

Slotted headless screws with shank

The European Standard EN ISO 2342:2003 has the status of a
British Standard

ICS 21.060.10

National foreword

This British Standard is the official English language version of EN ISO 2342:2003. It is identical with ISO 2342:2003.

The UK participation in its preparation was entrusted by Technical Committee FME/9, Nuts, bolts and accessories, to Subcommittee FME/9/1, Mechanical properties of fasteners, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible 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 Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its 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, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii and iii, a blank page, pages 1 to 4, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 8 January 2004

© BSI 8 January 2004

ISBN 0 580 43190 8

ICS 21.060.10

English version

Slotted headless screws with shank (ISO 2342:2003)

Vis sans tête fendues, à fût (ISO 2342:2003)

Gewindestifte mit Schlitz mit Schaft (ISO 2342:2003)

This European Standard was approved by CEN on 4 November 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 2342:2003) has been prepared by Technical Committee ISO/TC 2 "Fasteners" in collaboration with Technical Committee CEN/TC 185 "Threaded and non-threaded mechanical fasteners and accessories", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

NOTE FROM CMC The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

Endorsement notice

The text of ISO 2342:2003 has been approved by CEN as EN ISO 2342:2003 without any modifications.

INTERNATIONAL
STANDARD

ISO
2342

Second edition
2003-12-01

Slotted headless screws with shank

Vis sans tête fendues, à fût



Reference number
ISO 2342:2003(E)

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 2342 was prepared by Technical Committee ISO/TC 2, *Fasteners*.

This second edition cancels and replaces the first edition (ISO 2342:1972), which has been technically revised.

Slotted headless screws with shank

1 Scope

This International Standard specifies the characteristics of slotted headless screws with shank with threads from M1 up to and including M10.

If, in special cases, specifications other than those listed in this International Standard are required, they should be selected from existing International Standards, e.g. ISO 261, ISO 898-5, ISO 965-2, ISO 3506-3, ISO 8839 and ISO 4759-1.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 225, *Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions*

ISO 261, *ISO general-purpose metric screw threads — General plan*

ISO 898-5, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 5: Set screws and similar threaded fasteners not under tensile stresses*

ISO 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 3269, *Fasteners — Acceptance inspection*

ISO 3506-3, *Mechanical properties of corrosion-resistant stainless-steel fasteners — Part 3: Set screws and similar fasteners not under tensile stress*

ISO 4042, *Fasteners — Electroplated coatings*

ISO 4753, *Fasteners — Ends of parts with external ISO metric thread*

ISO 4759-1, *Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C*

ISO 6157-1, *Fasteners — Surface discontinuities — Part 1: Bolts, screws and studs for general requirements*

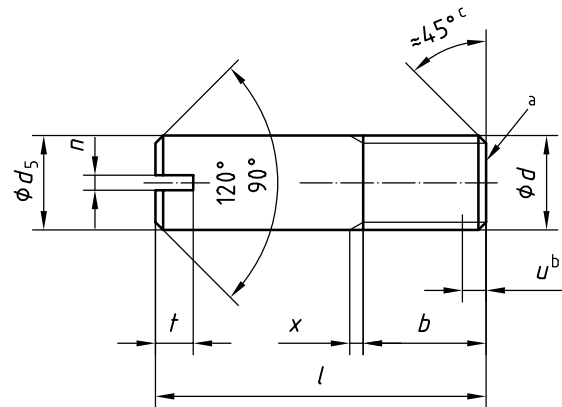
ISO 8839, *Mechanical properties of fasteners — Bolts, screws, studs and nuts made of non-ferrous metals*

ISO 10683, *Fasteners — Non-electrolytically applied zinc flake coatings*

3 Dimensions

See Figure 1 and Table 1.

Symbols and designations of dimensions are specified in ISO 225.



- ^a Flat point according to ISO 4753.
- ^b Incomplete thread $u \leq 2P$.
- ^c The 45° angle applies only to the portion of the point situated below the root diameter of the thread.

Figure 1

Table 1 — Dimensions

Dimensions in millimetres

Thread (<i>d</i>)		M1	M1,2	M1,6	M2	M2,5	M3	(M3,5) ^c	M4	M5	M6	M8	M10
<i>P</i> ^a		0,25	0,25	0,35	0,4	0,45	0,5	0,6	0,7	0,8	1	1,25	1,5
<i>b</i>	$+2P_0$	1,2	1,4	1,9	2,4	3	3,6	4,2	4,8	6	7,2	9,6	12
<i>d_s</i>	min.	0,86	1,06	1,46	1,86	2,36	2,86	3,32	3,82	4,82	5,82	7,78	9,78
	max.	1,00	1,20	1,60	2,00	2,50	3,00	3,50	4,00	5,00	6,00	8,00	10,00
<i>n</i>	nom.	0,2	0,25	0,3	0,3	0,4	0,5	0,5	0,6	0,8	1	1,2	1,6
	min.	0,26	0,31	0,36	0,36	0,46	0,56	0,56	0,66	0,86	1,06	1,26	1,66
	max.	0,40	0,45	0,50	0,50	0,60	0,70	0,70	0,80	1,00	1,20	1,51	1,91
<i>t</i>	min.	0,63	0,63	0,88	1,0	1,10	1,25	1,50	1,75	2,00	2,5	3,1	3,75
	max.	0,78	0,79	1,06	1,2	1,33	1,50	1,78	2,05	2,35	2,9	3,6	4,25
<i>x</i>	max.	0,6	0,6	0,9	1	1,1	1,25	1,5	1,75	2	2,5	3,2	3,8
<i>l</i> ^{b, c}													
	nom.	min.	max.										
	2,5	2,3	2,7										
	3	2,8	3,2										
	4	3,7	4,3										
	5	4,7	5,3										
	6	5,7	6,3										
	8	7,7	8,3										
	10	9,7	10,3										
	12	11,6	12,4										
	(14)	13,6	14,4										
	16	15,6	16,4										
	20	19,6	20,4										
	25	24,6	25,4										
	30	29,6	30,4										
	35	34,5	35,5										
<p>^a <i>P</i> is the pitch of the thread.</p> <p>^b The range of commercial length is between the bold stepped lines.</p> <p>^c Sizes in brackets should be avoided if possible.</p>													

4 Specifications and reference International Standards

See Table 2.

Table 2 — Specifications and reference International Standards

Material		Steel	Stainless steel	Non-ferrous metal
General requirements	International Standard	ISO 8992		
	Tolerance	6g		
Thread	International Standards	ISO 261, ISO 965-2		
	Property class	14H, 22H, 45H	A1-12H	As agreed
Mechanical properties	International Standards	ISO 898-5	ISO 3506-3	ISO 8839
	Product grade	A		
Tolerances	International Standard	ISO 4759-1		
	Finish	As processed	Plain	Plain
Requirements for electroplating are covered in ISO 4042. Requirements for non-electrolytically applied zinc flake coatings are covered in ISO 10683.			Requirements for electroplating are covered in ISO 4042.	
Surface discontinuities		Limits for surface discontinuities are covered in ISO 6157-1.		
Acceptability		The acceptance procedure is covered in ISO 3269.		

5 Designation

EXAMPLE A slotted headless screw with shank, thread M4, length $l = 10$ mm and with property class 14H, is designated as follows:

Headless screw ISO 2342 - M4 × 10 - 14H

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: +44 (0)20 8996 9000. Fax: +44 (0)20 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: +44 (0)20 8996 9001.
Fax: +44 (0)20 8996 7001. Email: orders@bsi-global.com. Standards are also available from the BSI website at <http://www.bsi-global.com>.

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: +44 (0)20 8996 7111. Fax: +44 (0)20 8996 7048. Email: info@bsi-global.com.

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: +44 (0)20 8996 7002. Fax: +44 (0)20 8996 7001.
Email: membership@bsi-global.com.

Information regarding online access to British Standards via British Standards Online can be found at <http://www.bsi-global.com/bsonline>.

Further information about BSI is available on the BSI website at <http://www.bsi-global.com>.

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.

Details and advice can be obtained from the Copyright & Licensing Manager.
Tel: +44 (0)20 8996 7070. Fax: +44 (0)20 8996 7553.
Email: copyright@bsi-global.com.