

# ISO general purpose metric screw threads — General plan

ICS 21.040.10

# National foreword

This British Standard reproduces verbatim ISO 261:1998 and implements it as the UK national standard.

The UK participation in its preparation was entrusted by Technical Committee FME/9, Bolts, nuts and accessories, to Subcommittee FME/9/3, Reference standards for fasteners, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

## Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, pages ii to iv, pages 1 to 4 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 April 1999

© BSI 03-2000

ISBN 0 580 32349 8

## Amendments issued since publication

Amd. No.	Date	Comments

---

# Contents

	Page
National foreword	Inside front cover
Foreword	iii
Text of ISO 261	1

---



INTERNATIONAL  
STANDARD

**ISO  
261**

Second edition  
1998-12-15

---

---

**ISO general purpose metric screw  
threads — General plan**

*Filetages métriques ISO pour usages généraux — Vue d'ensemble*



Reference number  
ISO 261:1998(E)

## Contents

	Page
Foreword	iii
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Designation	1
5 Choice of diameter and pitch	1
Table 1 — Maximum nominal diameter	1
Table 2 — Nominal diameter/pitch	2

**Descriptors:** Screw threads, ISO metric threads, form specifications, dimensions, diameters, thread pitch, designation.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 261 was prepared by Technical Committee ISO/TC 1, *Screw threads*, Subcommittee SC 1, *Basic data*.

This second edition cancels and replaces the first edition (ISO 261:1973) which has been technically revised.





## 1 Scope

This International Standard specifies ISO general purpose metric screw threads (M) having basic profile according to ISO 68-1. Basic dimensions are given in ISO 724. For tolerances see ISO 965-1.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 68-1:1998, *ISO general purpose screw threads — Basic profile — Part 1: Metric screw threads*.

ISO 262:1998, *ISO general purpose metric screw threads — Selected sizes for screws, bolts and nuts*.

ISO 724:1993, *ISO general purpose metric screw threads — Basic dimensions*.

ISO 965-1:1998, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data*.

ISO 5408:1983, *Cylindrical screw threads — Vocabulary*.

## 3 Definitions

For the purposes of this International Standard, the definitions given in ISO 5408 apply.

## 4 Designation

A screw thread in conformity with this International Standard shall be designated according to ISO 965-1.

## 5 Choice of diameter and pitch

**5.1** Choose, for preference, diameters in column 1 of Table 2 and, if necessary, in column 2 and then in column 3.

Diameter 35 mm, and pitch 1,25 mm of diameter 14 mm shall be used only for the special cases indicated in the footnotes.

Pitches shown in parentheses are to be avoided as far as possible.

**5.2** The words “coarse” and “fine” are given in order to conform to usage. No concept of quality shall, however, be associated with these words.

It shall be understood that the “coarse” pitches are the largest metric pitches used in current practice.

**5.3** For the diameter (or the diameter range) selected, choose one of the pitches shown on the corresponding line (or lines).

**5.4** If screw threads finer than those appearing in Table 2 are found necessary, only the following pitches shall be used:

3 mm; 2 mm; 1,5 mm; 1 mm; 0,75 mm; 0,5 mm; 0,35 mm; 0,25 mm; 0,2 mm

When selecting such pitches, take into account the fact that there is increasing difficulty in complying with tolerances as the diameter is increased for a given pitch. It is suggested, that diameters larger than those shown in Table 1 should generally not be used with the pitches indicated.

**Table 1 — Maximum nominal diameter**

Dimensions in millimetres

Pitch	Maximum nominal diameter
0,5	22
0,75	33
1	80
1,5	150
2	200
3	300

Table 2 — Nominal diameter/pitch

Dimensions in millimetres

Nominal diameter $D, d$			Pitch $P$											
Col. 1 1st choice	Col. 2 2nd choice	Col. 3 3rd choice	coarse	fine										
				3	2	1,5	1,25	1	0,75	0,5	0,35	0,25	0,2	
1			0,25											0,2
1,2	1,1		0,25											0,2
	1,4		0,25											0,2
			0,3											0,2
1,6			0,35											0,2
2	1,8		0,35											0,2
			0,4									0,25		
2,5	2,2		0,45										0,25	
3			0,45									0,35		
			0,5									0,35		
4	3,5		0,6										0,35	
	4,5		0,7									0,5		
			0,75									0,5		
5			0,8											
6		5,5	1									0,5		
												0,5		
8	7		1											
			1,25					1	0,75					
		9	1,25					1	0,75					
10			1,5				1,25	1	0,75					
12		11	1,5					1	0,75					
			1,75			1,5	1,25	1						
	14		2			1,5	1,25 <sup>a</sup>	1						
16		15	2			1,5		1						
						1,5		1						
						1,5		1						
20	18	17	2,5		2	1,5		1						
			2,5		2	1,5		1						
24	22		2,5		2	1,5		1						
			3		2	1,5		1						
		25			2	1,5		1						
	27	26	3		2	1,5		1						
		28			2	1,5		1						
30			3,5	(3)	2	1,5		1						
		32			2	1,5								
	33		3,5	(3)	2	1,5								
36		35 <sup>b</sup>	4	3	2	1,5								
		38			2	1,5								
	39		4	3	2	1,5								

Table 2 — Nominal diameter/pitch

Dimensions in millimetres

Nominal diameter $D, d$			Pitch $P$						
Col. 1 1st choice	Col. 2 2nd choice	Col. 3 3rd choice	coarse	fine					
				8	6	4	3	2	1,5
42		40					3	2	1,5
	45		4,5 4,5			4 4	3 3	2 2	1,5 1,5
48		50	5			4	3	2	1,5
	52		5			4	3 3	2 2	1,5 1,5
56		55				4	3	2	1,5
		58	5,5			4 4	3 3	2 2	1,5 1,5
64	60	62	5,5			4	3	2	1,5
			6			4 4	3 3	2 2	1,5 1,5
	68	65				4	3	2	1,5
		70	6		6	4 4	3 3	2 2	1,5 1,5
72		75			6	4	3	2	1,5
	76			6	4 4	3 3	2 2	1,5 1,5	
80		78						2	
		82			6	4	3	2 2	1,5
90	85				6	4	3	2	
	95				6 6	4 4	3 3	2 2	
100	105				6	4	3	2	
					6 6	4 4	3 3	2 2	
125	115				6	4	3	2	
	120			8	6 6	4 4	3 3	2 2	
140	130	135		8	6	4	3	2	
				8	6 6	4 4	3 3	2 2	
	150	145		8	6	4	3	2	
		155		8	6 6	4 4	3 3	2	
160		165		8	6	4	3		
	170			8 8	6 6	4 4	3 3		
180		175		8	6	4	3		
		185		8	6 6	4 4	3 3		
200	190	195		8	6	4	3		
				8	6 6	4 4	3 3		

Table 2 — Nominal diameter/pitch

Dimensions in millimetres

Nominal diameter $D, d$			Pitch $P$						
Col. 1 1st choice	Col. 2 2nd choice	Col. 3 3rd choice	coarse	fine					
				8	6	4	3	2	1,5
	210	205			6	4	3		
		215		8	6	4	3		
220		225		8	6	4	3		
		230		8	6	4	3		
	240	235			6	4	3		
		245		8	6	4	3		
250		255		8	6	4	3		
	260			8	6	4			
		265			6	4			
		270		8	6	4			
		275			6	4			
280		285		8	6	4			
		290		8	6	4			
	300	295			6	4			
				8	6	4			

<sup>a</sup> Only for spark plugs for engines.  
<sup>b</sup> Only for locking nuts for bearings.



---

---

## **BSI — British Standards Institution**

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

### **Revisions**

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

### **Buying standards**

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

### **Information on standards**

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

### **Copyright**

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

If permission is granted, the terms may include royalty payments or a licensing agreement. Details and advice can be obtained from the Copyright Manager. Tel: 020 8996 7070.