962	13.962	0.280	12.682	12.682	12.682	12.503	0.160	12.503	11.271	6H	0	14.000	12.913	0.212	12.701	12.210	0.375	11.835				
	6f	8f	8f	13.948	13.948	13.948	13.948	0.450	13.512	13.512	13.512	12.663	0.250	12.413	11.181	6G	0.038	14.000	12.951	0.212	12.739	12.248	0.375	11.873				
	6f	8f	8f	13.929	13.929	13.929	13.929	0.072	13.649	13.649	13.649	12.489	0.160	12.489	11.257	6G	0.038	14.000	12.966	0.265	12.701	12.310	0.475	11.835				
	4h	6g	8g	13.000	13.000	13.000	13.000	0.112	14.888	14.888	14.888	14.273	0.073	14.350	13.659	5H	0	13.000	14.475	0.125	14.350	14.107	0.190	13.917				
13	4h	6g	8g	13.000	13.000	13.000	13.000	0.112	14.794	14.794	14.794	14.324	0.118	14.206	13.590	6H	0	13.000	14.510	0.206	14.350	14.217	0.300	13.917				
	6g	8g	8g	14.974	14.974	14.974	14.974	0.026	14.974	14.974	14.974	14.694	0.280	14.694	14.324	0.190	14.134	13.518	7H	0	15.000	14.550	0.200	14.350	14.217	0.300	13.917	
	4h	6g	8g	15.000	15.000	15.000	15.000	0.150	14.850	14.850	14.850	14.026	0.090	13.946	13.012	5H	0	15.000	14.176	0.150	14.026	13.612	0.236	13.376				
	6g	8g	8g	14.968	14.968	14.968	14.968	0.032	14.968	14.968	14.968	13.994	0.236	13.732	13.994	6H	0	15.000	14.216	0.190	14.026	13.676	0.300	13.376				
	6g	8g	8g	14.968	14.968	14.968	14.968	0.375	14.968	14.968	14.968	13.994	0.224	13.770	12.846	7H	0	15.000	14.262	0.236	14.026	13.751	0.375	13.376				
15	4h	6g	8g	16.000	16.000	16.000	16.000	0.112	15.888	15.888	15.888	15.350	0.075	15.275	14.659	5H	0	16.000	15.475	0.125	15.350	15.107	0.190	14.917				
	6g	8g	8g	15.974	15.974	15.974	15.974	0.026	15.974	15.974	15.974	15.324	0.118	15.206	14.390	6H	0	16.000	15.510	0.160	15.350	15.153	0.236	14.917				
	6g	8g	8g	15.974	15.974	15.974	15.974	0.026	15.974	15.974	15.974	15.324	0.190	15.134	14.518	7H	0	16.000	15.550	0.200	15.350	15.217	0.300	14.917				
	4h	6g	8g	16.000	16.000	16.000	16.000	0.150	15.850	15.850	15.850	15.026	0.090	14.936	14.012	5H	0	16.000	15.176	0.150	15.026	14.612	0.236	14.376				
	6g	8g	8g	15.968	15.968	15.968	15.968	0.032	15.968	15.968	15.968	15.732	0.140	14.854	13.930	6H	0	16.000	15.216	0.190	15.026	14.676	0.300	14.376				
16	4h	6g	8g	16.000	16.000	16.000	16.000	0.180	15.820	15.820	15.820	14.701	0.100	14.601	13.369	5H	0	16.000	15.475	0.125	15.350	15.107	0.190	14.917				
	6g	8g	8g	15.962	15.962	15.962	15.962	0.280	15.582	15.582	15.582	14.663	0.160	14.503	13.271	6H	0	16.000	14.871	0.170	14.701	14.135	0.300	13.845				
	6f	8f	8f	15.962	15.962	15.962	15.962	0.450	15.512	15.512	15.512	14.663	0.250	14.413	13.181	6G	0.038	16.000	14.913	0.212	14.701	14.210	0.375	13.835				
	6f	8f	8f	15.948	15.948	15.948	15.948	0.280	15.668	15.668	15.668	14.649	0.160	14.489	13.257	6G	0.038	16.000	14.951	0.212	14.739	14.248	0.375	13.873				
	6e	8e	8e	15.929	15.929	15.929	15.929	0.071	15.649	15.649	15.649	14.630	0.160	14.470	13.238	7H	0	16.000	14.966	0.265	14.701	14.310	0.475	13.835				
2	4h	6g	8g	17.000	17.000	17.000	17.000	0.112	16.688	16.688	16.688	16.350	0.075	16.275	15.659	5H	0	17.000	16.473	0.125	16.350	16.197	0.190	15.917				
	6g	8g	8g	16.974	16.974	16.974	16.974	0.180	16.394	16.394	16.394	16.206	0.118	16.206	15.390	6H	0	17.000	16.510	0.160	16.350	16.153	0.236	15.917				
	6g	8g	8g	16.974	16.974	16.974	16.974	0.026	16.974	16.974	16.974	16.324	0.190	16.134	15.518	7H	0	17.000	16.550	0.200	16.350	16.217	0.300	15.917				
17	4h	6g	8g	17.000	17.000	17.000	17.000	0.150	16.850	16.850	16.850	16.026	0.090	15.936	15.012	5H	0	17.000	16.176	0.150	16.026	15.612	0.236	15.376				
	6g	8g	8g	16.968	16.968	16.968	16.968	0.032	16.968	16.968	16.968	16.732	0.140	15.854	14.930	6H	0	17.000	16.216	0.190	16.026	15.676	0.300	15.376				
				1.5	1.5	1.5	1.5	0.375	16.968	16.968	16.968	16.593	0.224	15.770	14.846	7H	0	17.000	16.262	0.236	16.026	15.751	0.375	15.376				

TABLE 5.1 (continued)

Basic major diameter D, d		Pitch, P		External threads												Internal threads											
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Toler-ance class	Fund dev.	Major diameter	Pitch diameter		Minor diameter	Fund dev.	Major diameter	Pitch diameter		Minor diameter	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	
					1	4h	0	18.000	0.112	17.888	0.075	17.723	16.659	5H	0	18.000	0.125	17.350	17.107	0.190	16.917						
18	2.5	1.5	2	2	2	4h	0	18.000	0.150	17.850	0.090	16.936	16.012	5H	0	18.000	0.176	17.176	17.026	0.236	16.376						
						4h	0	18.000	0.236	17.968	0.140	16.834	15.940	6H	0	18.000	0.216	17.216	17.026	0.300	16.376						
						4h	0	18.000	0.375	17.968	0.224	16.770	15.846	7H	0	18.000	0.262	17.262	17.026	0.375	16.376						
						4h	0	18.000	0.180	17.820	0.100	16.601	15.369	5H	0	18.000	0.170	16.701	16.135	0.300	15.835						
						4h	0	18.000	0.280	17.682	0.160	16.503	15.271	6H	0	18.000	0.212	16.701	16.210	0.375	15.835						
						4h	0	18.000	0.450	17.512	0.250	16.413	15.181	7H	0	18.000	0.265	16.701	16.310	0.475	15.835						
20	2.5	1.5	2	2	2	4h	0	18.000	0.212	17.788	0.106	16.270	14.730	5H	0	18.000	0.180	16.376	15.649	0.355	15.294						
						4h	0	18.000	0.335	17.623	0.170	16.664	14.614	6H	0	18.000	0.224	16.376	15.744	0.450	15.294						
						4h	0	18.000	0.530	17.428	0.263	16.089	14.529	6G	0	18.000	0.342	16.642	16.418	0.480	15.336						
						4h	0	18.000	0.335	17.607	0.170	16.448	14.608	6G	0	18.000	0.280	16.376	15.854	0.560	15.294						
						4h	0	18.000	0.180	17.820	0.100	16.601	15.369	5H	0	18.000	0.170	16.701	16.135	0.300	15.835						
						4h	0	18.000	0.280	17.682	0.160	16.503	15.271	6H	0	18.000	0.212	16.701	16.210	0.375	15.835						
22	2.5	1.5	2	2	2	4h	0	18.000	0.212	17.788	0.106	16.270	14.730	5H	0	18.000	0.180	16.376	15.649	0.355	15.294						
						4h	0	18.000	0.335	17.623	0.170	16.664	14.614	6H	0	18.000	0.224	16.376	15.744	0.450	15.294						
						4h	0	18.000	0.530	17.428	0.263	16.089	14.529	6G	0	18.000	0.342	16.642	16.418	0.480	15.336						
						4h	0	18.000	0.335	17.607	0.170	16.448	14.608	6G	0	18.000	0.280	16.376	15.854	0.560	15.294						
						4h	0	18.000	0.180	17.820	0.100	16.601	15.369	5H	0	18.000	0.170	16.701	16.135	0.300	15.835						
						4h	0	18.000	0.280	17.682	0.160	16.503	15.271	6H	0	18.000	0.212	16.701	16.210	0.375	15.835						

TABLE 5.1 (continued)

millimetres

Basic major diameter D_d		Pitch, P		External threads						Internal threads											
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund dev.	Major diameter max.	min.	tol.	max.	min.	tol.	Pitch diameter	Minor diameter max.	min.	tol.	max.	min.	tol.	min.
22	1		4h	0	22.000	0.112	21.888	21.350	0.075	21.275	20.659	5H	0	22.000	21.475	0.125	21.350	21.107	0.190	20.917	
	6g	8g	6g	0.026	21.974	0.180	21.794	21.324	0.118	20.206	20.590	6H	0	22.000	21.510	0.160	21.350	21.153	0.236	20.917	
	8g	0.026	21.974	0.280	21.694	21.324	0.190	21.134	20.518	7H	0	22.000	21.550	0.200	21.350	21.217	0.300	20.917			
	1.5		4h	0	22.000	0.150	21.850	21.026	0.090	20.936	20.854	5H	0	22.000	21.176	0.150	21.026	20.612	0.236	20.316	
	6g	8g	6g	0.032	21.968	0.180	21.593	20.994	0.140	20.994	19.930	6H	0	22.000	21.216	0.190	21.026	20.676	0.300	20.316	
	8g	0.032	21.968	0.375	21.593	20.994	0.224	20.770	19.846	7H	0	22.000	21.262	0.236	21.026	20.751	0.375	20.316			
	2		4h	0	22.000	0.180	21.820	20.701	0.100	20.601	19.369	5H	0	22.000	20.871	0.170	20.701	20.135	0.300	19.835	
	6g	8g	6g	0.038	21.962	0.280	21.682	20.663	0.160	20.503	19.271	6H	0	22.000	20.913	0.212	20.701	20.210	0.375	19.835	
	8g	0.038	21.962	0.450	21.512	20.663	0.250	20.413	19.181	7H	0	22.000	20.966	0.265	20.701	20.310	0.475	19.835			
	2.5		4h	0	22.000	0.212	21.788	20.376	0.106	20.270	18.710	5H	0	22.000	20.556	0.180	20.376	19.649	0.335	19.294	
24	6g	8g	6g	0.042	21.958	0.335	21.623	20.334	0.170	20.164	18.624	6H	0	22.000	20.600	0.224	20.376	19.744	0.450	19.294	
	8g	6f	0.042	21.958	0.530	21.478	20.334	0.265	20.069	18.529	6G	0.042	22.000	20.642	0.224	20.418	19.786	0.450	19.336		
	6f	0.058	21.942	0.335	21.607	20.318	0.170	20.148	18.608	7H	0	22.000	20.656	0.280	20.376	19.834	0.560	19.294			
	6c	0.080	21.920	0.335	21.585	20.296	0.170	20.126	18.586	7H	0	22.000	20.656	0.280	20.376	19.834	0.560	19.294			
	1		4h	0	24.000	0.112	23.888	23.350	0.080	23.270	22.654	5H	0	24.000	23.482	0.132	23.350	23.107	0.190	22.917	
	6g	8g	6g	0.026	23.974	0.180	23.794	23.324	0.125	23.199	22.383	6H	0	24.000	23.520	0.170	23.350	23.153	0.236	22.917	
	8g	0.026	23.974	0.280	23.694	23.324	0.200	23.124	22.508	7H	0	24.000	23.562	0.212	23.350	23.217	0.300	22.917			
	1.5		4h	0	24.000	0.150	23.850	23.026	0.095	22.931	22.007	5H	0	24.000	23.186	0.160	23.026	22.612	0.236	22.376	
	6g	8g	6g	0.032	23.968	0.236	23.732	22.994	0.150	22.844	21.920	6H	0	24.000	23.226	0.200	23.026	22.676	0.300	22.376	
	8g	0.032	23.968	0.375	23.593	22.994	0.236	22.758	21.834	7H	0	24.000	23.276	0.250	23.026	22.751	0.375	22.376			
	2		4h	0	24.000	0.180	23.820	22.701	0.106	22.595	21.363	5H	0	24.000	22.881	0.180	22.701	22.115	0.300	21.835	
	6g	8g	6g	0.038	23.962	0.280	23.682	22.663	0.170	22.493	21.264	6H	0	24.000	22.925	0.224	22.701	22.310	0.475	21.835	
	8g	0.038	23.962	0.450	23.512	22.663	0.265	22.393	21.166	7H	0	24.000	22.981	0.280	22.701	22.310	0.475	21.835			
	3		4h	0	24.000	0.236	23.764	22.051	0.125	21.926	20.078	5H	0	24.000	22.263	0.212	22.051	21.152	0.400	20.752	
	6g	8g	6g	0.048	23.952	0.375	23.577	22.003	0.200	21.803	19.955	6H	0	24.000	22.316	0.265	22.051	21.252	0.500	20.752	
	8g	6f	0.048	23.912	0.600	23.352	22.003	0.315	21.688	19.840	6G	0.048	24.000	22.364	0.265	22.051	21.382	0.630	20.752		
	6f	0.085	23.917	0.375	23.562	21.988	0.200	21.788	19.940	7H	0	24.000	22.366	0.335	22.051	21.382	0.630	20.752			
	6c	0.085	23.915	0.375	23.540	21.986	0.200	21.766	19.918	7H	0	25.000	24.482	0.132	24.350	24.107	0.190	23.917			
	1		4h	0	25.000	0.112	24.888	24.350	0.080	24.270	23.654	5H	0	25.000	24.500	0.170	24.350	24.153	0.236	23.917	
	6g	8g	6g	0.026	24.974	0.180	24.794	24.324	0.125	24.199	23.583	6H	0	25.000	24.520	0.212	24.350	24.217	0.300	23.917	
	8g	0.026	24.974	0.280	24.694	24.324	0.200	24.124	23.508	7H	0	25.000	24.552	0.212	24.350	24.217	0.300	23.917			
	25		4h	0	25.000	0.150	24.850	24.026	0.095	23.931	23.007	5H	0	25.000	24.186	0.160	24.026	23.612	0.236	23.376	
	6g	8g	6g	0.032	24.968	0.236	24.732	23.994	0.150	23.844	22.920	6H	0	25.000	24.226	0.200	24.026	23.616	0.300	23.376	
	8g	0.032	24.968	0.375	24.593	23.994	0.236	23.758	22.834	7H	0	25.000	24.276	0.250	24.026	23.751	0.375	23.376			
	2		4h	0	25.000	0.180	24.820	23.701	0.106	23.593	22.163	5H	0	25.000	23.881	0.180	23.701	23.135	0.300	22.833	
	6g	8g	6g	0.038	24.962	0.280	24.682	23.663	0.170	23.493	22.261	6H	0	25.000	23.921	0.224	23.701	23.210	0.375	22.833	
	8g	0.038	24.962	0.450	24.512	23.663	0.265	23.398	22.166	7H	0	25.000	23.961	0.280	23.701	23.310	0.475	22.833			

TABLE 5.1 (*continued*)

Basic major diameter D_d	Pitch, P												Internal threads													
	External threads			External threads			External threads			External threads			Internal threads			Internal threads			Internal threads			Internal threads				
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Max.	tol.	min.	Max.	tol.	min.	Max.	tol.	min.	Max.	tol.	min.	Max.	tol.	min.	Max.	tol.	min.	Max.	tol.	min.
1						1			1			1			1			1			1			1		
						26			1.5			1			1			1			1			1		
						4h	0	26.000	0.150	25.850	0.095	24.931	24.007	5H	0	26.000	0.160	25.186	0.160	25.036	24.612	0.236	24.376			
						6g	0.032	25.968	0.236	25.732	0.150	24.844	23.920	6H	0	26.000	0.200	25.226	0.200	25.026	24.676	0.300	24.376			
						8g	0.032	25.968	0.375	25.593	0.236	24.994	23.834	7H	0	26.000	0.250	25.026	0.250	24.751	0.375	24.376				
						4h	0	27.000	0.112	26.888	0.080	26.270	25.654	5H	0	27.000	0.132	26.350	0.132	26.107	0.190	25.917				
						6g	0.026	26.974	0.180	26.794	0.125	26.199	25.583	6H	0	27.000	0.170	26.350	0.170	26.153	0.236	25.917				
						8g	0.026	26.974	0.280	26.694	0.200	26.124	25.508	7H	0	27.000	0.212	26.350	0.212	26.217	0.300	25.917				
						4h	0	27.000	0.150	26.850	0.095	25.921	25.007	5H	0	27.000	0.160	26.186	0.160	25.612	0.236	25.376				
						6g	0.032	26.968	0.236	26.732	0.150	25.844	24.920	6H	0	27.000	0.200	26.226	0.200	26.026	25.676	0.300	25.376			
						8g	0.032	26.968	0.375	26.593	0.236	25.758	24.834	7H	0	27.000	0.250	26.276	0.250	25.751	0.375	25.376				
						1.5			1			1			1.5			1			1			1		
						4h	0	27.000	0.150	26.850	0.095	25.921	25.007	5H	0	27.000	0.180	25.881	0.180	25.701	0.236	25.376				
						6g	0.032	26.968	0.236	26.732	0.150	25.844	24.920	6H	0	27.000	0.224	25.701	0.224	25.210	0.375	25.376				
						8g	0.032	26.968	0.375	26.593	0.236	25.758	24.834	7H	0	27.000	0.280	25.981	0.280	25.701	0.475	25.376				
						4h	0	27.000	0.180	26.820	0.106	25.595	24.163	5H	0	27.000	0.224	25.701	0.224	25.210	0.375	25.376				
						6g	0.038	26.962	0.280	26.682	0.200	25.493	24.261	6H	0	27.000	0.280	25.981	0.280	25.701	0.475	25.376				
						8g	0.038	26.962	0.450	26.412	0.265	25.398	24.166	7H	0	27.000	0.335	25.386	0.335	25.051	0.475	25.376				
						4h	0	27.000	0.236	26.764	0.125	24.926	23.078	5H	0	27.000	0.212	25.263	0.212	24.152	0.400	23.752				
						6g	0.048	26.952	0.375	26.577	0.200	24.803	22.955	6H	0	27.000	0.265	25.364	0.265	24.099	0.400	23.752				
						8g	0.048	26.952	0.600	26.352	0.200	24.788	22.840	6G	0.048	27.000	0.265	25.316	0.265	24.252	0.500	23.752				
						6f	0.063	26.937	0.375	26.562	0.200	24.788	22.940	7H	0	27.000	0.280	25.386	0.280	24.382	0.630	23.752				
						6e	0.095	26.915	0.375	26.540	0.200	24.766	22.918	7H	0	27.000	0.335	25.051	0.335	24.382	0.630	23.752				
						4h	0	28.000	0.112	27.888	0.080	27.270	26.634	5H	0	28.000	0.132	27.482	0.132	27.350	0.190	26.917				
						6g	0.026	27.974	0.180	27.794	0.125	27.324	26.583	6H	0	28.000	0.170	27.520	0.170	27.153	0.236	26.917				
						8g	0.026	27.974	0.280	27.694	0.200	27.124	26.508	7H	0	28.000	0.212	27.350	0.212	27.217	0.300	26.917				
						4h	0	28.000	0.150	27.850	0.095	26.931	26.007	5H	0	28.000	0.160	27.186	0.160	27.026	0.236	26.376				
						6g	0.022	27.968	0.236	27.732	0.150	26.844	25.920	6H	0	28.000	0.200	27.226	0.200	27.026	0.236	26.376				
						8g	0.022	27.968	0.375	27.593	0.236	26.758	25.834	7H	0	28.000	0.250	27.276	0.250	27.026	0.375	26.376				
						1.5			1			1			1.5			1			1			1		
						4h	0	28.000	0.180	27.820	0.106	26.595	25.363	5H	0	28.000	0.180	26.881	0.180	26.701	0.236	26.135				
						6g	0.038	27.962	0.280	27.682	0.160	26.663	25.261	6H	0	28.000	0.224	26.701	0.224	26.210	0.375	26.135				
						8g	0.038	27.962	0.450	27.512	0.265	26.390	25.166	7H	0	28.000	0.280	26.701	0.280	26.310	0.475	26.135				
						2			1			1			2			1			1			1		
						28																				

TABLE 5.1 (continued)

millimetres

Basic major diameter D_d		Pitch, P		External threads						Internal threads																	
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund dev.	Major diameter mm.	Minor diameter mm.	Pitch diameter tol.	min.	max.	tol.	min.	max.	fund dev.	Major diameter mm.	Minor diameter mm.	Pitch diameter tol.	min.	max.	fund dev.	Major diameter mm.	Minor diameter mm.			
30	4h	0	30.000	0.112	29.888	29.130	0.080	29.270	28.654	5H	0	30.000	29.482	0.132	29.350	29.107	0.190	28.917	0.236	29.153	0.236	28.917	0.236	28.917	0.236		
	6g	0.026	29.974	0.180	29.794	29.324	0.125	29.199	28.583	6H	0	30.000	29.520	0.170	29.350	29.153	0.236	28.917	0.212	29.350	0.212	28.917	0.212	28.917	0.212		
	8g	0.026	29.974	0.280	29.694	29.324	0.200	29.124	28.568	7H	0	30.000	29.562	0.212	29.350	29.217	0.300	28.917	0.300	29.217	0.300	28.917	0.300	28.917	0.300		
	1.5			0.150	29.850	29.026	0.095	28.911	28.844	5H	0	30.000	29.186	0.160	29.026	28.612	0.236	28.376	0.236	28.612	0.236	28.376	0.236	28.376	0.236		
	4h	0	30.000	0.150	29.850	29.026	0.106	28.911	27.920	6H	0	30.000	29.226	0.200	28.676	28.500	0.300	28.376	0.250	29.026	0.250	28.751	0.250	28.751	0.250		
	6g	0.032	29.968	0.375	29.593	28.994	0.236	28.758	27.834	7H	0	30.000	29.276	0.250	29.026	28.751	0.375	28.376	0.375	29.026	0.375	28.751	0.375	28.751	0.375		
	8g	0.032	29.968	0.450	29.592	28.994	0.285	28.398	27.166	7H	0	30.000	29.561	0.280	28.701	28.701	0.300	27.835	0.280	28.701	0.280	27.835	0.280	27.835	0.280		
	2			0.180	29.820	28.701	0.106	28.595	27.363	5H	0	30.000	28.881	0.180	28.701	28.135	0.300	27.835	0.224	28.701	0.224	27.835	0.224	27.835	0.224		
	4h	0	30.000	0.180	29.820	28.701	0.106	28.493	27.261	6H	0	30.000	28.925	0.224	28.701	28.210	0.375	27.835	0.224	28.701	0.224	27.835	0.224	27.835	0.224		
	6g	0.038	29.962	0.280	29.682	28.663	0.170	28.493	27.166	7H	0	30.000	28.981	0.280	28.701	28.310	0.475	27.835	0.280	28.701	0.280	27.835	0.280	27.835	0.280		
32	4h	0	32.000	0.236	29.764	28.051	0.125	27.926	26.078	5H	0	32.000	28.263	0.212	28.051	27.152	0.400	26.752	0.265	28.316	0.265	26.752	0.265	26.752	0.265		
	6g	0.048	29.952	0.375	29.577	28.003	0.200	27.803	25.955	6H	0	32.000	28.316	0.335	28.051	27.232	0.500	26.752	0.335	28.316	0.335	26.752	0.335	26.752	0.335		
	8g	0.048	29.952	0.600	29.352	28.003	0.315	27.688	25.840	7H	0	32.000	28.386	0.335	28.051	27.382	0.630	26.752	0.335	28.386	0.335	26.752	0.335	26.752	0.335		
	3			0.236	29.764	28.051	0.125	27.803	25.955	5H	0	32.000	28.481	0.224	28.051	27.727	0.450	26.211	0.224	28.481	0.224	26.211	0.224	26.211	0.224		
	4h	0	32.000	0.236	29.764	28.051	0.132	27.595	25.438	5H	0	32.000	27.951	0.224	27.727	26.661	0.450	26.211	0.224	27.951	0.224	26.211	0.224	26.211	0.224		
	6g	0.053	29.947	0.425	29.522	27.674	0.212	27.462	25.305	6H	0	32.000	28.007	0.280	27.727	26.771	0.560	26.211	0.224	28.007	0.280	26.211	0.224	26.211	0.224		
	8g	0.053	29.947	0.670	29.277	27.674	0.335	27.339	25.182	6H	0	32.000	28.060	0.280	27.780	26.824	0.560	26.211	0.224	28.060	0.280	26.211	0.224	26.211	0.224		
	6f	0.070	29.940	0.425	29.505	27.657	0.212	27.445	25.288	6G	0.053	30.000	28.082	0.355	27.727	26.921	0.710	26.211	0.355	28.082	0.355	26.211	0.355	26.211	0.355		
	6e	0.090	29.910	0.423	29.485	27.637	0.212	27.425	25.268	7H	0	32.000	28.082	0.355	27.727	26.921	0.710	26.211	0.355	28.082	0.355	26.211	0.355	26.211	0.355		
	1.5			0.150	31.850	31.026	0.095	30.931	30.087	5H	0	32.000	31.186	0.160	30.612	30.376	0.236	30.376	0.200	31.026	0.200	30.612	0.200	30.376	0.200		
34	4h	0	34.000	0.180	31.732	30.994	0.150	30.844	29.920	6H	0	34.000	31.226	0.200	30.751	30.375	0.475	30.376	0.250	31.226	0.250	30.751	0.250	30.376	0.250		
	6g	0.032	31.968	0.375	31.593	30.994	0.236	30.758	29.834	7H	0	34.000	31.276	0.250	30.751	30.375	0.475	30.376	0.300	31.276	0.300	30.751	0.300	30.376	0.300		
	8g	0.032	31.968	0.600	31.593	30.994	0.315	30.493	29.261	6H	0	34.000	30.925	0.224	30.751	30.375	0.475	30.376	0.250	30.925	0.250	30.751	0.250	30.376	0.250		
	2			0.180	31.820	30.701	0.106	30.595	29.363	5H	0	34.000	30.881	0.180	30.701	30.135	0.300	29.835	0.224	30.881	0.224	30.701	0.224	29.835	0.224		
	4h	0	34.000	0.180	31.820	30.701	0.106	30.595	29.363	5H	0	34.000	31.081	0.160	30.701	31.135	0.300	30.835	0.224	31.081	0.224	30.701	0.224	30.835	0.224		
	6g	0.038	32.962	0.280	32.682	31.663	0.170	30.493	30.166	6H	0	34.000	31.398	0.224	31.081	31.210	0.375	30.835	0.224	31.398	0.224	31.081	0.224	30.835	0.224		
	8g	0.038	32.962	0.440	32.512	31.663	0.265	31.398	30.166	7H	0	34.000	31.981	0.280	31.081	31.310	0.475	30.835	0.280	31.981	0.280	31.081	0.280	30.835	0.280		
	1.5			0.032	32.968	0.336	32.732	31.994	0.150	31.844	30.920	6H	0	34.000	32.226	0.200	31.081	31.376	0.475	31.376	0.250	32.226	0.250	31.081	0.250	31.376	0.250
	4h	0	34.000	0.236	32.850	32.026	0.095	31.931	31.007	5H	0	34.000	32.186	0.160	31.612	31.376	0.475	31.376	0.224	32.186	0.224	31.612	0.224	31.376	0.224		
	6g	0.032	32.968	0.375	32.593	31.994	0.236	31.758	30.834	7H	0	34.000	32.276	0.200	31.081	31.376	0.475	31.376	0.250	32.276	0.250	31.081	0.250	31.376	0.250		
36	4h	0	36.000	0.180	34.952	34.375	0.106	34.065	33.363	5H	0	36.000	33.000	0.180	31.701	31.135	0.300	30.835	0.224	33.000	0.224	31.701	0.224	30.835	0.224		
	6g	0.048	32.952	0.392	32.352	31.663	0.170	31.493	30.261	6H	0	36.000	33.000	0.224	31.701	31.210	0.375	30.835	0.224	33.000	0.224	31.701	0.224	30.835	0.224		
	8g	0.048	32.952	0.630	32.352	31.663	0.265	31.398	30.166	7H	0	36.000	33.000	0.280	31.701	31.310	0.475	30.835	0.280	33.000	0.280	31.701	0.280	30.835	0.280		
	2			0.180	34.952	34.375	0.106	34.065	33.363	5H	0	36.000	33.000	0.160	31.701	31.376	0.475	31.376	0.224	33.000	0.224	31.701	0.224	30.835	0.224		
	4h	0	36.000	0.180	34.952	34.375	0.106	34.065	33.363	5H	0	36.000	33.000	0.180	31.701	31.376	0.475	31.376	0.224	33.000	0.224	31.701	0.224	30.835	0.224		
	6g	0.053	32.947	0.425	32.522	30.674	0.212	30.462	28.305	6H	0	36.000	33.000	0.224	31.701	31.376	0.475	31.376	0.280	33.000	0.280	31.701	0.280	30.835	0.280		
	8g	0.053	32.947	0.670	32.277	30.674	0.335	30.139	28.182	6G	0.053	36.000	33.000	0.280	31.701	31.376	0.475	31.376	0.355	33.000	0.355	31.701	0.355	30.835	0.355		
	3.5			0.032	32.940	0.425	32.505	30.637	0.212	30.445	28.288	6G	0.053	36.000	33.000	0.280	31.701	31.376	0.475	31.376	0.355	33.000	0.355	31.701	0.355	30.835	0.355

TABLE 5.1 (continued)

millimetres

Basic major diameter D, d		Pitch, P		External threads						Internal threads								
First choice	Second choice	Third choice	Course series	Constant series	Fine series	Tolerance class	Funnel dev.	Major diameter	Pitch diameter	Minor diameter	Funnel dev.	Major diameter	Pitch diameter	Minor diameter	Funnel dev.			
mm.	mm.	mm.	mm.	mm.	mm.	max.	tol.	min.	tol.	min.	max.	tol.	min.	tol.	min.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
4h	6g	8g	1.5	1.5	1.5	0.150	34.850	34.026	0.095	33.931	33.007	5H	0	35.000	34.186	0.160		
6g	8g	0.032	34.968	0.236	34.732	0.150	33.994	0.150	33.844	0.236	32.920	6H	0	35.000	34.226	0.200		
8g	0.032	34.968	0.375	34.593	0.236	33.758	0.236	33.758	0.236	32.834	7H	0	35.000	34.276	0.250			
4h	6g	8g	0.032	35.968	0.236	35.732	0.150	34.994	0.150	34.844	0.236	33.920	6H	0	36.000	35.186	0.160	
6g	8g	0.032	35.968	0.375	35.593	0.236	34.994	0.236	34.758	0.236	33.834	7H	0	36.000	35.226	0.200		
4h	6g	8g	0.032	35.968	0.375	35.593	0.236	34.994	0.236	34.758	0.236	33.834	7H	0	36.000	35.276	0.250	
4h	6g	8g	0.038	35.962	0.280	35.682	0.170	34.493	0.170	33.261	6H	0	36.000	34.881	0.180	34.701		
6g	8g	0.038	35.962	0.450	35.512	0.265	34.398	0.265	33.166	7H	0	36.000	34.925	0.224	34.701			
2	4h	6g	0.048	35.952	0.375	35.577	0.150	34.051	0.125	33.926	5H	0	36.000	34.981	0.280	34.701		
6g	8g	0.048	35.952	0.600	35.352	0.303	32.803	0.200	31.803	31.955	6H	0	36.000	34.316	0.265	34.051		
3	4h	6g	0.048	35.952	0.375	35.577	0.150	34.051	0.125	33.926	5H	0	36.000	34.386	0.315	34.051		
8g	0.048	35.952	0.600	35.352	0.303	32.803	0.315	33.688	0.315	31.840	7H	0	36.000	34.386	0.315	34.051		
4	4h	6g	0.060	35.940	0.475	35.465	0.224	33.118	30.654	6H	0	36.000	33.638	0.236	33.402			
6g	8g	0.060	35.940	0.750	35.190	0.342	32.987	0.355	30.523	7H	0	36.000	33.702	0.300	33.402			
6f	0.075	35.925	0.475	35.450	0.327	33.327	0.224	33.103	30.639	6G	0.060	36.000	33.762	0.300	33.462			
6e	0.095	35.903	0.475	35.430	0.303	33.307	0.224	33.083	30.619	7H	0	36.000	33.777	0.375	33.402			
4h	6g	8g	0.095	35.903	0.475	35.430	0.303	33.307	0.224	33.083	30.619	7H	0	36.000	33.777	0.375		
1.5	4h	6g	0.032	38.000	0.150	37.850	0.095	36.931	0.107	36.007	5H	0	38.000	37.186	0.160	37.026		
6g	8g	0.032	37.968	0.236	37.732	0.150	36.844	0.150	36.844	0.236	35.920	6H	0	38.000	37.226	0.200	37.026	
2	4h	6g	0.032	37.968	0.375	37.593	0.236	36.994	0.236	36.758	0.236	35.834	7H	0	38.000	37.276	0.250	37.026
1.5	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.881	0.180	37.701	
6g	8g	0.032	38.952	0.600	38.352	0.303	37.003	0.315	36.688	0.303	34.840	7H	0	39.000	37.925	0.224	37.701	
2	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.981	0.280	37.701	
3	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.263	0.212	37.051	
38	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.881	0.180	37.701	
1.5	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.881	0.180	37.701	
2	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.881	0.180	37.701	
3	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.881	0.180	37.701	
39	4h	6g	0.032	38.952	0.375	38.577	0.236	38.764	0.125	36.926	35.078	5H	0	39.000	37.881	0.180	37.701	
4	4h	6g	0.032	38.940	0.475	38.465	0.224	36.118	33.654	5H	0	39.000	36.638	0.236	36.402			
6g	8g	0.032	38.940	0.750	38.190	0.342	35.987	0.355	33.523	6H	0	39.000	36.702	0.300	36.402			
6f	0.075	38.925	0.475	38.450	0.327	36.103	0.224	36.103	33.639	6G	0.060	39.000	36.762	0.300	36.462			
6e	0.095	38.905	0.475	38.430	0.303	36.307	0.224	36.083	33.619	7H	0	39.000	36.777	0.375	36.402			

TABLE 5.1 (continued)

millimetres

Basic major diameter D, d		Pitch, P		External threads						Internal threads														
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund dev.	Major diameter max.	Major diameter tol.	Major diameter min.	Pitch diameter max.	Pitch diameter tol.	Pitch diameter min.	Minor diameter max.	Minor diameter tol.	Minor diameter min.	Tolerance class	Fund dev.	Major diameter max.	Major diameter tol.	Major diameter min.	Pitch diameter max.	Pitch diameter tol.	Pitch diameter min.
40	1	4h	1.5	4h	0	40.000	0.150	39.850	0.095	38.931	38.007	5H	0	40.000	39.186	0.160	39.026	38.612	0.236	38.376	38.376	0.300	38.376	38.376
			6g	6g	0.032	39.968	0.236	39.732	0.150	38.844	37.920	6H	0	40.000	39.226	0.200	39.026	38.676	0.300	38.376	38.376	0.373	38.376	38.376
			8g	8g	0.032	39.968	0.375	39.593	0.236	38.758	37.834	7H	0	40.000	39.276	0.250	39.026	38.751	0.373	38.376	38.376	0.400	37.835	37.835
			2	4h	0	40.000	0.180	39.820	0.106	38.595	37.363	5H	0	40.000	38.881	0.180	38.701	38.135	0.300	37.835	37.835	0.375	37.835	37.835
			6g	6g	0.038	39.962	0.280	39.682	0.170	38.493	37.261	6H	0	40.000	38.925	0.224	38.701	38.210	0.375	37.835	37.835	0.475	37.835	37.835
			8g	8g	0.038	39.962	0.450	39.512	0.265	38.398	37.166	7H	0	40.000	38.981	0.280	38.701	38.310	0.475	37.835	37.835	0.500	37.835	37.835
			3	4h	0	40.000	0.236	39.764	0.125	37.926	36.078	5H	0	40.000	38.263	0.212	38.051	37.152	0.400	36.752	36.752	0.500	36.752	36.752
			6g	6g	0.048	39.952	0.375	39.577	0.200	37.803	35.955	6H	0	40.000	38.316	0.265	38.051	37.252	0.500	36.752	36.752	0.630	36.752	36.752
			8g	8g	0.048	39.952	0.600	39.352	0.315	37.688	35.840	7H	0	40.000	38.386	0.335	38.051	37.382	0.630	36.752	36.752	0.700	36.752	36.752
			1	4h	0	42.000	0.150	41.850	0.095	40.931	40.007	5H	0	42.000	41.186	0.160	41.026	40.612	0.236	40.376	40.376	0.300	40.376	40.376
42	4h	6g	1.5	4h	0	42.000	0.150	41.850	0.095	40.931	40.007	5H	0	42.000	41.226	0.200	41.026	40.676	0.300	40.376	40.376	0.375	40.376	40.376
			6g	6g	0.032	41.968	0.236	41.732	0.150	40.844	39.920	6H	0	42.000	41.286	0.224	41.026	40.711	0.375	40.376	40.376	0.475	40.376	40.376
			8g	8g	0.032	41.968	0.375	41.593	0.236	40.758	39.834	7H	0	42.000	41.276	0.250	41.026	40.711	0.375	40.376	40.376	0.500	40.376	40.376
			2	4h	0	42.000	0.180	41.820	0.106	40.595	39.363	5H	0	42.000	40.881	0.180	40.701	40.135	0.300	39.835	39.835	0.375	39.835	39.835
			6g	6g	0.038	41.962	0.280	41.682	0.170	40.493	39.261	6H	0	42.000	40.925	0.224	40.701	40.210	0.375	39.835	39.835	0.420	39.835	39.835
			8g	8g	0.038	41.962	0.450	41.512	0.265	40.398	39.166	7H	0	42.000	40.981	0.280	40.701	40.310	0.475	39.835	39.835	0.630	39.835	39.835
			3	4h	0	42.000	0.236	41.764	0.125	39.926	38.078	5H	0	42.000	40.263	0.212	40.051	39.152	0.400	38.752	38.752	0.500	38.752	38.752
			6g	6g	0.048	41.952	0.375	41.577	0.200	39.803	37.945	6H	0	42.000	40.316	0.265	40.051	39.252	0.500	38.752	38.752	0.630	38.752	38.752
			8g	8g	0.048	41.952	0.600	41.352	0.315	39.688	37.840	7H	0	42.000	40.386	0.335	40.051	39.382	0.630	38.752	38.752	0.700	38.752	38.752
			4	4h	0	42.000	0.300	41.700	0.140	39.262	36.798	5H	0	42.000	39.638	0.236	39.402	38.145	0.473	37.670	37.670	0.530	37.670	37.670
4.5	4h	6g	4	6g	0.048	41.940	0.475	41.465	0.224	39.118	36.654	6H	0	42.000	39.702	0.340	39.402	38.270	0.600	37.670	37.670	0.670	37.670	37.670
			6g	6g	0.048	41.940	0.750	41.190	0.355	39.987	36.523	7H	0	42.000	39.777	0.375	39.402	38.420	0.750	37.670	37.670	0.830	37.670	37.670
			8g	8g	0.048	41.940	1.000	41.700	0.513	41.685	39.077	5H	0	42.000	39.327	0.250	39.077	37.659	0.530	37.129	37.129	0.670	37.129	37.129
			6f	6f	0.080	41.920	0.500	41.420	0.236	39.014	36.778	6H	0	42.000	39.392	0.315	39.077	37.799	0.670	37.129	37.129	0.670	37.129	37.129
			6e	6e	0.100	41.900	0.500	41.400	0.236	38.977	38.741	6H	0	42.000	39.455	0.315	39.140	37.862	0.670	37.129	37.129	0.670	37.129	37.129

TABLE 5.1 (*continued*)

Basic major diameter D_d		Pitch, P		External threads						Internal threads												
First choice	Second choice	Third choice	Coarse series	Constant series	Fine series	Major diameter	Pitch diameter	Minor diameter	Tolerance class	Major diameter min.	Pitch diameter max.	Pitch diameter tol.	Minor diameter max.	Minor diameter tol.	Minor diameter min.	Minor diameter tol.						
						max.	tol.	min.	max.	tol.	max.	tol.	min.	max.	tol.	min.	max.					
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
45	4h	0	45.000	0.150	44.850	44.026	0.095	43.931	43.007	5H	0	45.000	44.186	0.160	43.612	0.236	42.376					
	68	0.032	44.968	0.236	44.732	43.994	0.150	43.844	42.920	6H	0	45.000	44.226	0.200	44.026	0.300	43.676					
	8g	0.032	44.968	0.375	44.593	43.994	0.236	43.758	42.834	7H	0	45.000	44.276	0.250	44.026	0.375	43.776					
	4h	0	45.000	0.180	44.820	43.701	0.106	43.595	42.363	5H	0	45.000	43.881	0.180	43.701	0.300	42.835					
	68	0.038	44.962	0.280	44.682	43.663	0.170	43.493	42.261	6H	0	45.000	43.925	0.224	43.701	0.375	42.835					
	8g	0.038	44.962	0.450	44.512	43.663	0.265	43.398	42.166	7H	0	45.000	43.981	0.280	43.701	0.475	42.835					
	4h	0	45.000	0.236	44.764	43.051	0.125	42.926	41.078	5H	0	45.000	43.263	0.212	43.051	0.400	41.752					
	68	0.048	44.952	0.375	44.577	43.003	0.200	42.803	40.955	6H	0	45.000	43.316	0.265	43.051	0.500	41.752					
	8g	0.048	44.952	0.660	44.352	43.003	0.315	42.688	40.840	7H	0	45.000	43.386	0.335	43.051	0.630	41.752					
	4h	0	45.000	0.360	44.700	42.402	0.140	42.262	39.798	5H	0	45.000	42.638	0.236	42.402	0.475	40.670					
48	4h	0	45.000	0.060	44.940	44.465	0.224	42.118	39.654	6H	0	45.000	42.702	0.300	42.402	0.600	40.670					
	68	0.060	44.940	0.750	44.190	42.342	0.355	41.987	39.523	7H	0	45.000	42.777	0.375	42.402	0.750	40.670					
	8g	0.060	44.940	0.750	44.190	42.342	0.355	41.987	39.523	7H	0	45.000	42.777	0.375	42.402	0.750	40.670					
	4h	0	45.000	0.315	44.685	42.077	0.150	41.927	39.155	5H	0	45.000	42.327	0.250	42.077	0.530	40.129					
	68	0.063	44.937	0.500	44.437	42.014	0.236	41.778	39.005	6H	0	45.000	42.392	0.315	42.077	0.670	40.129					
	8g	0.063	44.937	0.800	44.137	42.014	0.375	41.639	38.867	6H	0	45.000	42.455	0.315	42.140	0.862	40.192					
	6f	0.080	44.920	0.500	44.420	41.997	0.236	41.761	38.989	6G	0.063	45.000	42.477	0.400	42.077	0.850	40.129					
	6e	0.100	44.900	0.500	44.400	41.977	0.236	41.741	38.969	7H	0	45.000	42.477	0.400	42.077	0.850	40.129					
	4h	0	48.000	0.150	47.850	47.026	0.100	46.926	46.002	5H	0	48.000	47.196	0.170	47.026	0.236	46.376					
	68	0.032	47.968	0.236	47.732	46.994	0.160	46.834	45.910	6H	0	48.000	47.238	0.212	47.026	0.300	46.376					
	8g	0.032	47.968	0.375	47.593	46.994	0.250	46.744	45.820	7H	0	48.000	47.291	0.265	47.026	0.375	46.376					
5.0	4h	0	48.000	0.180	47.820	46.701	0.112	46.589	45.357	5H	0	48.000	46.891	0.190	46.701	0.300	45.835					
	68	0.038	47.962	0.280	47.682	46.663	0.180	46.483	45.251	6H	0	48.000	46.937	0.236	46.701	0.375	45.835					
	8g	0.038	47.962	0.450	47.512	46.663	0.280	46.383	45.151	7H	0	48.000	47.001	0.300	46.701	0.475	45.835					
	4h	0	48.000	0.236	47.764	46.051	0.132	45.919	44.071	5H	0	48.000	46.275	0.224	46.051	0.400	44.752					
	68	0.048	47.952	0.375	47.577	46.003	0.212	45.791	43.943	6H	0	48.000	46.331	0.280	46.051	0.500	44.752					
	8g	0.048	47.952	0.600	47.352	46.003	0.335	45.668	43.820	7H	0	48.000	46.406	0.355	46.051	0.630	44.752					
	4h	0	48.000	0.300	47.700	45.402	0.150	45.252	42.788	5H	0	48.000	45.652	0.250	45.402	0.475	43.670					
	68	0.060	47.940	0.475	47.465	45.342	0.236	45.106	42.642	6H	0	48.000	45.717	0.315	45.402	0.600	43.670					
	8g	0.060	47.940	0.750	47.190	45.342	0.375	44.967	42.503	7H	0	48.000	45.802	0.400	45.402	0.750	43.670					
	4h	0	48.000	0.335	47.665	44.752	0.160	44.592	41.512	5H	0	48.000	45.017	0.265	44.752	0.560	42.587					
48	6g	0.071	47.929	0.530	47.399	44.431	0.250	44.681	41.351	6H	0	48.000	45.087	0.334	44.732	0.710	42.587					
	8g	0.071	47.929	0.850	47.079	44.681	0.400	44.281	41.201	6H	0	48.000	45.158	0.335	44.823	0.710	42.638					
	6f	0.085	47.915	0.530	47.385	44.667	0.250	44.417	41.337	6G	0.071	48.000	45.177	0.425	44.732	0.900	42.487					
	6e	0.106	47.894	0.530	47.364	44.646	0.250	44.396	41.316	7H	0	48.000	45.177	0.425	44.732	0.900	42.487					

TABLE 5.1 (*continued*)

Basic major diameter D, d		Pitch, P										External threads										Internal threads									
First choice	Second choice	Third choice	Course series	Fine series	Constant series	Toler- ance class	Fund. dev.	Major diameter	Pitch diameter	Minor diameter	Major diameter min.	Major diameter max.	Toler- ance class	Lead dev.	Major diameter min.	Major diameter max.	Pitch diameter	Minor diameter	Major diameter min.	Major diameter max.	Toler- ance class	Lead dev.	Major diameter min.	Major diameter max.	Pitch diameter	Minor diameter					
50	1.5	4h	0	50.000	0.150	49.850	49.026	0.100	48.926	48.002	5H	0	50.000	49.196	0.170	49.026	48.612	0.236	48.376	0.170	49.238	0.212	49.026	48.676	0.300	48.376					
		6g	0.032	49.968	0.226	49.732	48.994	0.160	48.834	47.910	6H	0	50.000	49.291	0.265	49.026	48.751	0.375	48.376	0.212	49.291	0.265	49.026	48.751	0.375	48.376					
		8g	0.032	49.968	0.375	49.593	48.994	0.250	48.744	47.820	7H	0	50.000	49.291	0.265	49.026	48.751	0.375	48.376	0.212	49.291	0.265	49.026	48.751	0.375	48.376					
		4h	0	50.000	0.180	49.820	48.701	0.112	48.589	47.357	5H	0	50.000	48.891	0.190	48.701	48.135	0.300	47.835	0.180	48.937	0.236	48.701	48.210	0.375	47.835					
		6g	0.038	49.962	0.280	49.682	48.663	0.180	48.483	47.251	6H	0	50.000	49.001	0.300	48.701	48.310	0.475	47.835	0.180	48.483	0.280	48.701	48.310	0.475	47.835					
	3.0	4h	0	50.000	0.226	49.764	48.051	0.132	47.919	46.071	5H	0	50.000	48.275	0.224	48.051	47.152	0.400	46.752	0.132	47.919	0.212	48.051	47.252	0.500	46.752					
		6g	0.048	49.952	0.375	49.512	48.663	0.280	48.183	47.151	7H	0	50.000	48.331	0.280	48.051	47.382	0.630	46.752	0.180	48.183	0.280	48.051	47.382	0.630	46.752					
		8g	0.048	49.952	0.600	49.352	48.003	0.335	47.668	45.820	7H	0	50.000	48.406	0.355	48.051	47.382	0.630	46.752	0.212	47.668	0.335	48.051	47.382	0.630	46.752					
		4h	0	52.000	0.150	51.850	51.026	0.100	50.926	50.002	5H	0	52.000	51.196	0.170	51.026	50.612	0.236	50.376	0.150	51.196	0.212	51.026	50.676	0.300	50.376					
		6g	0.032	51.968	0.236	51.732	50.994	0.160	50.834	49.910	6H	0	52.000	51.238	0.212	51.026	50.751	0.375	50.376	0.212	51.238	0.265	51.026	50.751	0.375	50.376					
52	1.5	4h	0	52.000	0.180	51.820	50.701	0.112	50.589	49.357	5H	0	52.000	50.891	0.190	50.701	50.135	0.300	49.835	0.180	50.937	0.236	50.701	50.210	0.375	49.835					
		6g	0.038	51.962	0.280	51.682	50.663	0.180	50.483	49.251	6H	0	52.000	51.291	0.265	51.026	50.751	0.375	50.376	0.212	50.483	0.280	51.026	50.751	0.375	50.376					
		8g	0.038	51.962	0.450	51.512	50.663	0.280	50.383	49.151	7H	0	52.000	51.001	0.300	50.701	50.310	0.475	49.835	0.212	50.383	0.300	50.701	50.310	0.475	49.835					
		4h	0	52.000	0.226	51.764	50.051	0.132	49.919	48.071	5H	0	52.000	50.275	0.224	50.051	49.152	0.400	48.752	0.132	49.919	0.212	50.051	49.252	0.500	48.752					
		6g	0.048	51.952	0.375	51.577	50.003	0.222	49.791	47.943	6H	0	52.000	50.331	0.280	50.051	49.382	0.630	48.752	0.212	49.791	0.265	50.051	49.382	0.630	48.752					
	2.0	4h	0	52.000	0.180	51.820	50.701	0.112	50.589	49.357	5H	0	52.000	50.891	0.190	50.701	50.135	0.300	49.835	0.180	50.937	0.236	50.701	50.210	0.375	49.835					
		6g	0.038	51.962	0.280	51.682	50.663	0.180	50.483	49.251	6H	0	52.000	51.291	0.265	51.026	50.751	0.375	50.376	0.212	50.483	0.280	51.026	50.751	0.375	50.376					
		8g	0.038	51.962	0.450	51.512	50.663	0.280	50.383	49.151	7H	0	52.000	51.001	0.300	50.701	50.310	0.475	49.835	0.212	50.383	0.300	50.701	50.310	0.475	49.835					
		4h	0	52.000	0.226	51.764	50.051	0.132	49.919	48.071	5H	0	52.000	50.275	0.224	50.051	49.152	0.400	48.752	0.132	49.919	0.212	50.051	49.252	0.500	48.752					
		6g	0.048	51.952	0.375	51.577	50.003	0.222	49.791	47.943	6H	0	52.000	50.331	0.280	50.051	49.382	0.630	48.752	0.212	49.791	0.265	50.051	49.382	0.630	48.752					
5.0	4.0	4h	0	52.000	0.300	51.700	49.402	0.150	49.252	46.788	5H	0	52.000	49.652	0.250	49.402	48.145	0.475	47.670	0.150	49.652	0.250	49.402	48.270	0.600	47.670					
		6g	0.060	51.940	0.475	51.465	49.342	0.236	49.106	46.642	6H	0	52.000	49.717	0.315	49.402	48.420	0.750	47.670	0.212	49.717	0.315	49.402	48.420	0.750	47.670					
		8g	0.060	51.940	0.750	51.190	49.342	0.375	48.967	46.503	7H	0	52.000	49.802	0.400	49.402	48.420	0.750	47.670	0.212	49.802	0.400	49.402	48.420	0.750	47.670					
		6f	0.085	51.915	0.590	51.385	48.667	0.250	48.417	45.337	6G	0.071	52.000	49.158	0.335	48.823	47.368	0.710	46.658	0.180	49.158	0.335	48.823	47.297	0.710	46.658					
		6e	0.106	51.894	0.590	51.364	48.646	0.230	48.396	45.316	7H	0	52.000	49.177	0.425	48.752	47.687	0.900	46.587	0.180	49.177	0.425	48.752	47.687	0.900	46.587					

TABLE 5.1 (*continued*)

Basic major diameter D_d		Pitch, P		External threads						Internal threads									
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	Major diameter	Pitch diameter	Minor diameter	Major diameter min.	Major diameter max.	Pitch diameter tol.	Pitch diameter min.	Pitch diameter max.	Minor diameter tol.	Minor diameter min.		
			1.5	0	55.000	0.150	54.850	54.026	0.100	53.926	53.002	51H	0	55.000	54.196	0.170	53.612	0.236	53.376
			6g	0.032	54.968	0.236	54.732	53.994	0.160	53.834	52.910	6H	0	55.000	54.238	0.212	53.676	0.300	53.376
			8g	0.032	54.968	0.375	54.593	53.994	0.250	53.744	52.820	7H	0	55.000	54.291	0.265	53.751	0.375	53.376
			2.0	0	55.000	0.180	54.820	53.701	0.112	53.589	52.357	5H	0	55.000	53.891	0.190	53.701	0.300	52.835
			6g	0.038	54.962	0.280	54.682	53.663	0.180	53.483	52.251	6H	0	55.000	53.937	0.236	53.701	0.375	52.835
			8g	0.038	54.962	0.450	54.512	53.663	0.280	53.383	52.151	7H	0	55.000	54.001	0.300	53.701	0.475	53.835
			3.0	0	55.000	0.236	54.764	53.051	0.132	52.919	51.071	5H	0	55.000	53.275	0.224	52.152	0.400	51.752
			6g	0.048	54.952	0.375	54.577	53.003	0.212	52.791	50.943	6H	0	55.000	53.331	0.280	52.051	0.500	51.752
			8g	0.048	54.952	0.600	54.352	53.003	0.335	52.668	50.820	7H	0	55.000	53.406	0.355	52.182	0.630	51.752
			4.0	0	55.000	0.300	54.700	52.402	0.150	52.252	49.788	5H	0	55.000	52.652	0.250	52.402	0.475	50.670
			6g	0.060	54.940	0.475	54.465	52.342	0.236	52.106	49.642	6H	0	55.000	52.717	0.315	52.402	0.600	50.670
			8g	0.060	54.940	0.750	54.190	52.342	0.375	51.967	49.503	7H	0	55.000	52.802	0.400	52.402	0.750	50.670
			1.5	0	56.000	0.150	55.850	55.026	0.100	54.926	54.002	5H	0	56.000	55.196	0.170	55.026	0.366	54.376
			6g	0.032	55.968	0.236	55.732	54.994	0.160	54.834	53.910	6H	0	56.000	55.238	0.212	54.676	0.360	54.376
			8g	0.032	55.968	0.375	55.593	54.994	0.250	54.744	53.820	7H	0	56.000	55.291	0.265	54.751	0.375	54.376
			2.0	0	56.000	0.180	55.820	54.701	0.112	54.589	53.357	5H	0	56.000	54.891	0.190	54.701	0.366	54.376
			6g	0.038	55.962	0.280	55.682	54.663	0.180	54.483	53.251	6H	0	56.000	54.937	0.236	54.701	0.375	54.376
			8g	0.038	55.962	0.450	55.512	54.663	0.280	54.383	53.151	7H	0	56.000	55.001	0.300	54.701	0.475	54.376
			3.0	0	56.000	0.236	55.764	54.051	0.132	53.919	52.071	5H	0	56.000	54.275	0.224	54.051	0.390	53.835
			6g	0.048	55.952	0.375	55.577	54.003	0.212	53.791	51.943	6H	0	56.000	54.331	0.280	54.051	0.390	53.835
			8g	0.048	55.952	0.600	55.352	54.003	0.335	53.668	51.820	7H	0	56.000	54.406	0.355	54.051	0.390	53.835
			4.0	0	56.000	0.300	55.700	53.402	0.150	53.252	50.788	5H	0	56.000	53.652	0.250	53.402	0.475	51.670
			6g	0.060	55.940	0.475	55.465	53.342	0.236	53.106	50.642	6H	0	56.000	53.717	0.315	53.402	0.500	51.670
			8g	0.060	55.940	0.750	55.190	53.342	0.375	52.967	50.503	7H	0	56.000	53.802	0.400	53.402	0.750	51.670
			5.5	0	56.000	0.355	55.645	52.428	0.170	52.258	48.870	5H	0	56.000	52.708	0.280	52.428	0.600	50.046
			6g	0.075	55.925	0.560	53.365	52.353	0.265	52.088	48.700	6H	0	56.000	52.783	0.355	52.428	0.750	50.046
			8g	0.075	55.925	0.900	55.025	52.353	0.425	51.928	48.540	7H	0	56.000	52.858	0.355	52.503	0.750	50.121
			6f	0.090	55.910	0.560	53.350	52.338	0.265	52.073	48.685	6G	0.075	56.000	52.878	0.450	52.428	0.950	50.046
			6e	0.112	55.888	0.560	53.328	52.316	0.263	52.051	48.663	7H	0	56.000	52.878	0.450	52.428	0.950	50.046

TABLE 5.1 (continued)

millimetres

Basic major diameter D_d		Pitch, P		External threads						Internal threads													
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	Major diameter	Pitch diameter	Minor diameter	Major diameter min.	Fund. dev. class	To tolerance class	Pitch diameter max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	
58	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
	4h	0	58.000	0.150	57.850	57.026	0.100	56.926	56.002	54H	0	58.000	57.196	0.170	57.026	56.612	0.236	56.376	56.612	0.236	56.376	56.376	
	6g	0.032	57.968	0.236	57.732	56.994	0.160	56.834	55.910	6H	0	58.000	57.238	0.212	57.026	56.676	0.300	56.376	56.676	0.300	56.376	56.376	
	8g	0.032	57.968	0.375	57.593	56.994	0.250	56.744	55.820	7H	0	58.000	57.291	0.265	57.026	56.751	0.375	56.376	56.751	0.375	56.376	56.376	
	2.0	4h	0	58.000	0.180	57.820	56.701	0.112	56.589	55.357	54H	0	58.000	56.891	0.190	56.701	56.135	0.300	55.835	56.135	0.300	55.835	55.835
	6g	0.038	57.962	0.280	57.682	56.663	0.180	56.483	55.251	6H	0	58.000	56.937	0.236	56.701	56.210	0.375	55.833	56.210	0.375	55.833	55.833	
	8g	0.038	57.962	0.450	57.312	56.663	0.280	56.383	55.151	7H	0	58.000	57.001	0.300	56.701	56.310	0.475	55.835	56.310	0.475	55.835	55.835	
	3.0	4h	0	58.000	0.236	57.764	56.051	0.132	55.919	54.071	54H	0	58.000	56.275	0.224	56.031	55.152	0.400	54.752	55.152	0.400	54.752	54.752
	6g	0.048	57.952	0.375	57.577	56.003	0.212	55.791	53.943	6H	0	58.000	56.331	0.280	56.031	55.252	0.500	54.752	55.252	0.500	54.752	54.752	
	8g	0.048	57.952	0.680	57.352	56.003	0.335	55.668	53.820	7H	0	58.000	56.406	0.355	56.031	55.382	0.630	54.752	55.382	0.630	54.752	54.752	
4.0	4h	0	58.000	0.300	57.700	55.402	0.150	55.252	52.788	54H	0	58.000	55.652	0.250	55.402	54.145	0.475	53.670	54.145	0.475	53.670	53.670	
	6g	0.060	57.940	0.475	57.465	55.342	0.236	55.106	52.642	6H	0	58.000	55.717	0.315	55.402	54.270	0.600	53.670	55.402	0.600	53.670	53.670	
	8g	0.060	57.940	0.750	57.190	55.342	0.375	54.967	52.503	7H	0	58.000	55.802	0.400	55.402	54.420	0.750	53.670	55.402	0.750	53.670	53.670	
	1.5	4h	0	60.000	0.150	59.850	59.026	0.100	58.926	58.002	54H	0	60.000	59.196	0.170	59.026	56.612	0.236	58.376	56.612	0.236	58.376	58.376
	6g	0.032	59.968	0.236	59.732	58.994	0.160	58.834	57.910	6H	0	60.000	59.238	0.212	59.026	56.676	0.300	58.376	56.676	0.300	58.376	58.376	
	8g	0.032	59.968	0.375	59.593	58.994	0.250	58.744	57.820	7H	0	60.000	59.291	0.265	59.026	56.751	0.375	58.376	56.751	0.375	58.376	58.376	
	2.0	4h	0	60.000	0.180	59.820	58.701	0.112	58.589	57.357	54H	0	60.000	58.891	0.190	58.701	58.135	0.300	57.835	58.135	0.300	57.835	57.835
	6g	0.038	59.962	0.280	59.682	58.663	0.180	58.483	57.251	6H	0	60.000	58.937	0.236	58.701	58.210	0.375	57.835	58.210	0.375	57.835	57.835	
	8g	0.038	59.962	0.450	59.312	58.663	0.280	58.383	57.151	7H	0	60.000	59.001	0.300	58.701	58.310	0.475	57.835	58.310	0.475	57.835	57.835	
	3.0	4h	0	60.000	0.216	59.764	58.051	0.132	57.919	56.071	54H	0	60.000	58.275	0.224	58.051	57.152	0.400	56.752	57.152	0.400	56.752	56.752
	6g	0.048	59.952	0.375	59.577	58.003	0.212	57.791	55.943	6H	0	60.000	58.331	0.280	58.051	57.382	0.630	56.752	57.382	0.630	56.752	56.752	
4.0	4h	0	60.000	0.300	59.700	57.402	0.150	57.252	54.788	54H	0	60.000	57.652	0.250	57.402	56.145	0.475	55.670	56.145	0.475	55.670	55.670	
	6g	0.060	59.940	0.473	59.465	57.342	0.236	57.106	54.642	6H	0	60.000	57.717	0.315	57.402	56.270	0.600	55.670	57.402	0.600	55.670	55.670	
	8g	0.060	59.940	0.750	59.190	57.342	0.375	56.967	54.503	7H	0	60.000	57.802	0.400	57.402	56.420	0.750	55.670	57.402	0.750	55.670	55.670	
	5.5	4h	0	60.000	0.355	59.645	56.428	0.170	56.258	52.870	54H	0	60.000	56.708	0.280	56.428	54.646	0.600	54.046	54.646	0.600	54.046	54.046
	6g	0.075	59.925	0.560	59.365	56.353	0.265	56.088	52.700	6H	0	60.000	56.783	0.355	56.426	54.796	0.750	54.046	56.426	0.750	54.046	54.046	
60	4.0	6g	0.060	59.910	0.360	59.350	56.138	0.265	56.073	52.685	6G	0.075	60.000	56.858	0.355	56.503	54.871	0.750	54.121	56.503	0.355	54.121	54.121
	6e	0.112	59.888	0.560	59.328	56.316	0.265	56.051	52.663	7H	0	60.000	56.878	0.450	56.428	54.996	0.950	54.046	56.428	0.950	54.046	54.046	

TABLE 5.1 (continued)

millimetres

Basic major diameter <i>D, d</i>		Pitch, <i>P</i>		External threads						Internal threads							
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	Major diameter	Pitch diameter	Minor diameter	Tolerance class	Fund. dev.	Major diameter	Pitch diameter	Minor diameter		
						max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.
62	1	4h	0.150	61.850	61.026	0.100	60.926	60.002	5H	0	62.000	61.196	0.170	60.612	0.236	60.376	
			0.160	61.968	60.834	0.160	60.834	59.910	6H	0	62.000	61.238	0.212	61.026	0.300	60.376	
			0.250	61.968	60.994	0.250	60.744	59.820	7H	0	62.000	61.291	0.265	61.026	0.375	60.376	
	2	4h	0.180	61.820	60.701	0.112	60.589	59.357	5H	0	62.000	60.891	0.190	60.701	0.300	59.835	
			0.280	61.962	60.663	0.180	60.483	59.251	6H	0	62.000	60.937	0.236	60.701	0.375	59.835	
			0.450	61.962	60.663	0.280	60.383	59.151	7H	0	62.000	61.001	0.300	60.701	0.475	59.835	
	3	4h	0.236	61.764	60.051	0.132	59.919	58.071	5H	0	62.000	60.275	0.224	60.051	0.400	58.752	
			0.375	61.577	60.003	0.212	59.791	57.943	6H	0	62.000	60.331	0.280	60.051	0.500	58.752	
			0.600	61.352	60.003	0.335	59.668	57.820	7H	0	62.000	60.406	0.355	60.051	0.630	58.752	
	4	4h	0.300	61.700	59.402	0.150	59.252	56.788	5H	0	62.000	59.652	0.250	59.402	0.445	57.670	
			0.475	61.465	59.342	0.236	59.106	56.642	6H	0	62.000	59.717	0.315	59.402	0.600	57.670	
			0.750	61.190	59.342	0.375	58.967	56.503	7H	0	62.000	59.802	0.400	59.402	0.750	57.670	
	63*	1.5	0.375	62.593	61.994	0.250	61.744	60.820	7H	0	63.000	62.291	0.265	62.026	0.375	61.376	
			0.400	63.850	63.026	0.100	62.926	62.002	5H	0	64.000	63.196	0.170	63.026	0.236	62.376	
			0.475	63.732	62.994	0.160	62.834	61.910	6H	0	64.000	63.238	0.212	63.026	0.300	62.376	
	64	1.5	0.375	63.593	62.994	0.250	62.744	61.820	7H	0	64.000	63.291	0.265	63.026	0.375	62.376	
			0.450	63.512	62.663	0.280	62.383	61.151	7H	0	64.000	63.001	0.300	62.701	0.475	61.835	
			0.750	63.190	62.701	0.112	62.589	61.357	5H	0	64.000	62.891	0.190	62.701	0.300	61.835	
	2	4h	0.180	63.820	62.701	0.132	61.919	60.071	5H	0	64.000	62.275	0.224	62.051	0.400	60.752	
			0.280	63.682	62.663	0.180	62.483	61.251	6H	0	64.000	62.937	0.236	62.701	0.573	60.752	
			0.450	63.512	62.663	0.280	62.383	61.151	7H	0	64.000	63.001	0.300	62.701	0.630	60.752	
	3	4h	0.236	63.764	62.051	0.132	61.919	60.071	5H	0	64.000	62.331	0.280	62.051	0.500	60.752	
			0.375	63.577	62.003	0.212	61.791	59.949	6H	0	64.000	62.406	0.355	62.051	0.630	60.752	
			0.600	63.352	62.003	0.335	61.668	59.820	7H	0	64.000	61.802	0.400	61.402	0.750	60.752	
	4	4h	0.300	63.700	61.402	0.150	61.252	58.788	5H	0	64.000	61.652	0.250	61.402	0.475	59.670	
			0.475	63.465	61.342	0.236	61.106	58.642	6H	0	64.000	61.717	0.315	61.402	0.600	59.670	
			0.750	63.190	61.342	0.375	60.967	58.503	7H	0	64.000	61.802	0.400	61.402	0.750	59.670	
	65	4	0.375	63.940	61.750	0.212	61.750	58.788	5H	0	64.000	60.403	0.300	60.103	0.630	57.505	
			0.450	63.680	60.023	0.280	59.743	56.047	6H	0	64.000	60.478	0.375	60.103	0.800	57.505	
			0.950	62.970	60.023	0.450	59.573	55.877	6H	0	64.000	60.558	0.375	60.183	0.800	57.505	
	66	6e	0.395	63.905	63.305	0.308	59.728	56.032	6G	0.080	64.000	60.400	0.475	60.103	0.505	57.505	
			0.650	63.282	59.985	0.280	59.705	56.009	7H	0	64.000	60.578	0.475	60.103	1.000	57.505	

* For threads in accordance with AS 2052 and AS 2053 only.

TABLE 5.1 (continued)

millimetres

External threads										Internal threads									
Basic major diameter <i>D, d</i>		Pitch, <i>P</i>		Major diameter		Pitch diameter		Minor diameter		Major diameter		Pitch diameter		Minor diameter					
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.			
65	1	4h	0.150	64.850	64.026	0.100	63.926	63.002	5H	0	65.000	64.196	0.170	64.026	63.612	0.236	63.376		
			0.160	64.732	63.994	0.175	63.834	62.910	6H	0	65.000	64.238	0.212	64.026	63.676	0.300	63.376		
			0.175	64.968	64.994	0.250	63.744	62.820	7H	0	65.000	64.291	0.265	64.026	63.751	0.375	63.376		
	2	4h	0.180	64.820	63.701	0.112	63.589	62.357	5H	0	65.000	63.891	0.190	63.701	63.135	0.300	62.835		
			0.190	64.682	63.663	0.280	63.483	62.251	6H	0	65.000	63.937	0.236	63.701	63.210	0.375	62.835		
			0.200	64.512	63.663	0.280	63.383	62.151	7H	0	65.000	64.001	0.300	63.701	63.310	0.475	62.835		
	3	4h	0.236	64.764	63.051	0.132	62.919	61.071	5H	0	65.000	63.275	0.224	63.051	62.152	0.400	61.752		
			0.257	64.577	63.003	0.212	62.791	60.943	6H	0	65.000	63.331	0.280	63.051	62.252	0.500	61.752		
			0.355	64.352	63.003	0.335	62.668	60.820	7H	0	65.000	63.406	0.355	63.051	62.382	0.630	61.752		
	4	4h	0.300	64.700	62.402	0.150	62.252	59.788	5H	0	65.000	62.652	0.250	62.402	61.145	0.475	60.670		
			0.475	64.465	62.342	0.236	62.106	59.642	6H	0	65.000	62.717	0.315	62.402	61.270	0.600	60.670		
			0.750	64.190	62.342	0.375	61.967	59.503	7H	0	65.000	62.802	0.400	62.402	61.420	0.750	60.670		
	5	4h	0.150	67.850	67.026	0.100	66.926	66.002	5H	0	68.000	67.196	0.170	67.026	66.612	0.236	66.376		
			0.160	67.994	66.994	0.250	66.834	65.910	6H	0	68.000	67.238	0.212	67.026	66.676	0.300	66.376		
			0.250	67.744	66.744	0.280	66.583	65.820	7H	0	68.000	67.291	0.265	67.026	66.751	0.375	66.376		
	6	4h	0.180	67.820	66.701	0.112	66.589	65.357	5H	0	68.000	66.891	0.190	66.701	66.135	0.300	65.835		
			0.190	67.582	66.663	0.180	66.483	65.251	6H	0	68.000	66.937	0.236	66.701	66.210	0.375	65.835		
			0.450	67.512	66.663	0.280	66.383	65.111	7H	0	68.000	67.001	0.300	66.701	66.310	0.475	65.835		
	7	4h	0.136	67.764	66.051	0.132	65.919	64.071	5H	0	68.000	66.275	0.224	66.051	65.152	0.400	64.752		
			0.175	67.577	66.003	0.212	65.791	63.943	6H	0	68.000	66.331	0.220	66.051	65.252	0.500	64.752		
			0.600	67.352	66.003	0.335	65.568	63.820	7H	0	68.000	66.406	0.355	66.051	65.382	0.630	64.752		
	8	4h	0.100	67.700	65.402	0.150	65.252	62.788	5H	0	68.000	65.652	0.250	65.402	64.145	0.475	63.670		
			0.475	67.465	65.342	0.236	65.106	62.642	6H	0	68.000	65.717	0.315	65.402	64.270	0.600	63.670		
			0.750	67.190	65.342	0.375	64.967	62.503	7H	0	68.000	65.802	0.400	65.402	64.420	0.750	63.670		
	9	4h	0.136	67.764	66.051	0.132	65.919	64.071	5H	0	68.000	66.275	0.224	66.051	65.152	0.400	64.752		
			0.175	67.577	66.003	0.212	65.791	63.943	6H	0	68.000	66.331	0.220	66.051	65.252	0.500	64.752		
			0.600	67.352	66.003	0.335	65.568	63.820	7H	0	68.000	66.406	0.355	66.051	65.382	0.630	64.752		
	10	4h	0.100	67.700	65.402	0.150	65.252	62.788	5H	0	68.000	65.652	0.250	65.402	64.145	0.475	63.670		
			0.475	67.465	65.342	0.236	65.106	62.642	6H	0	68.000	65.717	0.315	65.402	64.270	0.600	63.670		
			0.750	67.190	65.342	0.375	64.967	62.503	7H	0	68.000	65.802	0.400	65.402	64.420	0.750	63.670		
	11	4h	0.136	67.764	66.051	0.132	65.919	64.071	5H	0	68.000	66.275	0.224	66.051	65.152	0.400	64.752		
			0.175	67.577	66.003	0.212	65.791	63.943	6H	0	68.000	66.331	0.220	66.051	65.252	0.500	64.752		
			0.600	67.352	66.003	0.335	65.568	63.820	7H	0	68.000	66.406	0.355	66.051	65.382	0.630	64.752		
	12	4h	0.100	67.700	65.402	0.150	65.252	62.788	5H	0	68.000	65.652	0.250	65.402	64.145	0.475	63.670		
			0.475	67.465	65.342	0.236	65.106	62.642	6H	0	68.000	65.717	0.315	65.402	64.270	0.600	63.670		
			0.750	67.190	65.342	0.375	64.967	62.503	7H	0	68.000	65.802	0.400	65.402	64.420	0.750	63.670		
	13	4h	0.136	67.764	66.051	0.132	65.919	64.071	5H	0	68.000	66.275	0.224	66.051	65.152	0.400	64.752		
			0.175	67.577	66.003	0.212	65.791	63.943	6H	0	68.000	66.331	0.220	66.051	65.252	0.500	64.752		
			0.600	67.352	66.003	0.335	65.568	63.820	7H	0	68.000	66.406	0.355	66.051	65.382	0.630	64.752		
	14	4h	0.100	67.700	65.402	0.150	65.252	62.788	5H	0	68.000	65.652	0.250	65.402	64.145	0.475	63.670		
			0.475	67.465	65.342	0.236	65.106	62.642	6H	0	68.000	65.717	0.315	65.402	64.270	0.600	63.670		
			0.750	67.190	65.342	0.375	64.967	62.503	7H	0	68.000	65.802	0.400	65.402	64.420	0.750	63.670		
	15	4h	0.136	67.764	66.051	0.132	65.919	64.071	5H	0	68.000	66.275	0.224	66.051	65.152	0.400	64.752		
			0.175	67.577	66.003	0.212	65.791	63.943	6H	0	68.000	66.331	0.220	66.051	65.252	0.500	64.752		
			0.600	67.352	66.003	0.335	65.568	63.820	7H	0	68.000	66.406	0.355	66.051	65.382	0.630	64.752		
	16	4h	0.100	67.700	65.402	0.150	65.252	62.788	5H	0	68.000	65.652	0.250	65.402	64.145	0.475	63.670		
			0.475	67.465	65.342	0.236	65.106	62.642	6H	0	68.000	65.717	0.315	65.402	64.270	0.600	63.670		
			0.750	67.190	65.342	0.375	64.967	62.503	7H	0	68.000	65.802	0.400	65.402	64.420	0.750	63.670		
	17	4h	0.136	67.764	66.051	0.132	65.919	64.071	5H	0	68.000	66.275	0.224	66.051	65.152	0.400	64.752		
			0.175	67.577	66.003	0.212	65.791	63.943	6H	0	68.000	66.331	0.220	66.051	65.252	0.500	64.752		
			0.600	67.352	66.003	0.335	65.568	63.820	7H	0	68.000	66.406	0.355	66.051	65.382	0.630	64.752		
	18	4h	0.100	67.700	65.402	0.150	65.252	62.788	5H	0	68.000	65.652	0.250	65.402	64.145	0.475	63.670		
			0.475	67.465	65.342	0.236	65.106	62.642	6H	0	68.000	65.717	0.315	65.402	64.270	0.600	63.670		
			0.750	67.190	65.342	0.375	64.967	62.503	7H	0	68.000	65.802	0.400	65.402</td					

TABLE 5.1 (continued)

millimetres

Basic major diameter D_1, d	External threads												Internal threads											
	Pitch, P			Major diameter			Pitch diameter			Minor diameter			Major diameter			Pitch diameter			Minor diameter			Major diameter		
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.
70			1.5			4h	0	70.000	0.150	69.850	69.026	0.160	68.926	68.002	5H	0	70.000	69.196	0.170	69.026	68.612	0.236	68.376	
	6g	0.032	69.968	0.236	69.732	68.994	0.160	68.834	67.910	6H	0	70.000	69.238	0.212	69.026	68.676	0.300	68.376						
	8g	0.032	69.968	0.375	69.593	68.994	0.250	68.744	67.820	7H	0	70.000	69.291	0.265	69.026	68.751	0.375	68.376						
			2			4h	0	70.000	0.180	69.820	68.701	0.112	68.589	67.357	5H	0	70.000	68.891	0.190	68.701	68.135	0.300	67.835	
	6g	0.038	69.962	0.280	68.682	68.663	0.180	68.483	67.251	6H	0	70.000	68.937	0.236	68.701	68.210	0.375	67.835						
	8g	0.038	69.962	0.450	69.312	68.663	0.280	68.383	67.151	7H	0	70.000	69.001	0.300	68.701	68.310	0.475	67.835						
			3			4h	0	70.000	0.236	69.764	68.051	0.132	67.919	66.071	5H	0	70.000	68.215	0.224	68.051	67.152	0.400	66.732	
	6g	0.048	69.952	0.375	69.577	68.003	0.212	67.791	65.943	6H	0	70.000	68.331	0.280	68.051	67.252	0.500	66.752						
	8g	0.048	69.952	0.600	69.352	68.003	0.335	67.668	65.820	7H	0	70.000	68.406	0.355	68.051	67.382	0.630	66.752						
			4			4h	0	70.000	0.300	69.700	67.402	0.150	67.252	64.788	5H	0	70.000	67.652	0.250	67.402	66.145	0.475	65.670	
72			4			6g	0.060	69.940	0.475	69.465	67.342	0.236	67.106	64.642	6H	0	70.000	67.717	0.315	67.402	66.270	0.600	65.670	
	8g	0.060	69.940	0.750	69.190	67.342	0.375	66.967	64.501	7H	0	70.000	67.802	0.400	67.402	66.420	0.730	65.670						
			5			4h	0	70.000	0.360	69.700	67.402	0.150	67.252	64.788	5H	0	70.000	67.652	0.300	67.402	66.145	0.475	65.670	
	6g	0.080	69.920	0.600	69.320	66.023	0.280	65.743	62.047	6H	0	70.000	66.478	0.375	66.103	64.305	0.800	63.505						
	8g	0.080	69.920	0.950	68.970	66.023	0.450	65.573	61.877	7H	0	70.000	66.578	0.475	66.103	64.505	1.000	63.505						
			6			4h	0	70.000	0.375	69.625	66.103	0.180	65.923	62.227	5H	0	70.000	66.403	0.300	66.103	64.135	0.630	63.505	
	6g	0.080	69.920	0.600	69.320	66.023	0.280	65.743	62.047	6H	0	70.000	66.478	0.375	66.103	64.305	0.800	63.505						
	8g	0.080	69.920	0.950	68.970	66.023	0.450	65.573	61.877	7H	0	70.000	66.578	0.475	66.103	64.505	1.000	63.505						
			7			4h	0	72.000	0.150	71.850	71.026	0.100	70.926	70.022	5H	0	72.000	71.196	0.170	70.026	70.612	0.236	70.376	
	6g	0.032	71.968	0.236	71.732	70.994	0.150	70.834	69.910	6H	0	72.000	71.238	0.212	71.026	70.676	0.300	70.376						
	8g	0.032	71.968	0.375	71.593	70.994	0.250	70.744	69.820	7H	0	72.000	71.29	0.263	71.026	70.751	0.375	70.376						
72			8			4h	0	72.000	0.180	71.820	70.701	0.112	70.589	69.357	5H	0	72.000	70.891	0.190	70.701	70.135	0.300	69.835	
	6g	0.038	71.962	0.280	71.682	70.663	0.180	70.483	69.251	6H	0	72.000	70.937	0.236	70.701	70.210	0.375	69.835						
	8g	0.038	71.962	0.450	71.512	70.663	0.280	70.383	69.151	7H	0	72.000	71.001	0.300	70.701	70.310	0.475	69.835						
			9			4h	0	72.000	0.236	71.764	70.051	0.132	69.919	68.071	5H	0	72.000	70.275	0.224	70.051	69.152	0.480	68.752	
	6g	0.048	71.952	0.375	71.577	70.003	0.212	69.791	67.943	6H	0	72.000	70.331	0.280	70.051	69.252	0.500	68.752						
	8g	0.048	71.952	0.600	71.640	71.352	0.335	69.668	67.820	7H	0	72.000	70.406	0.335	70.051	69.382	0.630	68.752						
			10			4h	0	72.000	0.375	71.625	68.103	0.180	67.923	64.227	5H	0	72.000	68.403	0.300	68.103	66.135	0.630	65.505	
	6g	0.060	71.940	0.475	71.465	69.342	0.236	69.106	66.642	6H	0	72.000	68.473	0.375	68.103	66.305	0.800	65.505						
	8g	0.060	71.940	0.750	71.190	69.342	0.375	68.967	66.503	7H	0	72.000	69.802	0.400	68.402	68.420	0.750	67.670						
			11			4h	0	72.000	0.375	71.625	68.103	0.180	67.923	64.227	5H	0	72.000	68.403	0.300	68.103	66.135	0.630	65.505	
	6g	0.060	71.920	0.600	71.320	68.023	0.280	67.743	64.047	6H	0	72.000	68.578	0.475	68.103	66.305	1.000	65.505						
	8g	0.060	71.920	0.950	70.970	68.023	0.450	67.573	63.877	7H	0	72.000	68.578	0.475	68.103	66.305	1.000	65.505						

TABLE 5.1 (continued)

Basic major diameter <i>D, d</i>		Pitch, <i>P</i>		External threads						Internal threads						
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Toler- ance class	Fund dev.	Major diameter	Pitch diameter	Minor diameter	Toler- ance class	Fund dev.	Major diameter	Pitch diameter	Minor diameter	
						max.	tol.	min.	tol.	min.	max.	tol.	min.	tol.	min.	
				1.5		4h	0	75.000	0.150	74.850	74.026	0.100	73.926	73.002	5H	0
						6g	0.032	74.968	0.236	74.732	73.994	0.160	73.834	72.910	6H	0
						8g	0.032	74.968	0.375	74.593	73.994	0.250	73.744	72.820	7H	0
				2		4h	0	75.000	0.180	74.820	73.701	0.112	73.589	72.357	5H	0
						6g	0.038	74.962	0.280	74.682	73.663	0.180	73.483	72.251	6H	0
						8g	0.038	74.962	0.430	74.512	73.663	0.280	73.383	72.151	7H	0
				75		4h	0	75.000	0.236	74.764	73.051	0.132	72.919	71.071	5H	0
						6g	0.046	74.952	0.375	74.577	73.003	0.212	72.791	70.943	6H	0
						8g	0.046	74.952	0.600	74.352	73.003	0.335	72.668	70.820	7H	0
				3		4h	0	75.000	0.300	74.700	72.402	0.150	72.252	69.788	5H	0
						6g	0.060	74.940	0.475	74.463	72.342	0.236	72.106	69.642	6H	0
						8g	0.060	74.940	0.750	74.190	72.342	0.375	71.967	69.503	7H	0
				4		4h	0	76.000	0.150	75.850	75.026	0.100	74.926	74.002	5H	0
						6g	0.032	75.968	0.236	75.732	74.994	0.160	74.834	73.910	6H	0
						8g	0.032	75.968	0.375	75.593	74.994	0.250	74.744	73.820	7H	0
				1.5		4h	0	76.000	0.180	75.820	74.701	0.112	74.589	73.357	5H	0
						6g	0.038	75.962	0.280	75.682	74.663	0.180	74.483	73.251	6H	0
						8g	0.038	75.962	0.450	75.512	74.663	0.280	74.383	73.151	7H	0
				2		4h	0	76.000	0.236	75.764	74.051	0.132	73.919	72.071	5H	0
						6g	0.046	75.952	0.375	75.577	74.003	0.212	73.791	71.943	6H	0
						8g	0.046	75.952	0.600	75.352	74.003	0.335	73.668	71.820	7H	0
				3		4h	0	76.000	0.300	75.700	73.402	0.150	73.252	70.788	5H	0
						6g	0.060	75.940	0.475	75.465	73.342	0.236	73.106	70.642	6H	0
						8g	0.060	75.940	0.750	75.190	73.342	0.375	72.967	70.503	7H	0
				4		4h	0	76.000	0.375	75.625	72.103	0.180	71.923	68.227	5H	0
						6g	0.072	75.920	0.600	75.320	72.023	0.280	71.743	68.047	6H	0
						8g	0.072	75.920	0.950	74.970	72.023	0.450	71.573	67.877	7H	0
				76		4h	0	78.000	0.180	77.820	76.701	0.112	76.589	75.357	5H	0
						6g	0.048	77.962	0.280	77.682	76.663	0.180	76.483	75.231	6H	0
						8g	0.048	77.962	0.450	77.512	76.663	0.280	76.383	75.151	7H	0
				78		4h	0	78.000	0.236	77.820	76.701	0.180	76.589	75.357	5H	0
						6g	0.060	77.962	0.375	77.682	76.663	0.280	76.483	75.231	6H	0
						8g	0.060	77.962	0.600	77.320	76.900	0.300	76.701	76.210	7H	0

millimetres

TABLE 5.1 (*continued*)

Basic major diameter D_d	Pitch, P	External threads										Internal threads											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Toler- ance class	Fund- dev.	Major diameter	Pitch diameter		Minor diameter	Pitch diameter		Major diameter	Pitch diameter		Minor diameter	Pitch diameter		Major diameter	Pitch diameter		
max.	tol.	min.	max.	tol.	min.	max.	tol.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	
80	4h	1.5				4h	0	80.000	0.150	79.850	79.026	0.160	78.926	78.002	5H	0	80.000	79.196	0.170	78.026	78.612	0.236	78.376
			6g	0.032	79.968	0.236	79.732	78.994	0.160	78.834	77.910	0.212	79.238	79.026	6H	0	80.000	79.291	0.265	78.676	78.300	0.300	78.376
			8g	0.032	79.968	0.375	79.593	78.994	0.250	78.774	77.820	0	79.291	79.026	7H	0	80.000	79.291	0.265	78.751	78.375	0.375	78.376
		2				4h	0	80.000	0.180	79.820	78.701	0.112	78.589	77.357	5H	0	80.000	78.891	0.190	78.701	78.135	0.300	77.835
			6g	0.018	79.962	0.280	79.682	78.663	0.180	78.483	77.251	0	78.937	72.336	6H	0	80.000	78.000	0.300	78.701	78.210	0.375	77.835
			8g	0.018	79.962	0.450	79.512	78.663	0.280	78.383	77.151	0	78.000	79.001	7H	0	80.000	78.701	0.300	78.310	78.475	0.475	77.835
		3				4h	0	80.000	0.236	79.764	78.051	0.132	77.919	76.071	5H	0	80.000	78.275	0.224	78.051	77.152	0.400	76.752
			6g	0.048	79.952	0.375	79.577	78.003	0.212	77.791	75.943	0	78.280	76.331	6H	0	80.000	78.000	0.280	78.051	77.252	0.500	76.752
			8g	0.048	79.952	0.600	79.352	78.003	0.335	77.668	75.820	0	78.406	78.051	7H	0	80.000	78.000	0.355	77.382	76.630	0.750	76.752
		4				4h	0	80.000	0.300	79.700	77.402	0.150	77.252	74.788	5H	0	80.000	77.652	0.250	77.402	76.145	0.475	75.670
			6g	0.060	79.940	0.475	79.465	77.342	0.236	77.106	74.642	0	78.000	77.717	6H	0	80.000	77.802	0.315	77.402	76.270	0.600	75.670
			8g	0.060	79.940	0.750	79.190	77.342	0.375	76.967	74.503	0	78.000	77.802	7H	0	80.000	77.802	0.400	77.402	76.420	0.750	75.670
		6				4h	0	80.000	0.375	79.625	76.103	0.180	75.923	72.227	5H	0	80.000	76.403	0.300	76.103	74.135	0.630	73.505
			6g	0.080	79.920	0.600	79.320	76.023	0.280	75.743	72.047	0	76.478	72.047	6H	0	80.000	76.478	0.375	76.103	74.305	0.800	73.505
			8g	0.080	79.920	0.950	78.970	76.023	0.450	75.573	71.877	0	76.578	71.877	7H	0	80.000	76.578	0.475	76.103	74.505	1.000	73.505
		82				4h	0	82.000	0.180	81.820	80.701	0.112	80.589	79.357	5H	0	82.000	80.891	0.190	80.701	80.135	0.300	79.835
			6g	0.038	81.962	0.280	81.682	80.663	0.180	80.483	79.251	0	82.000	80.937	6H	0	82.000	80.937	0.236	80.701	80.210	0.375	79.835
			8g	0.038	81.962	0.450	81.512	80.663	0.280	80.383	79.151	0	82.000	81.001	7H	0	82.000	81.001	0.300	80.701	80.310	0.475	79.835
		85				4h	0	85.000	0.236	84.764	83.051	0.132	82.919	81.071	5H	0	85.000	83.275	0.224	83.051	82.152	0.400	81.752
			6g	0.048	84.952	0.375	84.577	83.003	0.212	82.791	80.943	0	85.000	83.331	6H	0	85.000	83.331	0.280	83.051	82.252	0.500	81.752
			8g	0.048	84.952	0.600	84.352	83.003	0.335	82.668	80.820	0	85.000	83.406	7H	0	85.000	83.406	0.355	83.051	82.382	0.630	81.752
		2				4h	0	85.000	0.300	84.700	82.402	0.150	82.252	79.788	5H	0	85.000	82.652	0.250	82.402	81.145	0.475	80.670
			6g	0.038	84.962	0.280	84.682	83.663	0.180	83.483	82.251	0	85.000	82.717	6H	0	85.000	82.717	0.315	82.402	81.270	0.600	80.670
			8g	0.038	84.962	0.450	84.512	83.663	0.280	83.383	82.151	0	85.000	82.802	7H	0	85.000	82.802	0.400	82.402	81.420	0.750	80.670
		6				4h	0	85.000	0.375	84.625	81.103	0.180	80.923	77.227	5H	0	85.000	81.403	0.300	81.103	79.135	0.630	78.505
			6g	0.080	84.920	0.600	84.320	81.023	0.280	80.743	77.047	0	85.000	81.478	6H	0	85.000	81.478	0.375	81.103	79.305	0.800	78.505
			8g	0.080	84.920	0.950	84.970	81.023	0.450	81.573	76.877	0	85.000	81.578	7H	0	85.000	81.578	0.475	81.103	79.505	1.000	78.505

TABLE 5.1 (*continued*)

External threads										Internal threads									
Basic major diameter <i>D, d</i>		Pitch, <i>P</i>		Toler- ance class		Major diameter		Pitch diameter		Minor diameter		Major diameter		Pitch diameter		Minor diameter			
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.
90	4h	0	90.000	0.180	89.820	88.701	0.112	88.589	87.357	SH	0	90.000	88.891	0.190	88.701	88.135	0.300	87.835	
		6g	0.038	89.962	0.280	89.682	88.663	0.180	88.483	87.251	6H	0	90.000	88.937	0.236	88.701	88.210	0.375	87.835
		8g	0.038	89.962	0.450	89.512	88.663	0.280	88.383	87.151	7H	0	90.000	89.001	0.300	88.701	88.310	0.475	87.835
		4h	0	90.000	0.236	89.764	88.051	0.132	87.919	86.071	SH	0	90.000	88.275	0.224	88.051	87.152	0.400	86.752
		6g	0.048	89.952	0.375	89.577	88.003	0.212	87.791	85.943	6H	0	90.000	88.331	0.280	88.051	87.252	0.500	86.752
		8g	0.048	89.952	0.600	89.352	88.003	0.335	87.668	85.820	7H	0	90.000	88.406	0.355	88.051	87.382	0.630	86.752
	4h	0	90.000	0.300	89.700	87.402	0.150	87.232	84.788	5H	0	90.000	87.652	0.250	87.402	86.145	0.475	85.670	
	6g	0.060	89.940	0.475	89.465	87.342	0.236	87.106	84.642	6H	0	90.000	87.717	0.315	87.402	86.270	0.600	85.670	
	8g	0.060	89.940	0.750	89.190	87.342	0.375	86.967	84.503	7H	0	90.000	87.802	0.400	87.420	86.420	0.750	85.670	
	4h	0	90.000	0.375	89.625	86.103	0.180	85.923	82.227	5H	0	90.000	86.403	0.300	86.103	84.135	0.630	81.505	
95	4h	0	95.000	0.180	94.820	93.701	0.118	93.583	92.351	SH	0	95.000	90.000	86.478	0.375	86.103	84.305	0.800	81.505
		6g	0.038	94.962	0.280	94.682	93.663	0.190	93.473	92.241	6H	0	95.000	93.951	0.250	93.701	93.210	0.375	92.835
		8g	0.038	94.962	0.450	94.512	93.663	0.300	93.363	92.131	7H	0	95.000	94.016	0.315	93.701	93.310	0.475	92.835
		4h	0	95.000	0.236	94.764	93.051	0.140	92.911	91.063	5H	0	95.000	93.901	0.200	93.701	93.135	0.300	92.835
		6g	0.048	94.952	0.375	94.577	93.003	0.224	92.779	90.931	6H	0	95.000	93.351	0.300	93.701	92.552	0.500	91.752
		8g	0.048	94.952	0.600	94.352	93.003	0.355	92.648	90.800	7H	0	95.000	93.426	0.375	93.701	92.382	0.630	91.752
	4h	0	95.000	0.300	94.700	92.402	0.160	92.242	89.778	5H	0	95.000	92.667	0.265	92.402	91.145	0.475	90.670	
	6g	0.050	94.940	0.475	94.465	92.342	0.250	92.092	89.628	6H	0	95.000	92.737	0.335	92.402	91.270	0.600	90.670	
	8g	0.050	94.940	0.750	94.190	92.342	0.400	91.942	89.478	7H	0	95.000	92.827	0.425	92.402	91.420	0.750	90.670	
	4h	0	95.000	0.375	94.625	91.103	0.190	90.913	87.217	5H	0	95.000	91.418	0.315	91.103	89.135	0.630	88.505	
	6g	0.050	94.920	0.600	94.320	91.023	0.300	90.723	87.027	6H	0	95.000	91.503	0.400	91.103	89.305	0.800	88.505	
	8g	0.050	94.920	0.950	93.970	91.023	0.475	90.548	86.852	7H	0	95.000	91.603	0.500	91.103	89.505	1.000	88.505	

TABLE 5.1 (*continued*)

Basic major diameter D, d		Pitch, P		External threads						Internal threads													
First choice	Second choice	Third choice	Coarse series	Constant fine series	Fine series	Tolerance class	Flame	Major diameter	Pitch diameter	Minor diameter	Tolerance class	Flame dev.	Major diameter min.	Pitch diameter max.	Minor diameter max.	Tolerance class	Flame dev.	Major diameter min.	Pitch diameter max.	Minor diameter max.			
100	4h	4h	2	4h	4h	0.038	0.038	100.000	0.180	99.820	98.701	0.118	98.583	97.351	5H	0	100.000	98.901	0.200	98.701	98.135	0.300	97.835
						0.038	0.038	99.962	0.280	99.682	98.663	0.190	98.473	97.241	6H	0	100.000	98.951	0.250	98.701	98.210	0.375	97.835
						0.038	0.038	99.962	0.450	99.512	98.663	0.300	98.363	97.131	7H	0	100.000	99.016	0.315	98.701	98.310	0.475	97.835
	6g	6g	3	4h	4h	0.048	0.048	100.000	0.236	99.764	98.051	0.140	97.911	96.063	5H	0	100.000	98.287	0.236	98.051	97.152	0.400	96.752
						0.048	0.048	99.952	0.373	99.577	98.003	0.224	97.779	95.931	6H	0	100.000	98.351	0.300	98.051	97.252	0.500	96.752
						0.048	0.048	99.952	0.600	99.352	98.003	0.353	97.648	95.800	7H	0	100.000	98.426	0.375	98.051	97.382	0.630	96.752
	8g	8g	4	4h	4h	0.060	0.060	100.000	0.300	99.700	97.402	0.160	97.242	94.778	5H	0	100.000	97.667	0.265	97.402	96.145	0.475	95.670
						0.060	0.060	99.940	0.475	99.465	97.342	0.250	97.092	94.628	6H	0	100.000	97.737	0.335	97.402	96.270	0.600	95.670
						0.060	0.060	99.940	0.750	99.190	97.342	0.400	96.942	94.478	7H	0	100.000	97.827	0.425	97.402	95.420	0.750	95.670
105	4h	4h	6	4h	4h	0.080	0.080	100.000	0.300	99.700	97.402	0.160	97.242	94.778	5H	0	100.000	96.418	0.315	96.103	94.135	0.630	93.905
						0.080	0.080	99.920	0.600	99.320	96.023	0.300	95.723	92.027	6H	0	100.000	96.503	0.400	96.103	94.305	0.800	93.905
						0.080	0.080	99.920	0.950	98.970	96.023	0.475	95.548	91.852	7H	0	100.000	96.603	0.500	96.103	94.505	1.000	93.905
	6g	6g	4	4h	4h	0.080	0.080	100.000	0.375	99.625	96.103	0.190	95.913	92.217	5H	0	100.000	96.418	0.315	96.103	94.135	0.630	93.905
						0.080	0.080	99.920	0.600	99.320	96.023	0.300	95.723	92.027	6H	0	100.000	96.503	0.400	96.103	94.305	0.800	93.905
						0.080	0.080	99.920	0.950	98.970	96.023	0.475	95.548	91.852	7H	0	100.000	96.603	0.500	96.103	94.505	1.000	93.905
	8g	8g	6	4h	4h	0.100	0.100	105.000	0.180	104.820	103.701	0.118	103.583	102.151	5H	0	105.000	101.901	0.200	103.701	103.135	0.300	102.835
						0.100	0.100	104.962	0.280	104.682	103.663	0.190	103.473	102.241	6H	0	105.000	103.951	0.250	103.701	103.210	0.375	102.835
						0.100	0.100	104.962	0.450	104.512	103.663	0.300	103.363	102.131	7H	0	105.000	104.016	0.315	103.701	103.310	0.475	102.835
105	4h	4h	3	4h	4h	0.048	0.048	105.000	0.236	104.764	103.051	0.140	102.911	101.063	5H	0	105.000	103.287	0.236	103.051	102.152	0.400	101.752
						0.048	0.048	104.952	0.375	104.577	103.003	0.224	102.779	100.931	6H	0	105.000	103.351	0.300	103.051	102.352	0.500	101.752
						0.048	0.048	104.952	0.600	104.352	103.003	0.355	102.648	100.800	7H	0	105.000	102.827	0.375	103.051	102.382	0.630	101.752
	6g	6g	4	4h	4h	0.060	0.060	105.000	0.300	104.700	102.402	0.160	102.242	99.778	5H	0	105.000	102.667	0.265	102.402	101.145	0.475	100.670
						0.060	0.060	104.940	0.750	104.465	102.342	0.250	102.092	99.628	6H	0	105.000	102.737	0.335	102.402	101.270	0.600	100.670
						0.060	0.060	104.940	1.000	104.465	102.142	0.400	101.942	99.478	7H	0	105.000	102.827	0.425	102.402	101.420	0.750	100.670
6	6	6	4	4h	4h	0.080	0.080	105.000	0.375	104.625	101.103	0.190	100.913	97.217	5H	0	105.000	101.418	0.315	101.103	99.135	0.630	98.505
						0.080	0.080	104.920	0.600	104.320	101.023	0.300	100.723	97.027	6H	0	105.000	101.503	0.400	101.103	99.305	0.800	98.505
						0.080	0.080	104.920	0.950	104.970	101.023	0.475	100.548	96.852	7H	0	105.000	101.603	0.500	101.103	99.505	1.000	98.505

TABLE 5.1 (continued)

millimetres

Basic major diameter D, d	Pitch, P										External threads										Internal threads																																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Toler- ance class	Toler- ance class	Fund dev.	Max.	tot.	min.	Max.	tot.	min.	Major diameter	Pitch diameter	Minor diameter	Toler- ance class	Major diameter min.	Toler- ance class	Pitch diameter	Minor diameter	Max.	tot.	min.	Max.	tot.	min.	Max.	tot.	min.	Max.	tot.	min.	Max.	tot.	min.																							
110	4h	0	110.000	0.180	109.820	108.701	0.118	108.583	107.351	5H	0	110.000	0.200	108.701	108.901	0.200	108.701	108.135	0.340	107.835	6g	0.038	109.962	0.280	109.682	108.663	0.190	108.473	107.241	6H	0	110.000	0.250	108.701	108.951	0.250	108.701	108.375	0.375	107.835	8g	0.038	109.962	0.450	109.512	108.663	0.300	108.363	107.131	7H	0	110.000	0.316	108.701	109.016	0.315	108.701	108.475	0.475	107.835
	4h	0	110.000	0.236	109.764	108.051	0.140	107.911	106.063	5H	0	110.000	0.287	108.287	108.236	0.287	108.236	107.152	0.400	106.752	6g	0.048	109.952	0.373	109.577	108.003	0.224	107.779	105.921	6H	0	110.000	0.351	108.351	108.300	0.350	108.351	107.252	0.500	106.752	8g	0.048	109.952	0.690	109.352	108.003	0.355	107.648	105.800	7H	0	110.000	0.426	108.426	108.375	0.425	108.426	107.382	0.630	106.752
	4h	0	110.000	0.300	109.700	107.462	0.160	107.242	104.778	5H	0	110.000	0.667	107.402	107.265	0.667	107.402	106.145	0.475	105.670	6g	0.060	109.940	0.473	109.465	107.342	0.250	107.892	104.628	6H	0	110.000	0.737	107.737	107.335	0.735	107.737	106.270	0.600	105.670	8g	0.060	109.940	0.750	109.190	107.342	0.400	108.942	104.478	7H	0	110.000	0.827	107.827	107.425	0.825	107.827	106.420	0.750	105.670
	4h	0	110.000	0.375	109.625	106.101	0.190	105.913	102.217	5H	0	110.000	1.018	106.418	106.418	0.315	106.418	104.135	0.630	103.905	6g	0.080	109.920	0.690	109.320	106.023	0.390	105.723	102.027	6H	0	110.000	1.063	106.503	106.503	0.400	106.503	104.305	0.800	103.905	8g	0.080	109.920	0.950	108.970	106.023	0.475	105.448	101.832	7H	0	110.000	1.063	106.603	106.603	0.500	106.603	104.505	1.000	103.905
	4h	0	110.000	0.450	109.575	106.625	0.213	105.390	105.723	5H	0	110.000	1.300	106.503	106.503	0.400	106.503	104.305	0.800	103.905	6g	0.096	109.920	0.690	109.320	106.023	0.390	105.723	102.027	6H	0	110.000	1.300	106.503	106.503	0.400	106.503	104.305	0.800	103.905	8g	0.096	109.920	0.950	108.970	106.023	0.475	105.448	101.832	7H	0	110.000	1.300	106.603	106.603	0.500	106.603	104.505	1.000	103.905
	4h	0	110.000	0.520	109.520	106.101	0.213	105.390	105.723	5H	0	110.000	1.500	113.501	113.501	0.200	113.501	112.135	0.300	112.835	6g	0.116	109.940	0.750	109.465	107.342	0.250	107.892	104.628	6H	0	110.000	1.500	113.501	113.501	0.250	113.501	112.135	0.375	112.835	8g	0.116	109.940	0.950	108.970	106.023	0.475	105.448	101.832	7H	0	110.000	1.500	113.501	113.501	0.315	113.501	112.310	0.475	112.835
	4h	0	110.000	0.590	109.480	106.101	0.213	105.390	105.723	5H	0	110.000	1.600	113.501	113.501	0.200	113.501	112.135	0.300	112.835	6g	0.136	109.962	0.820	109.682	107.342	0.250	107.892	104.628	6H	0	110.000	1.600	113.501	113.501	0.250	113.501	112.135	0.375	112.835	8g	0.136	109.962	0.950	108.970	106.023	0.475	105.448	101.832	7H	0	110.000	1.600	113.501	113.501	0.315	113.501	112.310	0.475	112.835
	4h	0	110.000	0.660	109.520	106.101	0.213	105.390	105.723	5H	0	110.000	1.700	113.501	113.501	0.200	113.501	112.135	0.300	112.835	6g	0.148	109.952	0.375	109.577	107.342	0.250	107.892	104.628	6H	0	110.000	1.700	113.501	113.501	0.250	113.501	112.135	0.375	112.835	8g	0.148	109.952	0.600	109.320	107.342	0.400	111.942	109.478	7H	0	110.000	1.700	113.501	113.501	0.250	113.501	112.135	0.375	112.835
	4h	0	110.000	0.730	109.590	106.101	0.213	105.390	105.723	5H	0	110.000	1.800	113.501	113.501	0.200	113.501	112.135	0.300	112.835	6g	0.160	109.940	0.475	109.465	107.342	0.250	107.892	104.628	6H	0	110.000	1.800	113.501	113.501	0.250	113.501	112.135	0.375	112.835	8g	0.160	109.940	0.750	109.190	107.342	0.400	111.942	109.478	7H	0	110.000	1.800	113.501	113.501	0.250	113.501	112.135	0.375	112.835
	4h	0	110.000	0.800	109.600	106.101	0.213	105.390	105.723	5H	0	110.000	1.870	113.501	113.501	0.200	113.501	112.135	0.300	112.835	6g	0.176	109.962	0.375	109.625	107.103	0.190	110.913	107.217	5H	0	110.000	1.870	113.501	113.501	0.250	113.501	112.135	0.375	112.835	8g	0.176	109.962	0.600	109.320	107.103	0.300	111.923	107.027	6H	0	110.000	1.870	113.501	113.501	0.250	113.501	112.135	0.375	112.835
	4h	0	110.000	0.900	109.700	106.101	0.213	105.390	105.723	5H	0	110.000	2.000	112.911	111.063	0.200	113.287	112.051	0.200	111.752	6g	0.196	109.952	0.375	109.577	107.342	0.250	107.892	104.628	6H	0	110.000	2.000	112.911	111.063	0.200	113.051	112.252	0.300	111.752	8g	0.196	109.952	0.600	109.320	107.342	0.400	111.923	107.027	7H	0	110.000	2.000	112.911	111.063	0.200	113.051	112.382	0.630	111.752
	4h	0	110.000	0.970	109.764	106.101	0.213	105.390	105.723	5H	0	110.000	2.100	112.911	111.063	0.200	113.287	112.051	0.200	111.752	6g	0.216	109.962	0.375	109.625	107.103	0.190	110.913	107.217	5H	0	110.000	2.100	112.911	111.063	0.200	113.051	112.402	0.425	111.752	8g	0.216	109.962	0.600	109.320	107.103	0.300	111.923	107.027	7H	0	110.000	2.100	112.911	111.063	0.200	113.051	112.402	0.425	111.752
	4h	0	110.000	0.990	109.780	106.101	0.213	105.390	105.723	5H	0	110.000	2.120	112.911	111.063	0.200	113.287	112.051	0.200	111.752	6g	0.224	109.962	0.375	109.625	107.103	0.190	110.913	107.217	5H	0	110.000	2.120	112.911	111.063	0.200	113.051	112.402	0.425	111.752	8g	0.224	109.962	0.600	109.320	107.103	0.300	111.923	107.027	7H	0	110.000	2.120	112.911	111.063	0.200	113.051	112.402	0.425	111.752
	4h	0	110.000	1.000	109.800	106.101	0.213	105.390	105.723	5H	0	110.000	2.140	112.911	111.063	0.200	113.287	112.051	0.200	111.752	6g	0.232	109.962	0.375	109.625	107.103	0.190	110.913	107.217	5H	0	110.000	2.140	112.911	111.063	0.200	113.051	112.402	0.425	111.752	8g	0.232	109.962	0.600	109.320	107.103	0.300	111.923	107.027	7H	0	110.000	2.140	112.911	111.063	0.200	113.051	112.402	0.425	111.752
	4h	0	110.000	1.030	109.830	106.101	0.213	105.390	105.723	5H	0	110.000	2.160	112.911	111.063	0.200	113.287	112.051	0.200	111.752	6g	0.240	109.962	0.375	109.625</																																			

TABLE 5.1 (continued)

millimetres

Basic major diameter D, d		Pitch, P		External threads						Internal threads								
First choice	Second choice	Third choice	Coarse series	Constant series	Fine series	Toler- ance class	Fund- am. dev.	Major diameter	Pitch diameter	Minor diameter	Fund- am. dev.	Toler- ance class	Major diameter	Pitch diameter	Minor diameter			
120	125	4h	0	120.000	0.180	119.820	118.701	0.118	118.583	117.351	5H	0	120.000	0.200	118.701	118.135 0.300	117.835	
		6g	0.038	119.962	0.280	119.682	118.663	0.190	118.473	117.241	6H	0	120.000	0.250	118.701	118.210 0.375	117.835	
		8g	0.038	119.962	0.450	119.512	118.663	0.300	118.363	117.131	7H	0	120.000	0.315	118.701	118.310 0.475	117.835	
		4h	0	120.000	0.236	119.764	118.051	0.140	117.911	116.063	5H	0	120.000	0.236	118.287	118.051	117.152 0.400	116.752
		6g	0.048	119.952	0.375	119.577	118.003	0.224	117.779	115.931	6H	0	120.000	0.300	118.351	118.051	117.252 0.500	116.752
		8g	0.048	119.952	0.680	119.352	118.003	0.355	117.648	115.800	7H	0	120.000	0.375	118.426	118.051	117.382 0.630	116.752
		4h	0	120.000	0.300	119.700	117.402	0.160	117.242	114.778	5H	0	120.000	0.265	117.667	116.145 0.475	115.670	
		6g	0.060	119.940	0.473	119.463	117.342	0.250	117.092	114.628	6H	0	120.000	0.335	117.737	116.402 0.600	115.670	
		8g	0.060	119.940	0.750	119.90	117.342	0.400	116.942	114.478	7H	0	120.000	0.425	117.827	116.420 0.750	115.670	
		4h	0	120.000	0.375	119.625	116.103	0.190	115.913	112.217	5H	0	120.000	0.315	116.418	116.103 0.630	115.505	
		6g	0.060	119.920	0.600	119.320	116.023	0.300	115.723	112.027	6H	0	120.000	0.400	116.503	116.103 0.800	115.505	
		8g	0.060	119.920	0.950	118.970	116.023	0.475	115.548	111.852	7H	0	120.000	0.500	116.603	116.103 1.000	115.505	
		4h	0	125.000	0.180	124.820	123.701	0.118	123.583	122.351	5H	0	125.000	0.200	123.901	123.135 0.300	121.835	
		6g	0.038	124.962	0.280	124.682	123.663	0.190	123.473	122.241	6H	0	125.000	0.250	123.951	123.210 0.375	121.835	
		8g	0.038	124.962	0.450	124.512	123.663	0.300	123.363	122.131	7H	0	125.000	0.315	123.701	123.310 0.475	121.835	
		4h	0	125.000	0.236	124.764	123.051	0.140	122.911	121.063	5H	0	125.000	0.236	123.287	122.051 0.400	121.732	
		6g	0.048	124.952	0.375	124.577	123.003	0.224	122.779	120.931	6H	0	125.000	0.300	123.351	123.051 0.500	121.732	
		8g	0.048	124.952	0.600	124.352	123.003	0.355	122.648	120.800	7H	0	125.000	0.375	123.051	122.382 0.630	121.732	
		4h	0	125.000	0.300	124.700	122.402	0.160	122.242	119.778	5H	0	125.000	0.265	122.667	121.145 0.475	120.670	
		6g	0.060	124.940	0.475	124.465	122.342	0.250	122.092	119.628	6H	0	125.000	0.335	122.737	121.402 0.600	120.670	
		8g	0.060	124.940	0.750	124.190	122.342	0.400	121.942	119.478	7H	0	125.000	0.425	122.827	121.420 0.750	120.670	
		4h	0	125.000	0.375	124.625	121.103	0.190	120.913	117.217	5H	0	125.000	0.315	121.418	121.103 0.630	119.505	
		6g	0.060	124.920	0.600	124.320	121.023	0.300	120.723	117.027	6H	0	125.000	0.400	121.503	121.103 0.800	119.505	
		8g	0.060	124.920	0.950	123.970	121.023	0.475	120.348	116.852	7H	0	125.000	0.500	121.603	121.103 1.000	119.505	

TABLE 5.1 (continued)

millimetres

Basic major diameter <i>D, d</i>		Pitch, <i>P</i>		External threads						Internal threads																			
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	Major diameter max.	min.	Max.	tol.	min.	Major diameter max.	fund. dev.	Minor diameter min.	Tolerance class	Pitch diameter max.	tol.	min.	Major diameter max.	fund. dev.	Minor diameter min.	tol.	min.					
130	4h	0	130.000	0.180	129.820	128.701	0.118	128.383	127.351	5H	0	130.000	128.901	0.200	128.701	128.135	0.300	127.835	0.250	128.701	128.210	0.375	127.835	0.315	128.701	128.310	0.475	127.835	
		6g	0.038	129.962	0.280	129.682	128.663	0.190	128.473	127.241	6H	0	130.000	129.951	0.250	128.701	128.135	0.300	127.835	0.315	128.701	128.310	0.475	127.835	0.315	128.701	128.310	0.475	127.835
		8g	0.038	129.962	0.450	129.512	128.663	0.300	128.363	127.131	7H	0	130.000	129.016	0.315	128.701	128.135	0.300	127.835	0.315	128.701	128.310	0.475	127.835	0.315	128.701	128.310	0.475	127.835
	4h	0	130.000	0.256	129.764	128.051	0.140	127.911	126.653	5H	0	130.000	128.287	0.236	128.051	127.152	0.400	126.752	0.300	128.051	127.252	0.500	126.752	0.375	128.051	127.382	0.650	126.752	
		6g	0.048	129.952	0.375	129.577	128.003	0.224	127.779	125.931	6H	0	130.000	128.351	0.300	128.051	127.152	0.400	126.752	0.375	128.051	127.382	0.650	126.752	0.375	128.051	127.382	0.650	126.752
		8g	0.048	129.952	0.600	129.352	128.003	0.355	127.648	125.800	7H	0	130.000	128.426	0.375	128.051	127.152	0.400	126.752	0.375	128.051	127.382	0.650	126.752	0.375	128.051	127.382	0.650	126.752
	4h	0	130.000	0.300	129.700	127.402	0.160	127.242	124.778	5H	0	130.000	127.667	0.265	127.402	126.145	0.475	125.670	0.300	127.402	126.270	0.600	125.670	0.335	127.402	126.420	0.750	125.670	
		6g	0.060	129.940	0.475	129.465	127.342	0.250	127.892	124.628	6H	0	130.000	127.737	0.335	127.402	126.145	0.475	125.670	0.335	127.402	126.420	0.750	125.670	0.335	127.402	126.420	0.750	125.670
		8g	0.060	129.940	0.750	129.190	127.342	0.400	126.942	124.478	7H	0	130.000	127.827	0.425	127.402	126.145	0.475	125.670	0.425	127.402	126.420	0.750	125.670	0.425	127.402	126.420	0.750	125.670
	4h	0	130.000	0.375	129.625	126.103	0.190	125.913	122.217	5H	0	130.000	126.418	0.315	126.103	124.135	0.650	123.505	0.300	126.103	124.305	0.800	123.505	0.335	126.103	124.305	0.800	123.505	
		6g	0.080	129.920	0.680	129.320	126.023	0.360	125.723	122.027	6H	0	130.000	126.503	0.400	126.103	124.135	0.650	123.505	0.300	126.103	124.305	0.800	123.505	0.335	126.103	124.305	0.800	123.505
		8g	0.080	129.920	0.950	128.970	126.023	0.475	125.548	121.852	7H	0	130.000	126.603	0.500	126.103	124.505	1.000	123.505	0.300	126.103	124.505	1.000	123.505	0.335	126.103	124.505	1.000	123.505
	4h	0	135.000	0.180	134.820	133.701	0.118	131.583	132.351	5H	0	135.000	133.901	0.200	133.701	133.135	0.300	133.835	0.250	133.701	133.210	0.375	133.835	0.315	133.701	133.310	0.475	133.835	
		6g	0.038	134.962	0.280	134.682	133.663	0.190	131.473	132.241	6H	0	135.000	133.951	0.250	133.701	133.135	0.300	133.835	0.315	133.701	133.310	0.475	133.835	0.315	133.701	133.310	0.475	133.835
		8g	0.038	134.962	0.450	134.512	133.663	0.300	131.363	132.131	7H	0	135.000	134.016	0.315	133.701	133.135	0.300	133.835	0.315	133.701	133.310	0.475	133.835	0.315	133.701	133.310	0.475	133.835
	4h	0	135.000	0.236	134.764	133.051	0.140	132.911	131.063	5H	0	135.000	133.287	0.236	133.051	132.132	0.400	131.752	0.200	133.051	132.322	0.500	131.752	0.275	133.051	132.382	0.650	131.752	
		6g	0.048	134.952	0.375	134.577	133.003	0.224	132.779	130.931	6H	0	135.000	133.351	0.300	133.051	132.322	0.500	131.752	0.275	133.051	132.382	0.650	131.752	0.315	133.051	132.382	0.650	131.752
		8g	0.048	134.952	0.600	134.352	133.003	0.355	132.648	130.800	7H	0	135.000	133.426	0.375	133.051	132.322	0.500	131.752	0.315	133.051	132.382	0.650	131.752	0.315	133.051	132.382	0.650	131.752
	4h	0	135.000	0.300	134.700	132.402	0.160	132.242	129.778	5H	0	135.000	132.667	0.263	132.402	131.145	0.475	130.670	0.250	132.402	131.270	0.600	130.670	0.315	132.402	131.420	0.750	130.670	
		6g	0.060	134.940	0.475	134.465	132.342	0.250	132.092	129.628	6H	0	135.000	132.737	0.335	132.402	131.270	0.600	130.670	0.315	132.402	131.420	0.750	130.670	0.315	132.402	131.420	0.750	130.670
		8g	0.060	134.940	0.750	134.190	132.342	0.400	131.942	129.478	7H	0	135.000	132.827	0.423	132.402	131.270	0.600	130.670	0.423	132.402	131.420	0.750	130.670	0.423	132.402	131.420	0.750	130.670
	4h	0	135.000	0.375	134.625	131.103	0.190	130.913	127.217	5H	0	135.000	131.418	0.315	131.103	129.135	0.650	128.505	0.300	131.103	129.305	0.800	128.505	0.345	131.103	129.305	0.800	128.505	
		6g	0.080	134.920	0.600	134.320	131.023	0.300	130.723	127.027	6H	0	135.000	131.503	0.400	131.103	129.305	0.650	128.505	0.300	131.103	129.305	0.800	128.505	0.345	131.103	129.305	0.800	128.505
		8g	0.080	134.920	0.950	133.970	131.023	0.455	130.548	126.852	7H	0	135.000	131.603	0.500	131.103	129.305	1.000	128.505	0.300	131.103	129.305	1.000	128.505	0.345	131.103	129.305	1.000	128.505

TABLE 5.1 (*continued*)

Basic major diameter D, d		Pitch, P		External threads												Internal threads											
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund. dev.	Major diameter	Pitch diameter			Minor diameter			Tolerance class			Fund. dev.	Major diameter	Pitch diameter			Minor diameter				
								max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.		
140	4h	6g	0.038	139.962	0.280	139.682	0.190	138.663	0.118	138.583	138.701	0.118	138.511	137.351	5H	0	140.000	138.901	0.200	138.701	138.135	0.300	137.835	137.152	0.400	136.732	
								139.962	0.450	139.512	138.663	0.300	138.363	137.131	6H	0	140.000	138.951	0.250	138.701	138.210	0.375	137.835	137.310	0.475	137.835	
		8g	0.038	139.962	0.450	139.512	0.300	138.663	0.118	138.583	138.701	0.118	138.511	137.351	7H	0	140.000	139.016	0.315	138.701	138.310	0.475	137.835	137.310	0.500	136.732	
								139.962	0.600	139.352	138.663	0.355	137.648	135.800	7H	0	140.000	138.426	0.375	138.051	137.382	0.630	136.732	136.310	0.750	135.732	
		6g	0.048	139.952	0.375	139.577	0.224	139.003	0.118	138.911	137.779	0.118	138.839	137.677	5H	0	140.000	138.287	0.236	138.051	137.152	0.400	136.732	136.145	0.475	135.670	
								139.952	0.600	139.352	138.663	0.355	137.648	135.800	7H	0	140.000	138.351	0.340	138.051	137.252	0.500	136.732	136.145	0.575	135.670	
		8g	0.048	139.952	0.600	139.352	0.400	138.663	0.118	138.583	137.402	0.118	138.511	137.242	5H	0	140.000	137.667	0.265	137.402	136.145	0.475	135.670	135.135	0.575	134.505	
								139.940	0.750	139.190	137.342	0.300	136.520	134.675	6H	0	140.000	137.737	0.335	137.402	136.270	0.600	135.670	135.135	0.750	134.505	
		6g	0.060	139.940	0.750	139.190	0.400	137.342	0.250	137.092	134.628	0.250	136.942	134.478	7H	0	140.000	137.827	0.425	137.402	136.420	0.750	135.670	135.135	0.820	134.505	
								139.940	0.900	139.290	137.342	0.355	136.520	134.778	5H	0	140.000	136.418	0.315	136.103	134.134	0.630	133.505	133.135	0.750	132.505	
		8g	0.060	139.940	0.900	139.290	0.400	137.342	0.300	137.092	134.628	0.300	136.942	134.478	7H	0	140.000	136.503	0.400	136.103	134.305	0.800	133.505	133.135	0.900	132.505	
								139.940	0.950	139.290	137.342	0.355	136.520	134.778	5H	0	140.000	136.603	0.500	136.103	134.505	1.000	133.505	133.135	0.900	132.505	
		6g	0.080	139.940	0.950	139.290	0.400	137.342	0.355	137.092	134.628	0.355	136.942	134.478	7H	0	140.000	136.701	0.200	136.103	134.135	0.630	133.505	133.135	0.750	132.505	
								139.940	0.950	139.290	137.342	0.355	136.520	134.778	5H	0	140.000	136.801	0.265	136.103	134.135	0.630	133.505	133.135	0.750	132.505	
		8g	0.080	139.940	0.950	139.290	0.400	137.342	0.355	137.092	134.628	0.355	136.942	134.478	7H	0	140.000	136.901	0.250	136.103	134.135	0.630	133.505	133.135	0.750	132.505	
								139.940	0.950	139.290	137.342	0.355	136.520	134.778	5H	0	140.000	137.001	0.250	136.103	134.135	0.630	133.505	133.135	0.750	132.505	
		6g	0.038	144.962	0.280	144.682	0.190	143.663	0.118	143.583	142.351	0.118	143.513	142.217	5H	0	145.000	143.951	0.250	143.701	143.210	0.375	143.835	143.135	0.475	142.505	
								144.962	0.450	144.512	143.663	0.300	143.363	142.131	6H	0	145.000	143.951	0.300	143.701	143.305	0.475	143.835	143.135	0.575	142.505	
		8g	0.038	144.962	0.450	144.512	0.300	143.663	0.118	143.583	142.351	0.118	143.513	142.217	5H	0	145.000	143.951	0.315	143.701	143.310	0.475	143.835	143.135	0.575	142.505	
								144.962	0.600	144.512	143.663	0.355	143.363	142.131	7H	0	145.000	144.016	0.416	143.701	143.310	0.475	143.835	143.135	0.575	142.505	
		6g	0.048	144.962	0.600	144.512	0.400	143.663	0.118	143.583	142.351	0.118	143.513	142.217	5H	0	145.000	143.287	0.236	143.701	143.135	0.400	141.732	141.135	0.475	140.670	
								144.962	0.750	144.512	143.663	0.355	143.363	142.131	7H	0	145.000	143.351	0.335	143.701	142.252	0.500	141.732	141.135	0.575	140.670	
		8g	0.048	144.962	0.750	144.512	0.400	143.663	0.118	143.583	142.351	0.118	143.513	142.217	5H	0	145.000	143.426	0.315	143.701	142.382	0.630	141.732	141.135	0.575	140.670	
								144.962	0.900	144.512	143.663	0.355	143.363	142.131	7H	0	145.000	143.481	0.265	143.701	142.402	0.400	141.732	141.135	0.475	140.670	
		6g	0.060	144.940	0.475	144.465	0.250	142.342	0.118	142.242	140.913	0.118	142.171	139.778	5H	0	145.000	142.667	0.265	142.402	141.425	0.400	140.670	140.103	0.475	139.505	
								144.940	0.750	144.190	142.342	0.400	141.942	139.478	7H	0	145.000	142.737	0.335	142.402	141.270	0.500	140.670	140.103	0.575	139.505	
		8g	0.060	144.940	0.750	144.190	0.400	142.342	0.118	142.242	140.913	0.118	142.171	139.778	5H	0	145.000	142.807	0.425	142.402	141.425	0.750	140.670	140.103	0.575	139.505	
								144.940	0.950	144.190	142.342	0.400	141.942	137.027	6H	0	145.000	143.000	0.500	142.402	141.425	0.750	140.670	140.103	0.575	139.505	
		6g	0.080	144.920	0.950	144.190	0.400	141.023	0.118	140.913	140.548	0.118	140.852	136.852	7H	0	145.000	141.603	0.500	142.402	141.103	0.800	140.670	140.103	0.575	139.505	
								144.920	0.950	144.190	142.342	0.400	141.942	137.027	6H	0	145.000	141.603	0.500	142.402	141.103	0.800	140.670	140.103	0.575	139.505	
		8g	0.080	144.920	0.950	144.190	0.400	141.023	0.118	140.913	140.548	0.118	140.852	136.852	7H	0	145.000	141.603	0.500	142.402	141.103	0.800	140.670	140.103	0.575	139.505	

TABLE 5.1 (continued)

millimetres

Basic major diameter D_d	Pitch, P												External threads												Internal threads											
	Coarse series			Fine series			Constant series			Tolerance class series			Major diameter			Pitch diameter			Minor diameter			Major diameter			Pitch diameter			Minor diameter								
First choice	Second choice	Third choice	toil.	max.	min.	max.	tol.	min.	max.	tol.	min.	max.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.						
150	4h	0	0.180	149.820	148.701	148.583	147.351	5H	0	150.000	148.901	0.200	148.701	148.135	0.300	147.835	147.351	0.250	148.701	148.210	0.375	147.835	147.351	0.315	148.701	148.310	0.475	147.835								
	6g	0.018	149.962	149.682	148.663	148.473	147.241	6H	0	150.000	148.951	0.250	148.701	148.210	0.375	147.835	147.351	0.300	148.701	148.310	0.475	147.835	147.351	0.315	148.701	148.310	0.475	147.835								
	8g	0.038	149.962	149.512	148.663	148.363	147.131	7H	0	150.000	149.016	0.315	148.701	148.310	0.475	147.835	147.351	0.315	148.701	148.310	0.475	147.835	147.351	0.315	148.701	148.310	0.475	147.835								
	4h	0	0.150	150.000	0.236	149.764	148.051	0.140	147.911	146.063	3H	0	150.000	148.287	0.236	148.051	147.152	0.400	146.752	147.252	0.500	146.752	147.252	0.500	146.752	147.252	0.500	146.752								
	6g	0.048	149.952	0.375	149.577	148.003	0.224	147.779	145.931	6H	0	150.000	148.351	0.300	148.051	147.252	0.500	146.752	147.382	0.630	146.752	147.382	0.630	146.752	147.382	0.630	146.752									
	8g	0.048	149.952	0.600	149.352	148.003	0.355	147.648	145.800	7H	0	150.000	148.426	0.375	148.051	147.382	0.630	146.752	147.382	0.630	146.752	147.382	0.630	146.752	147.382	0.630	146.752									
	4h	0	0.150	150.000	0.300	149.700	147.402	0.160	147.242	144.778	5H	0	150.000	147.667	0.265	147.402	146.445	0.475	145.670	146.402	0.600	145.670	146.402	0.600	145.670	146.402	0.600	145.670								
	6g	0.050	149.940	0.475	149.465	147.342	0.250	147.092	144.628	6H	0	150.000	147.737	0.335	147.402	146.270	0.600	145.670	147.327	0.750	145.670	147.327	0.750	145.670	147.327	0.750	145.670									
	8g	0.050	149.940	0.750	149.190	147.342	0.400	146.942	144.478	7H	0	150.000	147.827	0.425	147.402	146.420	0.750	145.670	147.327	0.750	145.670	147.327	0.750	145.670	147.327	0.750	145.670									
	4h	0	0.150	150.000	0.375	149.625	146.103	0.190	145.913	142.217	5H	0	150.000	146.418	0.315	146.103	144.135	0.630	143.505	144.103	0.800	143.505	144.103	0.800	143.505	144.103	0.800	143.505								
153	4h	0	0.150	149.920	0.600	149.310	146.023	0.300	145.723	142.027	6H	0	150.000	146.503	0.400	146.103	144.305	0.800	143.505	144.505	1.000	143.505	144.505	1.000	143.505	144.505	1.000	143.505								
	6g	0.080	149.920	0.950	148.970	146.023	0.475	145.548	141.852	7H	0	150.000	146.603	0.500	146.103	144.505	1.000	143.505	145.382	1.630	143.505	145.382	1.630	143.505	145.382	1.630	143.505									
	8g	0.080	149.920	0.950	148.970	146.023	0.475	145.548	141.852	7H	0	150.000	146.603	0.500	146.103	144.505	1.000	143.505	145.382	1.630	143.505	145.382	1.630	143.505	145.382	1.630	143.505									
	4h	0	0.155	155.000	0.236	154.764	153.051	0.140	152.911	151.063	5H	0	155.000	153.287	0.236	153.051	152.152	0.400	151.752	153.051	0.500	151.752	153.051	0.500	151.752	153.051	0.500	151.752								
	6g	0.048	154.952	0.375	154.577	153.003	0.224	152.779	150.931	6H	0	155.000	153.426	0.375	153.051	152.252	0.500	151.752	153.051	0.630	151.752	153.051	0.630	151.752	153.051	0.630	151.752									
	8g	0.048	154.952	0.600	154.352	153.003	0.355	152.648	150.800	7H	0	155.000	153.426	0.375	153.051	152.382	0.500	151.752	153.051	0.630	151.752	153.051	0.630	151.752	153.051	0.630	151.752									
	4h	0	0.155	155.000	0.300	154.760	152.402	0.160	152.242	149.778	5H	0	155.000	152.667	0.265	152.402	151.145	0.475	150.670	152.402	0.600	150.670	152.402	0.600	150.670	152.402	0.600	150.670								
	6g	0.060	154.940	0.475	154.465	152.342	0.250	152.092	149.628	6H	0	155.000	152.737	0.335	152.402	151.270	0.600	150.670	152.402	0.750	150.670	152.402	0.750	150.670	152.402	0.750	150.670									
	8g	0.060	154.940	0.750	154.190	152.342	0.400	151.942	149.478	7H	0	155.000	152.827	0.425	152.402	151.420	0.750	150.670	152.402	0.750	150.670	152.402	0.750	150.670	152.402	0.750	150.670									
155	4h	0	0.155	155.000	0.375	154.625	151.103	0.190	150.913	147.217	5H	0	155.000	151.418	0.315	151.103	149.135	0.630	148.505	151.103	0.800	148.505	151.103	0.800	148.505	151.103	0.800	148.505								
	6g	0.080	154.920	0.600	154.320	151.023	0.300	150.723	147.027	6H	0	155.000	151.503	0.400	151.103	149.305	0.630	148.505	151.103	0.800	148.505	151.103	0.800	148.505	151.103	0.800	148.505									
	8g	0.080	154.920	0.950	153.970	151.023	0.475	150.548	146.832	7H	0	155.000	151.603	0.500	151.103	149.505	1.000	148.505	151.103	1.630	148.505	151.103	1.630	148.505	151.103	1.630	148.505									
	4h	0	0.155	155.000	0.300	154.700	157.402	0.160	157.911	156.063	5H	0	160.000	158.287	0.226	158.031	157.152	0.400	155.732	158.031	0.600	155.732	158.031	0.600	155.732	158.031	0.600	155.732								
	6g	0.048	159.952	0.375	159.577	158.003	0.224	157.779	155.931	6H	0	160.000	157.737	0.335	157.402	156.270	0.600	155.732	157.402	0.750	155.732	157.402	0.750	155.732	157.402	0.750	155.732									
	8g	0.048	159.952	0.600	159.352	158.003	0.355	157.648	155.890	7H	0	160.000	158.426	0.375	158.031	157.382	0.630	155.732	157.382	0.630	155.732	157.382	0.630	155.732	157.382	0.630	155.732									
	4h	0	0.160	160.000	0.375	159.764	158.051	0.140	157.911	156.063	5H	0	160.000	157.667	0.265	157.402	156.145	0.475	155.670	157.402	0.600	155.670	157.402	0.600	155.670	157.402	0.600	155.670								
	6g	0.060	159.940	0.475	159.465	157.342	0.240	157.092	154.628	6H	0	160.000	157.737	0.335	157.402	156.270	0.600	155.670	157.402	0.750	155.670	157.402	0.750	155.670	157.402	0.750	155.670									
	8g	0.060	159.940	0.750	159.190	157.342	0.400	156.942	154.478	7H	0	160.000	157.827	0.425	157.402	156.420	0.750	155.670	157.402	0.750	155.670	157.402	0.750	155.670	157.402	0.750	155.670									
160	4h	0	0.160	160.000	0.375	159.625	156.103	0.190	155.913	152.217	5H	0	160.000	156.418	0.315	156.103	154.135	0.630	153.505	156.103	0.800	153.505	156.103	0.800	153.505	156.103	0.800	153.505								
	6g	0.080	159.920	0.600	159.320	156.023	0.300	155.723	152.027	6H	0	160.000	156.593	0.400	156.103	154.305	0.630	153.505	156.103	0.800	153.505	156.103	0.800	153.505	156.103	0.800	153.505									
	8g	0.080	159.920	0.950	158.970	156.023	0.475	155.548	151.852	7H	0	160.000	156.603	0.500	156.103	154.505	1.000	153.505	156.103	1.630	153.505	156.103	1.630	153.505	156.103	1.630	153.505									

TABLE 5.1 (continued)

Basic major diameter D, d		Pitch, P		External threads										Internal threads									
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Toler- ance class	Fund dev.	Major diameter	Pitch diameter	Minor diameter	Toler- ance class	Fund dev.	Major diameter	Pitch diameter	Minor diameter								
								max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	max.	tol.	min.	
165	4h	6g	3				0.048	165.000	0.236	164.764	163.051	0.140	162.911	161.063	5H	0	165.000	0.236	163.051	162.152	0.400	161.752	
								164.932	0.375	164.577	163.003	0.224	162.779	160.931	6H	0	163.000	0.351	163.051	162.252	0.500	161.752	
								164.932	0.600	164.352	163.003	0.355	162.648	160.800	7H	0	163.000	0.426	163.051	162.382	0.630	161.752	
	4h	6g	4				0.060	165.000	0.300	164.700	162.402	0.160	162.242	159.778	5H	0	165.000	0.266	162.402	161.145	0.475	160.670	
								164.940	0.475	164.465	162.342	0.250	162.092	159.628	6H	0	165.000	0.237	162.402	161.370	0.600	160.670	
								164.940	0.750	164.190	162.342	0.400	161.942	159.478	7H	0	165.000	0.287	162.402	161.420	0.750	160.670	
170	4h	6g	6				0.080	165.000	0.375	164.625	161.103	0.190	160.913	157.217	5H	0	165.000	0.315	161.418	159.135	0.630	158.505	
								164.920	0.600	164.320	161.023	0.300	160.723	157.027	6H	0	165.000	0.303	161.403	159.305	0.800	158.505	
								164.920	0.950	163.970	161.023	0.475	160.548	156.852	7H	0	165.000	0.503	161.603	159.505	1.000	158.505	
	4h	6g	3				0.048	170.000	0.236	169.764	168.051	0.140	167.911	166.063	5H	0	170.000	0.236	168.051	167.152	0.400	166.752	
								169.932	0.375	169.577	168.003	0.224	167.779	165.931	6H	0	170.000	0.351	168.051	167.252	0.500	166.752	
								169.932	0.600	169.352	168.003	0.355	167.648	165.800	7H	0	170.000	0.426	168.051	167.382	0.630	166.752	
175	4h	6g	6				0.080	175.000	0.236	174.764	173.051	0.140	172.911	171.063	5H	0	175.000	0.236	173.051	172.152	0.400	171.752	
								174.932	0.375	174.577	173.003	0.224	172.779	170.931	6H	0	175.000	0.351	173.051	172.252	0.500	171.752	
								174.932	0.600	174.352	173.003	0.355	172.648	170.800	7H	0	175.000	0.426	173.051	172.382	0.630	171.752	
	4h	6g	3				0.048	175.000	0.300	174.700	172.402	0.160	172.242	169.778	5H	0	175.000	0.265	172.402	171.145	0.475	170.670	
								174.940	0.475	174.465	172.342	0.250	172.092	169.628	6H	0	175.000	0.335	172.402	171.270	0.500	170.670	
								174.940	0.750	174.190	172.342	0.400	171.942	169.478	7H	0	175.000	0.425	172.402	171.420	0.750	170.670	

TABLE 5.1 (*continued*)

millimetres

Basic major diameter D, d		Pitch, P		External threads												Internal threads											
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Major diameter			Pitch diameter			Minor diameter			Tolerance class			Major diameter min.			Pitch diameter			Minor diameter			
						tol.	max.	min.	tol.	max.	min.	tol.	max.	min.	tol.	max.	min.	tol.	max.	min.	tol.	max.	min.	tol.	max.	min.	
160	4h	3				0.140	177.911	176.063	0.140	179.764	178.051	0.224	177.779	175.931	SH	0	180.000	178.287	0.236	178.051	177.552	0.400	176.752	0.400	176.752		
		6g	0.048	179.952	0.375	179.577	178.003	0.355	0.160	177.402	176.742	0.250	177.092	174.628	6H	0	180.000	178.351	0.300	178.051	177.252	0.500	176.752	0.500	176.752		
		8g	0.048	179.952	0.600	179.352	178.003	0.355	0.160	177.402	176.742	0.250	177.092	174.628	7H	0	180.000	178.426	0.375	178.051	177.382	0.630	176.752	0.630	176.752		
		4h	0	180.000	0.300	179.700	177.402	0.160	0.160	177.242	174.778	0.250	177.092	174.628	SH	0	180.000	177.667	0.265	177.402	176.145	0.475	175.670	0.475	175.670		
		6g	0.050	179.940	0.475	179.465	177.342	0.342	0.160	177.242	174.778	0.250	177.092	174.628	6H	0	180.000	177.737	0.335	177.402	176.270	0.680	175.670	0.680	175.670		
	4h	8g	0.050	179.940	0.750	179.190	177.342	0.400	0.160	176.942	174.478	0.250	176.942	174.478	7H	0	180.000	177.827	0.425	177.402	176.420	0.750	175.670	0.750	175.670		
		6g	0.050	179.940	1.000	178.970	177.342	0.650	0.160	176.942	174.478	0.250	176.942	174.478	SH	0	180.000	177.913	0.515	177.402	176.420	0.750	175.670	0.750	175.670		
		8g	0.050	179.940	1.250	178.970	177.342	0.800	0.160	176.942	174.478	0.250	176.942	174.478	7H	0	180.000	178.000	0.590	177.402	176.420	0.750	175.670	0.750	175.670		
		4h	0	180.000	0.375	179.625	176.103	0.190	0.160	176.942	174.478	0.250	176.942	174.478	SH	0	180.000	178.418	0.315	177.402	174.135	0.630	173.505	0.630	173.505		
		6g	0.050	179.920	0.600	179.350	176.023	0.300	0.160	176.942	174.478	0.250	176.942	174.478	6H	0	180.000	178.503	0.400	177.402	174.305	0.800	173.505	0.800	173.505		
185	4h	3	0	185.000	0.236	184.764	183.051	0.160	0.160	182.891	181.043	0.250	183.003	180.905	SH	0	185.000	183.316	0.265	183.051	182.152	0.400	181.752	0.400	181.752		
		6g	0.048	184.952	0.375	184.577	183.003	0.250	0.160	182.753	182.753	0.250	183.003	180.905	6H	0	185.000	183.386	0.335	183.051	182.252	0.500	181.752	0.500	181.752		
		8g	0.048	184.952	0.600	184.352	183.003	0.400	0.160	182.603	180.755	0.250	183.003	180.755	7H	0	185.000	183.476	0.425	183.051	182.382	0.630	181.752	0.630	181.752		
		4h	0	185.000	0.300	184.700	182.402	0.180	0.160	182.222	179.758	0.250	183.000	182.702	SH	0	185.000	182.777	0.375	182.402	181.270	0.600	180.670	0.600	180.670		
		6g	0.060	184.940	0.475	184.465	182.342	0.280	0.160	182.062	179.598	0.250	183.000	182.062	6H	0	185.000	182.877	0.475	182.402	181.420	0.750	180.670	0.750	180.670		
	4h	8g	0.060	184.940	0.750	184.190	182.342	0.450	0.160	181.892	179.428	0.250	183.000	182.342	7H	0	185.000	183.000	0.590	182.402	181.103	1.000	178.505	1.000	178.505		
		4h	0	185.000	0.375	184.625	181.103	0.200	0.160	180.903	177.207	0.250	183.000	181.438	SH	0	185.000	182.702	0.300	182.402	181.145	0.475	180.670	0.475	180.670		
		6g	0.080	184.920	0.600	184.320	181.023	0.315	0.160	180.708	177.012	0.250	183.000	181.528	6H	0	185.000	182.777	0.425	182.402	181.270	0.600	180.670	0.600	180.670		
		8g	0.080	184.920	0.950	184.970	181.023	0.500	0.160	180.523	176.827	0.250	183.000	181.633	7H	0	185.000	183.000	0.590	182.402	181.103	1.000	178.505	1.000	178.505		
		4h	0	190.000	0.236	189.764	188.051	0.160	0.160	187.891	186.043	0.250	188.003	185.905	SH	0	190.000	188.316	0.265	188.051	187.152	0.400	186.752	0.400	186.752		
190	4h	3	0	190.000	0.375	189.577	188.043	0.250	0.160	187.342	184.598	0.280	188.003	185.755	6H	0	190.000	188.386	0.335	188.051	187.252	0.500	186.752	0.500	186.752		
		6g	0.048	189.952	0.375	189.465	187.342	0.450	0.160	186.892	184.428	0.450	188.003	185.755	7H	0	190.000	188.476	0.425	188.051	187.382	0.630	186.752	0.630	186.752		
		8g	0.048	189.952	0.600	189.940	187.342	0.500	0.160	187.342	184.428	0.450	188.003	185.755	SH	0	190.000	188.500	0.590	188.051	187.382	0.630	186.752	0.630	186.752		
	4h	4h	0	190.000	0.475	189.940	187.402	0.180	0.160	187.222	184.738	0.250	188.003	185.903	SH	0	190.000	187.702	0.300	187.402	186.145	0.475	185.670	0.475	185.670		
		6g	0.060	189.940	0.750	189.190	187.342	0.500	0.160	186.892	184.428	0.450	188.003	185.755	6H	0	190.000	187.777	0.375	187.402	186.270	0.600	185.670	0.600	185.670		
		8g	0.060	189.940	0.950	189.940	187.342	0.500	0.160	187.342	184.428	0.450	188.003	185.755	7H	0	190.000	187.877	0.475	187.402	186.420	0.750	185.670	0.750	185.670		

TABLE 5.1 (continued)

millimetres

Basic major diameter D_d	Pitch, P										External threads										Internal threads									
	First choice		Second choice		Third choice		Coarse series		Flat series		Constant series		Major diameter		Pitch diameter		Minor diameter		Tolerance class		Fund dev.		Major diameter		Pitch diameter		Minor diameter			
	max.	tol.	max.	tol.	max.	tol.	max.	tol.	min.	tol.	max.	tol.	min.	tol.	max.	tol.	min.	tol.	max.	tol.	min.	tol.	max.	tol.	min.	tol.				
195	4h	0	195.000	0.236	194.764	193.051	0.160	192.891	191.043	5H	0	195.000	193.316	0.265	193.051	192.152	0.400	191.752	192.252	0.500	191.752	192.382	0.630	191.752						
	6g	0.048	194.952	0.375	194.577	193.003	0.250	192.753	190.905	6H	0	195.000	193.386	0.335	193.051	192.351	0.425	191.351	192.402	0.500	191.752	192.402	0.630	191.752						
	8g	0.048	194.952	0.600	194.352	193.003	0.400	192.603	190.755	7H	0	195.000	193.476	0.476	193.051	192.402	0.500	191.445	192.402	0.600	190.670	191.270	0.750	190.670						
	4h	0	195.000	0.300	194.700	192.402	0.180	192.222	189.758	5H	0	195.000	192.702	0.300	192.402	191.145	0.475	190.670	192.402	0.500	191.752	192.402	0.630	191.752						
	6g	0.060	194.940	0.475	194.465	192.342	0.280	192.062	189.598	6H	0	195.000	192.777	0.375	192.402	191.270	0.600	190.670	192.402	0.700	191.752	192.402	0.750	190.670						
	8g	0.060	194.940	0.750	194.190	192.342	0.450	191.892	189.428	7H	0	195.000	192.877	0.475	192.402	191.420	0.750	190.670	192.402	0.800	188.505	191.304	1.000	188.505						
	4h	0	195.000	0.375	194.625	191.103	0.200	190.903	187.207	5H	0	195.000	191.438	0.335	191.103	189.135	0.630	188.505	191.103	0.800	188.505	189.304	1.000	188.505						
	6g	0.080	194.920	0.600	194.320	191.023	0.315	190.708	187.012	6H	0	195.000	191.528	0.425	191.103	189.304	0.800	188.505	191.103	0.900	188.505	189.505	1.000	188.505						
	8g	0.080	194.920	0.950	193.970	191.023	0.500	190.523	186.827	7H	0	195.000	191.633	0.530	191.103	189.505	1.000	188.505	191.103	1.000	188.505	191.304	1.000	188.505						
	4h	0	200.000	0.236	199.764	198.051	0.160	197.891	196.043	5H	0	200.000	198.316	0.265	198.051	197.152	0.400	196.752	197.402	0.500	196.752	197.402	0.630	196.752						
200	3	6g	0.048	199.952	0.375	199.577	198.003	0.250	197.753	195.905	6H	0	200.000	198.386	0.335	198.051	197.252	0.500	196.752	197.402	0.600	196.752	197.402	0.750	196.752					
	6g	0.048	199.952	0.600	199.352	198.003	0.400	197.603	195.755	7H	0	200.000	198.476	0.425	198.051	197.382	0.630	196.752	197.402	0.700	196.752	197.402	0.800	196.752						
	4h	0	200.000	0.300	199.700	197.402	0.180	197.222	194.758	5H	0	200.000	197.702	0.360	197.402	196.145	0.475	196.752	197.402	0.500	196.752	197.402	0.630	196.752						
	6g	0.060	199.940	0.475	199.465	197.342	0.280	197.062	194.598	6H	0	200.000	197.777	0.375	197.402	196.270	0.600	196.752	197.402	0.700	196.752	197.402	0.750	196.752						
	8g	0.060	199.940	0.750	199.190	197.342	0.450	196.892	194.428	7H	0	200.000	197.877	0.475	197.402	196.420	0.750	196.752	197.402	0.800	196.752	197.402	0.900	196.752						
	4h	0	200.000	0.375	199.625	196.103	0.200	195.903	192.207	5H	0	200.000	196.438	0.335	196.103	194.135	0.630	193.505	197.402	0.500	193.505	197.402	0.630	193.505						
	6g	0.080	199.920	0.600	199.320	196.023	0.315	195.708	192.012	6H	0	200.000	196.528	0.425	196.103	194.305	0.800	193.505	197.402	0.500	193.505	197.402	0.600	193.505						
	8g	0.080	199.920	0.950	198.970	196.023	0.500	195.523	191.827	7H	0	200.000	196.633	0.530	196.103	194.505	1.000	193.505	197.402	0.600	193.505	197.402	0.700	193.505						
	4h	0	205.000	0.236	204.764	201.051	0.160	202.891	201.043	5H	0	205.000	203.316	0.265	201.051	202.152	0.400	197.752	202.402	0.500	197.752	202.402	0.630	197.752						
	6g	0.048	204.952	0.375	204.577	203.003	0.250	202.753	200.905	6H	0	205.000	203.386	0.335	203.051	202.252	0.500	197.752	202.402	0.600	197.752	202.402	0.700	197.752						
	8g	0.048	204.952	0.600	204.352	203.003	0.400	202.603	200.755	7H	0	205.000	203.476	0.425	203.051	202.382	0.630	197.752	202.402	0.700	197.752	202.402	0.800	197.752						
205	4h	0	205.000	0.300	204.700	202.402	0.180	202.222	199.758	5H	0	205.000	202.702	0.300	202.402	201.145	0.475	200.670	202.402	0.500	200.670	202.402	0.600	200.670						
	6g	0.060	204.940	0.475	204.465	202.342	0.280	202.062	199.598	6H	0	205.000	202.777	0.375	202.402	201.270	0.600	200.670	202.402	0.700	200.670	202.402	0.750	200.670						
	8g	0.060	204.940	0.750	204.190	202.342	0.450	201.892	199.428	7H	0	205.000	202.877	0.475	202.402	201.420	0.750	200.670	202.402	0.800	200.670	202.402	0.900	200.670						
	4h	0	205.000	0.375	204.625	201.103	0.200	200.903	197.207	5H	0	205.000	201.438	0.335	201.103	199.135	0.630	198.505	201.103	0.800	198.505	199.305	1.000	198.505						
	6g	0.080	204.920	0.600	204.320	201.023	0.315	200.708	197.012	6H	0	205.000	201.528	0.425	201.103	199.305	0.800	198.505	201.103	0.900	198.505	199.305	1.000	198.505						
	8g	0.080	204.920	0.950	203.970	201.023	0.500	200.523	196.827	7H	0	205.000	201.633	0.530	201.103	199.505	1.000	198.505	201.103	1.000	198.505	199.305	1.000	198.505						

TABLE 5.1 (*continued*)

millimetres

TABLE 5.1 (*continued*)

millimetres

Basic major diameter <i>D, d</i>	Pitch, <i>P</i>												Internal threads													
	External threads			Internal threads			External threads			Internal threads			External threads			Internal threads			External threads			Internal threads				
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund dev.	Max.	tol.	min.	max.	tol.	min.	Major diameter	Pitch diameter	Minor diameter	Fund dev.	Major diameter	Pitch diameter	Minor diameter	Fund dev.	Major diameter	Pitch diameter	Minor diameter	Fund dev.	
225	4h	0	225.000	0.236	224.764	223.051	0.160	222.891	221.043	5H	0	225.000	0.265	223.051	222.152	0.400	221.732	4h	0	225.000	0.236	224.764	223.051	0.160	222.891	221.043
	6g	0.048	224.952	0.375	224.577	223.003	0.250	222.753	220.905	6H	0	225.000	0.335	223.386	222.352	0.500	221.732	6g	0.048	224.952	0.375	224.577	223.003	0.250	222.753	220.905
	8g	0.048	224.952	0.600	224.352	223.003	0.400	222.603	220.755	7H	0	225.000	0.425	223.051	222.362	0.630	221.732	8g	0.048	224.952	0.600	224.352	223.003	0.400	222.603	220.755
	4h	0	225.000	0.300	224.700	222.402	0.180	222.222	219.758	5H	0	225.000	0.300	222.702	221.402	0.475	220.670	4h	0	225.000	0.300	224.700	222.402	0.180	222.222	219.758
	6g	0.060	224.940	0.475	224.465	222.342	0.280	222.062	219.598	6H	0	225.000	0.375	222.777	221.402	0.600	220.670	6g	0.060	224.940	0.475	224.465	222.342	0.280	222.062	219.598
	8g	0.060	224.940	0.750	224.190	222.342	0.450	221.892	219.428	7H	0	225.000	0.475	222.877	221.402	0.750	220.670	8g	0.060	224.940	0.750	224.190	222.342	0.450	221.892	219.428
	4h	0	225.000	0.375	224.625	221.103	0.200	220.903	217.207	5H	0	225.000	0.335	221.438	219.103	0.630	218.505	4h	0	225.000	0.375	224.625	221.103	0.200	220.903	217.207
	6g	0.080	224.920	0.600	224.320	221.023	0.315	220.708	217.012	6H	0	225.000	0.425	221.528	219.103	0.800	218.505	6g	0.080	224.920	0.950	223.970	221.023	0.500	220.523	216.827
	8g	0.080	224.920	0.950	223.970	221.023	0.500	220.523	216.827	7H	0	225.000	0.530	221.633	219.505	1.000	218.505	8g	0.080	224.920	0.950	223.970	221.023	0.500	220.523	216.827
	4h	0	230.000	0.216	229.764	228.051	0.160	227.891	226.043	5H	0	230.000	0.265	228.051	227.152	0.400	226.732	4h	0	230.000	0.216	229.764	228.051	0.160	227.891	226.043
230	6g	0.048	229.952	0.375	229.577	228.003	0.250	227.753	225.905	6H	0	230.000	0.335	228.386	227.552	0.500	226.732	6g	0.048	229.952	0.375	229.577	228.003	0.250	227.753	225.905
	8g	0.048	229.952	0.600	229.352	228.003	0.400	227.603	225.755	7H	0	230.000	0.425	228.476	227.382	0.630	226.732	8g	0.048	229.952	0.600	229.352	228.003	0.400	227.603	225.755
	4h	0	230.000	0.300	229.700	227.402	0.180	227.222	224.758	5H	0	230.000	0.300	227.702	226.145	0.475	225.670	4h	0	230.000	0.300	229.700	227.402	0.180	227.222	224.758
	6g	0.060	229.940	0.475	229.465	227.342	0.280	227.062	224.598	6H	0	230.000	0.375	227.777	226.270	0.600	225.670	6g	0.060	229.940	0.475	229.465	227.342	0.280	227.062	224.598
	8g	0.060	229.940	0.750	229.190	227.342	0.450	226.892	224.428	7H	0	230.000	0.475	227.877	226.420	0.750	225.670	8g	0.060	229.940	0.750	229.190	227.342	0.450	226.892	224.428
	4h	0	230.000	0.375	229.625	226.103	0.200	225.903	222.207	5H	0	230.000	0.335	226.438	224.135	0.630	223.505	4h	0	230.000	0.375	229.625	226.103	0.200	225.903	222.207
	6g	0.080	229.920	0.600	229.320	226.023	0.315	225.708	222.012	6H	0	230.000	0.425	226.528	224.305	0.800	223.505	6g	0.080	229.920	0.950	228.970	226.023	0.500	225.523	221.827
	8g	0.080	229.920	0.950	228.970	226.023	0.500	225.523	221.827	7H	0	230.000	0.510	226.633	224.505	1.000	223.505	8g	0.080	229.920	0.950	228.970	226.023	0.500	225.523	221.827
	4h	0	235.000	0.236	234.764	233.051	0.160	232.891	231.043	5H	0	235.000	0.265	233.316	231.152	0.400	231.732	4h	0	235.000	0.236	234.764	233.051	0.160	232.891	231.043
	6g	0.048	234.952	0.375	234.577	233.003	0.250	232.753	230.905	6H	0	235.000	0.335	233.386	231.252	0.500	231.732	6g	0.048	234.952	0.375	234.577	233.003	0.250	232.753	230.905
	8g	0.048	234.952	0.600	234.352	233.003	0.400	232.603	230.755	7H	0	235.000	0.425	233.476	231.382	0.630	231.732	8g	0.048	234.952	0.600	234.352	233.003	0.400	232.603	230.755
235	4h	0	235.000	0.300	234.700	232.402	0.180	232.222	229.758	5H	0	235.000	0.300	232.702	230.360	0.400	231.475	4h	0	235.000	0.300	234.700	232.402	0.180	232.222	229.758
	6g	0.060	234.940	0.475	234.465	232.342	0.280	232.062	229.598	6H	0	235.000	0.375	232.777	230.270	0.600	230.670	6g	0.060	234.940	0.475	234.465	232.342	0.280	232.062	229.598
	8g	0.060	234.940	0.750	234.190	232.342	0.450	231.892	229.428	7H	0	235.000	0.475	232.877	231.420	0.750	230.670	8g	0.060	234.940	0.750	234.190	232.342	0.450	231.892	229.428
	4h	0	235.000	0.375	234.625	231.103	0.200	230.903	227.207	5H	0	235.000	0.335	231.438	231.103	0.630	228.505	4h	0	235.000	0.375	234.625	231.103	0.200	230.903	227.207
6	6g	0.080	234.920	0.600	234.320	231.023	0.315	230.708	227.012	6H	0	235.000	0.425	231.508	231.103	0.800	228.505	6g	0.080	234.920	0.950	233.970	231.023	0.500	230.505	227.012
	8g	0.080	234.920	0.950	233.970	231.023	0.500	230.523	226.827	7H	0	235.000	0.510	231.633	231.000	1.000	228.505	8g	0.080	234.920	0.950	233.970	231.023	0.500	230.523	226.827

TABLE 5.1 (*continued*)

millimetres

TABLE 5.1 (*continued*)

millimetres

Basic major diameter D_1		Pitch, P		External threads												Internal threads																														
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Toler- ance class	Fund dev. class	Major diameter	Min.	Max.	tol.	Min.	Max.	tol.	Minor diameter	Min.	Max.	tol.	Major diameter	Min.	Max.	tol.	Minor diameter	Min.	Max.	tol.	min.	max.	tol.	min.																
255	4h	4	4h	0	255.000	0.300	254.700	252.400	0.180	252.222	249.738	5H	0	255.000	252.702	0.300	252.402	251.145	0.475	250.670	251.023	0.315	271.438	0.335	271.103	269.305	0.800	248.505	251.023	0.315	271.438	0.335	271.103	269.305	1.000	248.505										
		6	6g	0.060	254.940	0.475	254.465	252.342	0.280	252.062	249.598	6H	0	255.000	252.777	0.375	252.402	251.270	0.600	250.670	251.023	0.315	270.708	267.012	6H	0	255.000	252.877	0.475	252.402	251.420	0.750	250.670	251.023	0.315	270.708	267.012	6H	0	255.000	252.877	0.475	252.402	251.420	0.750	250.670
		8g	8g	0.060	254.940	0.750	254.190	252.342	0.450	251.892	249.428	7H	0	255.000	252.877	0.475	252.402	251.420	0.750	250.670	251.023	0.315	270.708	267.012	6H	0	255.000	252.877	0.475	252.402	251.420	0.750	250.670													
		4	4h	0	255.000	0.375	254.625	251.103	0.200	250.903	247.207	5H	0	255.000	251.438	0.335	251.103	249.135	0.630	248.505	251.023	0.315	270.708	267.012	6H	0	255.000	251.438	0.335	251.103	249.135	0.630	248.505													
		6	6g	0.080	254.920	0.600	254.320	251.023	0.315	250.708	247.012	6H	0	255.000	251.633	0.530	251.103	249.505	1.000	248.505	251.023	0.315	270.708	267.012	6H	0	255.000	251.633	0.530	251.103	249.505	1.000	248.505													
		8g	8g	0.080	254.920	0.950	253.970	251.023	0.500	250.523	246.827	7H	0	255.000	251.633	0.530	251.103	249.505	1.000	248.505	251.023	0.315	270.708	267.012	6H	0	255.000	251.633	0.530	251.103	249.505	1.000	248.505													
		4	4h	0	260.000	0.300	259.700	257.402	0.180	257.222	254.758	5H	0	260.000	257.702	0.300	257.402	256.145	0.475	255.670	257.000	0.300	257.402	256.270	0.600	255.670	257.000	0.300	257.402	256.270	0.600	255.670														
		6	6g	0.060	259.940	0.475	259.465	257.342	0.280	257.062	254.598	6H	0	260.000	257.777	0.375	257.402	256.420	0.730	255.670	257.000	0.300	257.402	256.420	0.730	255.670	257.000	0.300	257.402	256.420	0.730	255.670														
		8g	8g	0.060	259.940	0.750	259.190	257.342	0.450	256.892	254.428	7H	0	260.000	257.877	0.475	257.402	256.420	0.730	255.670	257.000	0.300	257.402	256.420	0.730	255.670	257.000	0.300	257.402	256.420	0.730	255.670														
		6	4h	0	260.000	0.375	259.625	256.103	0.240	255.903	252.207	5H	0	260.000	256.438	0.335	256.103	254.135	0.630	253.505	256.000	0.300	256.438	254.135	0.630	253.505	256.000	0.300	256.438	254.135	0.630	253.505														
		8g	8g	0.080	259.920	0.600	259.320	256.023	0.315	255.708	252.012	6H	0	260.000	256.528	0.425	256.103	254.305	0.800	253.505	256.000	0.300	256.528	254.305	0.800	253.505	256.000	0.300	256.528	254.305	0.800	253.505														
260	4h	4	4h	0	265.000	0.300	264.700	262.402	0.180	262.222	259.758	5H	0	265.000	262.702	0.300	262.402	261.145	0.475	260.670	266.000	0.300	262.402	261.270	0.600	260.670	266.000	0.300	262.402	261.270	0.600	260.670														
		6	6g	0.060	264.940	0.475	264.465	262.342	0.280	262.062	259.598	6H	0	265.000	262.777	0.375	262.402	261.420	0.750	260.670	266.000	0.300	262.402	261.420	0.750	260.670	266.000	0.300	262.402	261.420	0.750	260.670														
		8g	8g	0.060	264.940	0.750	264.970	262.342	0.450	261.892	259.428	7H	0	265.000	262.877	0.475	262.402	261.420	0.750	260.670	266.000	0.300	262.402	261.420	0.750	260.670	266.000	0.300	262.402	261.420	0.750	260.670														
		4	4h	0	265.000	0.375	264.625	261.103	0.200	260.903	257.207	5H	0	265.000	261.438	0.335	261.103	259.135	0.630	258.505	266.000	0.300	261.438	259.135	0.630	258.505	266.000	0.300	261.438	259.135	0.630	258.505														
		6	6g	0.080	264.920	0.600	264.320	261.023	0.315	260.708	257.012	6H	0	265.000	261.528	0.425	261.103	259.305	0.800	258.505	266.000	0.300	261.528	259.305	0.800	258.505	266.000	0.300	261.528	259.305	0.800	258.505														
		8g	8g	0.080	264.920	0.950	263.970	261.023	0.500	260.523	256.827	7H	0	265.000	261.633	0.530	261.103	259.305	1.000	258.505	266.000	0.300	261.633	259.305	1.000	258.505	266.000	0.300	261.633	259.305	1.000	258.505														
		4	4h	0	270.000	0.300	269.700	267.402	0.180	267.222	264.758	5H	0	270.000	267.702	0.300	267.402	266.145	0.475	265.670	276.000	0.300	267.402	266.270	0.600	265.670	276.000	0.300	267.402	266.270	0.600	265.670														
		6	6g	0.060	269.940	0.475	269.465	267.342	0.280	267.062	264.598	6H	0	270.000	267.777	0.375	267.402	266.420	0.750	265.670	276.000	0.300	267.402	266.420	0.750	265.670	276.000	0.300	267.402	266.420	0.750	265.670														
		8g	8g	0.060	269.940	0.750	269.940	267.342	0.450	266.892	264.428	7H	0	270.000	267.877	0.475	267.402	266.420	0.750	265.670	276.000	0.300	267.402	266.420	0.750	265.670	276.000	0.300	267.402	266.420	0.750	265.670														
		4	4h	0	270.000	0.375	269.625	266.103	0.200	265.903	262.207	5H	0	270.000	266.438	0.335	266.103	264.135	0.630	263.505	276.000	0.300	266.438	264.135	0.630	263.505	276.000	0.300	266.438	264.135	0.630	263.505														
		6	6g	0.080	269.920	0.600	269.320	266.023	0.315	265.708	262.012	6H	0	270.000	266.528	0.425	266.103	264.305	0.800	263.505	276.000	0.300	266.528	264.305	0.800	263.505	276.000	0.300	266.528	264.305	0.800	263.505														
		8g	8g	0.080	269.920	0.950	268.970	266.023	0.500	265.523	261.827	7H	0	270.000	266.633	0.530	266.103	264.305	1.000	263.505	276.000	0.300	266.633	264.305	1.000	263.505	276.000	0.300	266.633	264.305	1.000	263.505														
270	4h	4	4h	0	275.000	0.300	274.700	272.402	0.180	272.222	269.758	5H	0	275.000	272.702	0.300	272.402	271.145	0.475	270.670	278.000	0.300	272.402	271.270	0.600	270.670	278.000	0.300	272.402	271.270	0.600	270.670														
		6	6g	0.060	274.940	0.475	274.465	272.342	0.280	272.062	269.598	6H	0	275.000	272.777	0.375	272.402	271.420	0.750	270.670	278.000	0.300	272.402	271.420	0.750	270.670	278.000	0.300	272.402	271.420	0.750	270.670														
		8g	8g	0.060	274.940	0.750	274.940	272.342	0.450	273.892	270.428	7H	0	275.000	272.877	0.475	272.402	271.420	0.750	270.670	278.000	0.300	272.402	271.420	0.750	270.670	278.000	0.300	272.402	271.420	0.750	270.670														
		4	4h	0	275.000	0.375	274.625	271.103	0.200	270.903	267.207	5H	0	275.000	272.402	0.335	271.103	269.135	0.630	268.505	278.000	0.300	272.402	271.270	0.600	268.505	278.000	0.300	272.402	271.270	0.600	268.505														
		6	6g	0.080	274.920	0.600	274.320	271.023	0.315	270.708	267.012	6H	0	275.000	272.505	0.425	271.103	269.305	1.000	268.505	278.000	0.300	272.505	271.103	1.000	268.505	278.000	0.300	272.505	271.103	1.000	268.505														
		8g	8g	0.080	274.920	0.950	273.970	271.023	0.500	270.523	267.827	7H	0	275.000	272.605	0.530	271.103	269.505	1.000	268.505	278.000	0.300	272.605	271.103	1.000	268.505	278.000	0.300	272.605	271.103	1.000	268.505														
275	4h	4	4h	0	275.000	0.300	274.700	272.402	0.180	272.222	269.758	5H	0	275.000	272.702	0.300	272.402	271.145	0.475	270.670	278.000	0.300	272.402	271.270	0.600	270.670	278.000	0.300	272.402	271.270	0.600	270.670														
		6	6g	0.060	274.940	0.475	274.465	272.342	0.280	272.062	269.598	6H	0	275.000	272.777	0.375	272.402	271.420	0.750	270.670	278.000	0.300	272.402	271.420	0.750	270.670	278.000	0.300	272.402	271.420	0.750	270.670														
		8g	8g	0.060	274.940	0.750	274.940	272.342	0.450	273.892	270.428	7H	0	275.000	272.877	0.475	272.402	271.420</																												

TABLE 5.1 (continued)

millimetres

Basic major diameter D, d		Pitch, P		External threads						Internal threads						
First choice	Second choice	Third choice	Coarse series	Fine series	Constant series	Tolerance class	Fund dev.	Major diameter	Pitch diameter	Minor diameter	Tolerance class	Fund dev.	Major diameter	Pitch diameter	Minor diameter	
280	4h	0	280.000	0.300	279.700	277.402	0.180	277.222	274.738	5H	0	280.000	277.702	0.300	276.402	
		6g	0.060	279.940	0.475	279.465	277.342	0.280	277.062	274.598	6H	0	280.000	277.777	0.375	276.402
		8g	0.080	279.940	0.750	279.190	277.342	0.450	276.892	274.428	7H	0	280.000	277.877	0.475	276.420
		6g	0.080	279.920	0.600	279.320	276.023	0.315	275.708	272.012	6H	0	280.000	276.438	0.335	276.103
		8g	0.080	279.920	0.950	278.970	276.023	0.500	275.523	271.827	7H	0	280.000	276.528	0.425	276.103
	4h	0	280.000	0.375	279.625	276.103	0.200	275.903	272.207	5H	0	280.000	276.438	0.335	276.103	
		6g	0.060	279.920	0.600	279.320	276.023	0.315	275.708	272.012	6H	0	280.000	276.305	0.300	273.505
		8g	0.080	279.920	0.950	278.970	276.023	0.500	275.523	271.827	7H	0	280.000	276.633	0.530	276.103
		6g	0	285.000	0.300	284.700	282.402	0.180	282.222	279.758	5H	0	285.000	282.702	0.300	282.402
		8g	0.060	284.940	0.475	284.465	282.342	0.280	282.062	279.598	6H	0	285.000	282.777	0.375	282.402
285	4h	0	285.000	0.375	284.625	281.103	0.200	280.903	277.207	5H	0	285.000	281.438	0.335	281.103	
		6g	0.060	284.940	0.750	284.190	282.342	0.450	281.892	279.428	7H	0	285.000	281.528	0.425	281.103
		8g	0.080	284.940	1.000	283.700	281.023	0.500	280.523	276.827	7H	0	285.000	281.633	0.530	281.103
		6g	0.080	284.920	0.600	283.320	281.023	0.315	280.708	277.012	6H	0	290.000	287.777	0.375	287.402
		8g	0.080	284.920	0.950	283.970	281.023	0.500	280.523	276.827	7H	0	290.000	287.702	0.300	287.402
	4h	0	290.000	0.300	289.700	287.402	0.180	287.222	284.758	5H	0	290.000	286.438	0.335	284.103	
		6g	0.060	289.940	0.475	289.465	287.342	0.280	287.062	284.598	6H	0	290.000	286.402	0.300	286.103
		8g	0.080	289.940	0.750	289.190	287.342	0.450	286.892	284.428	7H	0	290.000	287.877	0.475	287.402
		6g	0	290.000	0.375	289.625	286.103	0.200	285.903	282.207	5H	0	290.000	286.702	0.300	286.402
		8g	0.080	289.940	1.000	288.700	286.023	0.315	285.708	282.012	6H	0	290.000	286.528	0.425	286.103
290	4h	0	290.000	0.375	289.625	286.103	0.200	285.903	282.207	5H	0	290.000	286.438	0.335	284.103	
		6g	0.080	289.920	0.600	289.320	286.023	0.315	285.708	282.012	6H	0	290.000	286.305	0.300	284.103
		8g	0.080	289.920	0.950	288.970	286.023	0.500	285.523	281.827	7H	0	290.000	286.633	0.530	284.505
		6g	0	295.000	0.300	294.700	292.402	0.180	292.222	289.758	5H	0	295.000	292.702	0.300	292.402
		8g	0.080	294.940	0.475	294.465	292.342	0.280	292.062	289.598	6H	0	295.000	292.777	0.375	292.402
	4h	0	295.000	0.375	294.625	291.103	0.200	290.903	287.207	5H	0	295.000	291.438	0.335	291.103	
		6g	0.060	294.940	0.750	294.190	291.023	0.315	290.708	287.012	6H	0	295.000	291.528	0.425	291.103
		8g	0.080	294.940	1.000	293.700	291.023	0.500	290.523	286.827	7H	0	295.000	291.633	0.530	291.103
		6g	0	300.000	0.300	299.700	297.402	0.180	297.222	294.758	5H	0	300.000	297.702	0.300	297.402
		8g	0.080	299.940	0.475	299.465	297.342	0.280	297.062	294.598	6H	0	300.000	297.777	0.375	297.402
295	4h	0	300.000	0.375	299.625	296.103	0.200	295.903	292.207	5H	0	300.000	296.438	0.335	294.103	
		6g	0.060	299.940	0.600	299.320	296.023	0.315	295.708	292.012	6H	0	300.000	296.528	0.425	296.103
		8g	0.080	299.940	0.950	299.970	296.023	0.500	295.523	291.827	7H	0	300.000	296.633	0.530	296.103
		6g	0	300.000	0.375	299.625	296.103	0.200	295.903	292.207	5H	0	300.000	296.145	0.475	295.670
		8g	0.080	299.920	0.600	299.320	296.023	0.315	295.708	292.012	6H	0	300.000	296.270	0.600	295.670
	4h	0	300.000	0.375	299.625	296.103	0.200	295.903	292.207	5H	0	300.000	296.438	0.335	294.103	
		6g	0.060	299.940	0.750	299.190	297.342	0.450	296.892	294.428	7H	0	300.000	297.877	0.475	297.402
		8g	0.080	299.940	1.000	299.970	296.023	0.500	295.523	291.827	7H	0	300.000	298.505	1.000	298.505
		6g	0	300.000	0.375	299.625	296.103	0.200	295.903	292.207	5H	0	300.000	296.145	0.475	295.670
		8g	0.080	299.920	0.950	299.970	296.023	0.500	295.523	291.827	7H	0	300.000	296.528	0.425	296.103
300	4h	0	300.000	0.375	299.625	296.103	0.200	295.903	292.207	5H	0	300.000	296.438	0.335	294.103	
		6g	0.060	299.940	0.750	299.190	297.342	0.450	296.892	294.428	7H	0	300.000	297.877	0.475	297.402
		8g	0.080	299.940	1.000	299.970	296.023	0.500	295.523	291.827	7H	0	300.000	298.505	1.000	298.505
		6g	0	300.000	0.375	299.625	296.103	0.200	295.903	292.207	5H	0	300.000	296.145	0.475	295.670
		8g	0.080	299.920	0.950	299.970	296.023	0.500	295.523	291.827	7H	0	300.000	296.528	0.425	296.103

SECTION 6. DESIGNATION OF SCREW THREADS

6.1 SCOPE OF SECTION. This Section covers the designation system used for general purpose metric screw threads, and gives the complete designation applicable to all the graded and constant pitch series, together with a shortened designation applicable to coarse pitch series threads only. Provision is also made for designating different tolerance classes for the pitch diameter and major diameter of external threads and for designating different types of fits between internal external threads.

6.2 COMPLETE DESIGNATION FOR INTERNAL THREADS. The complete designation of an internal screw thread to this standard comprises the following elements in the following order:

- The letter M indicating an ISO Metric general purpose screw thread.
- The value of the basic major diameter, in millimetres.
- The value of the pitch, in millimetres.
- The tolerance class designation for the pitch diameter.

EXAMPLE:

Thread designation symbol	M5	×	0.8	-	5H
Basic major diameter					
Pitch					
Pitch diameter tolerance class					

NOTE: For coarse pitch series threads, see also Clause 6.4.

6.3 COMPLETE DESIGNATION FOR EXTERNAL THREADS.

6.3.1 Threads with the same tolerance class for the pitch diameter and major diameter. The complete designation for an external screw thread with the same tolerance class for the pitch diameter and major diameter comprises the same elements in the same order as given for internal screw threads (see Clause 6.2).

EXAMPLE:

Thread designation symbol	M8	×	1	-	6g
Basic major diameter					
Pitch					
Pitch diameter and major diameter tolerance class					

6.3.2 Threads with different tolerance classes for the pitch diameter and major diameter. The complete designation for an external thread with different tolerance classes for the pitch diameter and the major diameter shall comprise the same elements in the same order as for internal threads (see Clause 6.2) except that the designation shall also include the major diameter tolerance class. The pitch diameter tolerance class shall always precede the major diameter tolerance class.

EXAMPLE:

Thread designation symbol	M20	×	2.5	-	5g 6g
Basic major diameter					
Pitch					
Pitch diameter tolerance class					
Major diameter tolerance class					

NOTE: For coarse pitch series threads, see also Clause 6.4.

6.4 SHORTENED DESIGNATION FOR COARSE PITCH SERIES THREADS. The designation for coarse pitch series internal and external threads is the same as that given in Clauses 6.2 and 6.3 respectively, except that the indication of pitch may be omitted. Therefore if no pitch is indicated in the designation, a coarse pitch series thread is specified, i.e.—

M8 - 6e is the same as M8 × 1.25 - 6e; and

M5 - 5H is the same as M5 × 0.8 - 5H.

6.5 DESIGNATION OF A THREAD FIT. A fit between mating internal and external threads is indicated in the designation by the tolerance class for the internal thread, followed by the tolerance class(es) for the external thread separated by an oblique stroke.

EXAMPLES:

M8 - 6H/6g

M20 × 2 - 6H/5g 6g

APPENDIX A
BASES FOR THE DERIVATION OF TOLERANCE GRADES AND
FUNDAMENTAL DEVIATIONS

A1 SCOPE. This Appendix sets out the formulas used for the derivation of the tolerance grades, fundamental deviations and length of axial thread engagement. It should be noted that the values given in the standard are essentially based on practical experience, but in order to obtain a consistent system, mathematical formulas were developed.

The values for the pitch and crest diameter tolerance grades and the fundamental deviations given in the standard have been calculated from the formulas in this Appendix, rounded off to the nearest value in the R40 series of preferred numbers. However, where decimal fractions occur, the value has been further rounded off to the nearest whole number. Further it should be noted that in order to produce a smooth progression the above rules have not been rigidly adhered to. *Hence it is important to restate that the tabulated values given in the standard are to be taken as authoritative for the application of the metric thread system.*

A2 TOLERANCE GRADES.

A2.1 Pitch diameter tolerances. The pitch diameter tolerance grades for both external and internal threads are derived from the pitch diameter tolerance for Grade 6 external threads ($T_{d_2}(6)$) calculated from the following formula:

$$T_{d_2}(6) = 90P^{0.4} \times d^{0.1}$$

where ($T_{d_2}(6)$) is in micrometres and P and d are in millimetres.

The pitch diameter tolerances for all other tolerance grades of external and internal threads are obtained by multiplying the relevant values of ($T_{d_2}(6)$) by the coefficients given for each grade in Table A1.

A2.2 Tabulated values of pitch diameter tolerances. The values of the pitch diameter tolerances given in Tables 4.2 and 4.3 have been calculated using a basic major diameter (d, D), equal to the geometrical mean value of the diameter range limits.

TABLE A1
PITCH DIAMETER TOLERANCE COEFFICIENTS

Tolerance grade	3	4	5	6	7	8	9
Internal threads	—	0.85	1.06	1.32	1.70	2.12	—
External threads	0.50	0.63	0.80	1.00	1.25	1.60	2.00

A3 CREST DIAMETER TOLERANCES.

A3.1 Major diameter tolerances for external threads. The major diameter tolerances are derived from the major diameter tolerance for Grade 6 ($T_d(6)$) calculated from the following formula:

$$T_d(6) = 180 \times \sqrt[3]{P^2} \frac{3.15}{\sqrt{P}}$$

where $T_d(6)$ is in micrometres and P is in millimetres.

The major diameter tolerances for all other tolerance grades are obtained by multiplying the relevant values of $T_d(6)$ by the coefficients given for each grade in Table A2.

TABLE A2
MAJOR DIAMETER COEFFICIENTS FOR EXTERNAL THREADS

Tolerance grade	4	6	8
Coefficients	0.63	1.00	1.60

A3.2 Minor diameter tolerances for internal threads. The minor diameter tolerances are derived from the minor diameter tolerance for Grade 6 ($T_{D_m}(6)$) calculated from the following formulas:

For pitches 0.2 to 0.8 mm T_p (6) = $433P - 190P^{1.22}$

For pitches 1 mm and coarser $T_p(6) = 230P^{0.7}$

where T_p (6) is in micrometres and P is in millimetres.

The minor diameter tolerances for all other tolerance grades are obtained by multiplying the relevant values of T_b (6) by the coefficients given for each grade in Table A3.

TABLE A3

Tolerance grade	4	5	6	7	8
Coefficients	0.63	0.80	1.00	1.25	1.60

A4 FUNDAMENTAL DEVIATIONS.

A4.1 External threads. The fundamental deviations for external threads are calculated from the following formulas:

$$\begin{aligned}
 \text{Deviation h} &= 0 \\
 \text{Deviation g} &= -(15 + 11P) \\
 \text{Deviation f} &= -(30 + 11P) \\
 \text{Deviation e} &= -(50 + 11P)
 \end{aligned}$$

where h , g , e and f are in micrometres and P is in millimetres.

A4.2 Internal threads. The fundamental deviations for internal threads are calculated from the following formulas:

$$\begin{aligned} \text{Deviation H} &= 0 \\ \text{Deviation G} &= +(15 + 11P) \end{aligned}$$

where H and G are in micrometres and P is in millimetres.

A5 DETERMINATION OF MINOR DIAMETER OF EXTERNAL THREADS.

A5.1 Maximum minor diameter. As indicated in Clauses 2.6.2 and 4.4.4.2, it is not usual to specify a maximum minor diameter for external threads. However if this parameter is considered necessary for special applications, it may be derived from the following formula:

d_1 - fundamental deviation - $2Y$

$$\text{where } Y = R_{\min} \left\{ 1 - \cos \left[60^\circ - \arccos(1 - \frac{T_{d_2}}{4 \times R_{\min}}) \right] \right\}$$

See also Fig. A1.

A5.2 Minimum minor diameter. The minimum minor diameter given in Table 5.1 is derived from the following formula:

d_1 - fundamental deviation (pitch diameter) - $2Z$

where $Z = H/4 + \frac{T_{d_2}}{2} - P/8$

See also Fig. A1.

A6 LIMITS OF SIZE.

A6.1 External threads. The limits of size for external threads are determined as follows:

(a) *Maximum material limit.*

Major and pitch diameter..... by the algebraic addition of the fundamental deviation to the basic major or pitch diameter, as appropriate.

Minor diameter..... by the application of the formula given in Paragraph A5.1 (see also Fig. A1).

NOTE: The maximum minor diameter is not normally specified.

(b) *Least material limit.*

- Major and pitch diameter by the algebraic addition of the applicable tolerance grade to the maximum major or pitch diameter, as appropriate.
 Minor diameter by the application of the formula given in Paragraph A5.2 (see also Fig. A1).

A6.2 Internal threads. The limits of size for internal threads are determined as follows:

(a) *Maximum material limit.*

- Minor and pitch diameter by the algebraic addition of the fundamental deviation to the basic minor or pitch diameter, as appropriate.
 Major diameter the basic major diameter.

(b) *Least material limit.*

- Minor and pitch diameter by the algebraic addition of the applicable tolerance grade to the minimum minor or pitch diameter, as appropriate.
 Major diameter no provision is made for establishing a maximum major diameter (see Clause 4.4.4.1).

A7 LENGTH OF AXIAL THREAD ENGAGEMENT. The lengths of normal axial thread engagement given in the standard are calculated from the following formulas:

$$\text{Maximum length of axial thread engagement} \approx 6.7P_d^{0.2}$$

$$\text{Minimum length of axial thread engagement} \approx 2.24P_d^{0.2}$$

where the length of axial thread engagement, and P and d are in millimetres, and d is the smallest diameter given for each pitch in Table 4.6.

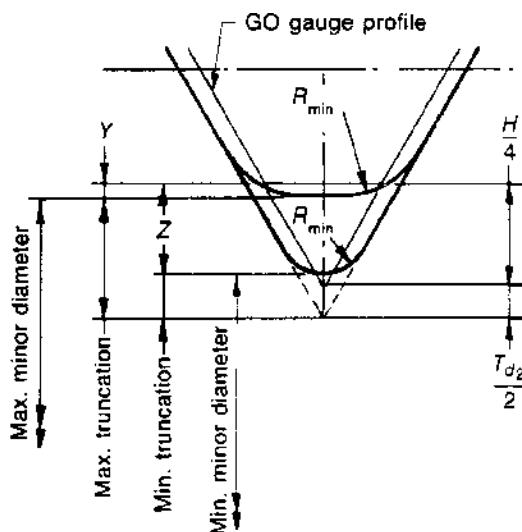


Fig. A1. DERIVATION OF Y AND Z

NOTE: It should be further noted that the maximum root profile shown in Fig. A1, which is used for the calculation of the maximum minor diameter, is theoretically possible but unlikely to occur in practice. Such a configuration would require the combination of maximum truncation at the minor diameter and least material condition on the thread flanks.

A8 STRESS AREAS FOR THREADED FASTENERS. The cross-sectional area for calculating the test loads applied to threaded fasteners is calculated from the following formula:

$$\text{Stress area } A_s = \frac{\pi}{4} \left(\frac{d_2 + d_3}{2} \right)^2$$

where

d_2 = basic pitch diameter

d_3 = minor diameter = $d_1 - H/6$

where

d_1 = basic minor diameter

H = height of the fundamental triangle of the basic profile.

For convenience the calculated stress areas for the coarse and fine pitch thread series are given in Tables A4 and A5.

TABLE A4
NOMINAL STRESS AREAS (A_s) — COARSE PITCH SERIES

Basic major diameter d mm	Pitch P mm	Stress area A_s mm ²	Basic major diameter d mm	Pitch P mm	Stress area A_s mm ²
1	0.25	0.46	16	2	157
1.1	0.25	0.59	18	2.5	192
1.2	0.25	0.73	20	2.5	245
1.4	0.3	0.98	22	2.5	303
1.6	0.35	1.27	24	3	353
1.8	0.35	1.7	27	3	459
2	0.4	2.07	30	3.5	561
2.2	0.45	2.48	33	3.5	694
2.5	0.45	3.39	36	4	817
3	0.5	5.03	39	4	976
3.5	0.6	6.78	42	4.5	1121
4	0.7	8.78	45	4.5	1306
5	0.8	14.2	48	5	1473
6	1	20.1	52	5	1758
7	1	28.9	56	5.5	2030
8	1.25	36.6	60	5.5	2362
10	1.5	58.0	64	6	2676
12	1.75	84.3	68	6	3055
14	2	115			

TABLE A5
NOMINAL STRESS AREAS (A_s) - FINE PITCH SERIES

Basic major diameter d mm	Pitch P mm	Stress area A_s mm ²	Basic major diameter d mm	Pitch P mm	Stress area A_s mm ²
1	0.2	0.52	6	0.75	22
1.1	0.2	0.65	7	0.75	31.3
1.2	0.2	0.81	8	1	39.2
1.4	0.2	1.16	10	1.25	61.2
1.6	0.2	1.57	12	1.25	92.1
1.8	0.2	2.04	14	1.5	125
2	0.25	2.45	16	1.5	167
2.2	0.25	3.03	18	1.5	216
2.5	0.35	3.71	20	1.5	272
3	0.35	5.61	22	1.5	333
3.5	0.35	7.90	24	2	384
4	0.5	9.79	27	2	496
4.5	0.5	12.8	30	2	621
5	0.5	16.1	33	2	761

APPENDIX B

GUIDELINES FOR THE CALCULATION OF THREAD
PARAMETERS

B1 SCOPE. This Appendix sets out guidelines for the calculation of limits for metric screw threads not given in the tables in the standard.

After determining the required diameter/pitch combinations and tolerance classes, the procedure given in Paragraph B2 for external threads, and Paragraph B3 for internal threads, should be followed.

B2 LIMITS FOR EXTERNAL THREAD M30 × 1.25 - 5g6g. As an example, the calculation of limits for external thread M30 × 1.25 - 5g6g is shown in Table B1.

B3 LIMITS FOR INTERNAL THREAD M345 × 4 - 8G. As an example, the calculation of limits for internal thread M345 × 4 - 8G is shown in Table B2.

TABLE B1
EXAMPLE FOR EXTERNAL THREAD
Required thread: M30 × 1.25 - 5g6g

Feature	Symbol	Clause and table reference	Formula	Value, mm
Basic major diameter	d	Fig 2.1 Clause 3.3	Nominal size	30.000
Basic pitch diameter	d_2	Fig 2.1 Clause 3.3	$d - 0.6495P$	29.188
Basic minor diameter	d_1	Fig 2.1 Clause 3.3	$d - 1.0825P$	28.647
Fundamental deviation 'g' ⁽¹⁾	g	Appendix A Paragraph A4.1 Table 4.1	$-(15 + 11P)$	-0.028
Maximum major diameter	—	Clause 4.3 Appendix A Paragraph A4.1 and A6.1	$d + g$	29.972
Major diameter tolerance (tolerance grade 6) ⁽²⁾	T_d	Clause 4.4.3 Appendix A Paragraph A3.1 Table 4.5	$180 \times \frac{3\sqrt{p^2}}{\sqrt{p}} - \frac{3.15}{\sqrt{p}}$	0.212
Minimum major diameter	—	Clause 4.4 Appendix A Paragraph A6.1	maximum major diameter $- T_d$	29.760
Maximum pitch diameter	—	Clause 4.3 Appendix A Paragraph A6.1	$d_2 + g$	29.160
Pitch diameter tolerance (tolerance grade 5) ⁽³⁾	T_{d_2}	Clause 4.4.2 Appendix A Paragraph A2.1	$0.8 \times T_{d_2}(6)$	0.111
Minimum pitch diameter	—	Clause 4.4.2 Appendix A Paragraph A6.1	maximum pitch diameter $- T_{d_2}$	29.049
Minimum root radius	R_{min}	Clause 2.6.2	$0.125P$	0.156
Maximum minor diameter	—	Clause 2.5.2 Appendix A Paragraph A5.1	$d_1 + g - 2Y$	28.589
Minimum minor diameter	—	Clause 2.5.2 Appendix A Paragraph A5.2	$d_1 + g - 2Z$	28.279

NOTES:

1. Deviations e, f, g and h are given in Table 4.1.
2. Tolerance grades 4, 6 and 8 for the major diameter are given in Table 4.5.
3. Tolerance grades 3, 4, 5, 6, 7 and 8 for the pitch diameter are given in Table 4.3.

Summary:

External thread M30 × 1.25 - 5g 6g
 Major diameter limits: 29.972 (max.)
 29.760 (min.)
 Pitch diameter limits: 29.160 (max.)
 29.049 (min.)
 Minor diameter limits: 28.589 (max.)
 28.279 (min.)

TABLE B2
EXAMPLE FOR INTERNAL THREAD
Required thread: M345 × 4 - 8G

Feature	Symbol	Clause and table reference	Formula	Value, mm
Basic major diameter	D	Fig 2.1 Clause 3.3	Nominal size	345.000
Basic pitch diameter	D_2	Fig 2.1 Clause 3.3	$D - 0.6495P$	342.402
Basic minor diameter	D_1	Fig 2.1 Clause 3.3	$D - 1.0825P$	340.670
Fundamental deviation ' $G^{(1)}$ '	G	Appendix A Paragraph A4.2 Table 4.1	$+ (15 + 11P)$	0.060
Minimum major diameter	—	Clause 4.4.4.1 Appendix A Paragraphs A4.2 and A6.2	D	345.000
Maximum major diameter	—	Not specified	—	-
Minimum pitch diameter	—	Clause 4.3.2 Appendix A Paragraph A6.2	$D_2 + G$	342.462
Pitch diameter tolerance (tolerance grade 8) ⁽²⁾	T_{D_2}	Clause 4.4.2 Appendix A Paragraph A2.1 Table 4.2	$2.12 \times T_{D_2}(6)$	0.600
Maximum pitch diameter	—	Clause 4.4.1 Appendix A Paragraph A6.2	minimum pitch diameter $+ T_{D_2}$	343.062
Minor diameter tolerance (tolerance grade 8) ⁽³⁾	T_{D_1}	Clause 4.4.3.1 Appendix A Paragraph A3.2 Table 4.4.	$1.6 \times T_{D_1}(6)$	0.950
Minimum minor diameter	—	Clause 4.3.2 Appendix A Paragraph A6.2	$D_1 + G$	340.730
Maximum minor diameter	—	Clause 4.4.1 Appendix A Paragraph A6.2	minimum minor diameter $+ T_{D_1}$	341.680

NOTES:

1. Deviations G and H are given in Table 4.1.
2. Tolerance grades 4, 5, 6, 7 and 8 for the pitch diameter are given in Table 4.2.
3. Tolerance grades 4, 5, 6, 7 and 8 for the minor diameter are given in Table 4.4.

Summary:
Internal thread M345 × 4 - 8G

Major diameter: 345.000 (min.)
Pitch diameter limits: 343.062 (max.)
342.462 (min.)

Minor diameter limits: 341.680 (max.)
340.730 (min.)

APPENDIX C
COMPARISON OF SYMBOLS (Notations) FOR SCREW THREAD PARAMETERS

Parameter		Symbol (notation) used in AS 1721-1975	ISO and this standard
Major diameter—	basic internal threads external threads	D D_n D_s	$D; d$ — —
Pitch diameter—	basic internal threads external threads	E E_n E_s	$D_2; d_2$ — —
Minor diameter—	basic internal threads external threads	d d_n d_s	$D_1; d_1$ d_3^*
Pitch Height of fundamental triangle		p H	P H
Height (depth) of thread—	basic internal threads external threads	h h_n h_s	— — —
Addendum—	basic internal threads external threads	h'' h''_n h''_s	— — —
Dedendum—	basic internal threads external threads	h' h'_n h'_s	— — —
Truncation at minor diameter—	basic internal threads external threads	t t_n t_s	— — —
Truncation at major diameter—	basic internal threads external threads	T T_n T_s	— — —
Width of flat at minor diameter—	basic internal threads external threads	f f_n f_s	— — —
Width of flat at major diameter—	basic internal threads external threads	F F_n F_s	— — —
Radius at minor diameter—	external threads	r_s	R
Radius at major diameter—	internal threads	R_n	—
Height of circular segments at rounded roots—	internal threads external threads	C_n C_s	— —
Tolerances for pitch diameter—	internal threads external threads	T_{E_x} T_{E_s}	T_{D_2} T_{d_2}
Tolerances for major diameter—	internal threads external threads	T_{D_n} T_{D_s}	— T_d
Tolerances for minor diameter—	internal threads external threads	T_{d_n} T_{d_s}	T_{D_1} —
Areas for stress calculation	Tension	External threads cross-section— stress areas core area	A_s A_c
	Shear	External thread helix Internal thread helix	AS_s AS_n
Deviations—general symbols		Internal threads— lower upper	l_n u_n
		External threads— lower upper	l_s u_s
Fundamental deviation series	Internal threads (L_s) External threads (u_s)	H, G h, g, e	$H; G;$ $h; g; e; f.$
Radial engagement		R_e	—

* See ISO 898, Part 1. ($d_3 = d_1 - H/6$)

NOTE: The following symbols are used by ISO, but not this standard:

EI: lower deviation for internal threads

ES: upper deviation for internal threads

ei: lower deviation for external threads

es: upper deviation for external threads

APPENDIX D
NOTES ON THE PRODUCTION OF EXTERNAL THREADS

The actual form of the crest of an external thread depends on the method of manufacture.

If a single-ribbed grinding wheel or single-point cutting tool is used, a thread with a completely flat crest will be produced, as illustrated in Fig. D1(a).

Use of a crushed multi-ribbed wheel produces a crest profile similar to that shown in Fig. D1(b).

A typical form of crest produced by the thread rolling processes is shown in Fig. D1(c). The crests of threads resulting from this process will normally fall wholly above the minimum limiting profile shown in Figs 2.6 and 2.7.

Fig. D1(d) shows the form of crest produced by a thread cutting die of nominal root radius, viz $0.125P$. With a correctly formed tool, there will be no serious loss of straight flank even when it cuts a thread on minimum diameter.

Provided that due care is taken in regard to the wear of tools, rounded crests should rarely reach the dotted profile shown in Fig. 2.3.

It may be mentioned that the following advantages are associated with bolts with rounded crests:

- (a) Bolts with rounded crests are less susceptible to damage by burring in handling and transport than those having flat crests, which result in sharp, or semi-sharp, edges round the outside diameter of the bolt.
- (b) Troubles associated with plating are far less serious if the crests of the bolts are rounded. In the plating of bolts by the usual barrel plating process, the burring of flat-crested bolts can be quite serious, and in the still-vat process the plating tends to build up round the two edges at the outside diameter and encroaches upon the flanks.

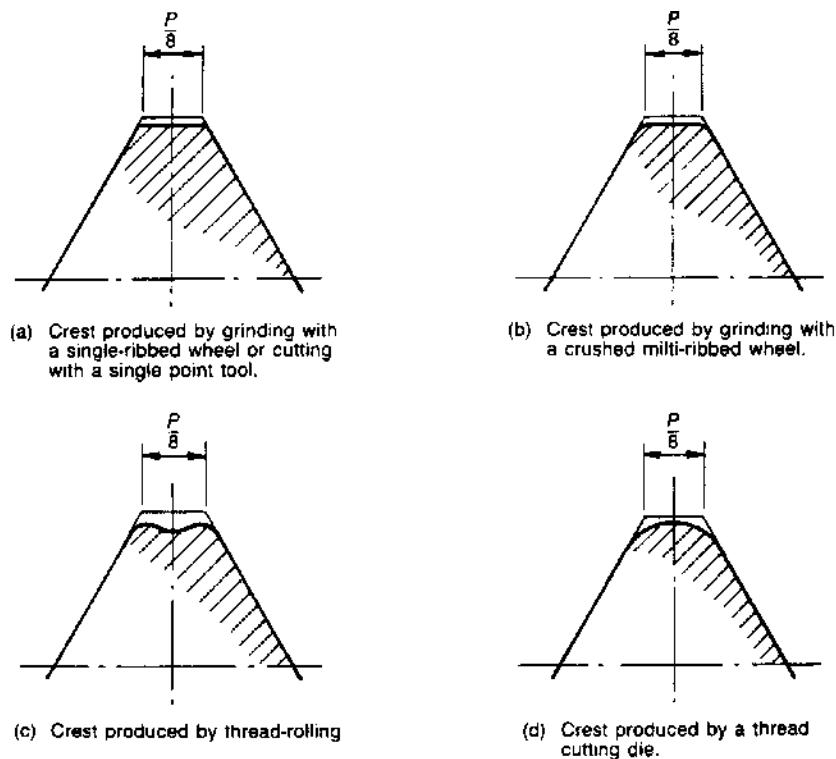


Fig. D1. CRESTS OF EXTERNAL THREADS

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