
**ISO general purpose screw threads —
Basic and design profiles —**

**Part 2:
Inch screw threads**

*Filetages ISO pour usages généraux — Profil de base et profil
nominal —*

Partie 2: Filetages en inches

iteh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 68-2:2023](https://standards.iteh.ai/catalog/standards/sist/e8fe8b51-5e60-489d-8b20-cc8807c1b1c9/iso-68-2-2023)

<https://standards.iteh.ai/catalog/standards/sist/e8fe8b51-5e60-489d-8b20-cc8807c1b1c9/iso-68-2-2023>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 68-2:2023](https://standards.iteh.ai/catalog/standards/sist/e8fe8b51-5e60-489d-8b20-ec8807c1b1c9/iso-68-2-2023)

<https://standards.iteh.ai/catalog/standards/sist/e8fe8b51-5e60-489d-8b20-ec8807c1b1c9/iso-68-2-2023>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols	1
5 Basic profile	2
6 Design profile	3
Annex A (informative) Metric dimensions of profiles	6
Bibliography	8

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 68-2:2023](https://standards.iteh.ai/catalog/standards/sist/e8fe8b51-5e60-489d-8b20-cc8807c1b1c9/iso-68-2-2023)

<https://standards.iteh.ai/catalog/standards/sist/e8fe8b51-5e60-489d-8b20-cc8807c1b1c9/iso-68-2-2023>

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 1, *Screw threads*.

This second edition cancels and replaces the first edition (ISO 68-2:1998), which has been technically revised. It also incorporates the Amendment ISO 68-2:1998/Amd 1:2020.

The main changes are as follows:

- “design profiles” has been added in the document title and the first paragraph of the Scope, and [Clause 6](#) has been added;
- the second and third paragraphs have been added in the Scope;
- subclause 3.1 has been deleted;
- [Clause 4](#) has been added;
- the number of decimal places has been changed from 9 to 8 for the constants in the basic profile formulae in [Clause 5](#).

A list of all parts in the ISO 68 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

ISO general purpose screw threads — Basic and design profiles —

Part 2: Inch screw threads

1 Scope

This document specifies the basic and design profiles for ISO inch screw threads (UN and UNR).

UN applies to both internal and external threads. UNR only applies to external threads. A flat or rounded root contour, due to the threading process, is specified for UN threads, while only a defined rounded root contour is specified for UNR external threads.

This document is applicable to the inch fastening screw threads.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 5408, *Screw threads — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5408 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Symbols

For the purposes of this document, the following symbols apply.

D	major diameter of internal thread (nominal diameter)
d	major diameter of external thread (nominal diameter)
D_2	pitch diameter of internal thread
d_2	pitch diameter of external thread
D_1	minor diameter of internal thread
d_1	minor diameter of external thread on basic profile
d_3	minor diameter of external thread on design profile

- P pitch
- n threads per inch (t.p.i.)
- H fundamental triangle height
- H_1 thread height of internal thread, and thread height of external thread on basic profile
- h_3 thread height of external thread on design profile
- R full root radius of external thread on design profile

5 Basic profile

The basic profile is shown as a thick line in [Figure 1](#). It is common to internal and external threads.

The dimensions of the basic profile are given in [Table 1](#). They have been calculated by the following formulae, and rounded to the nearest values according to ASME B1.30. For the metric dimensions, see [Annex A](#).

$$H = 3^{0,5}/(2n) = 0,866\ 025\ 40/n$$

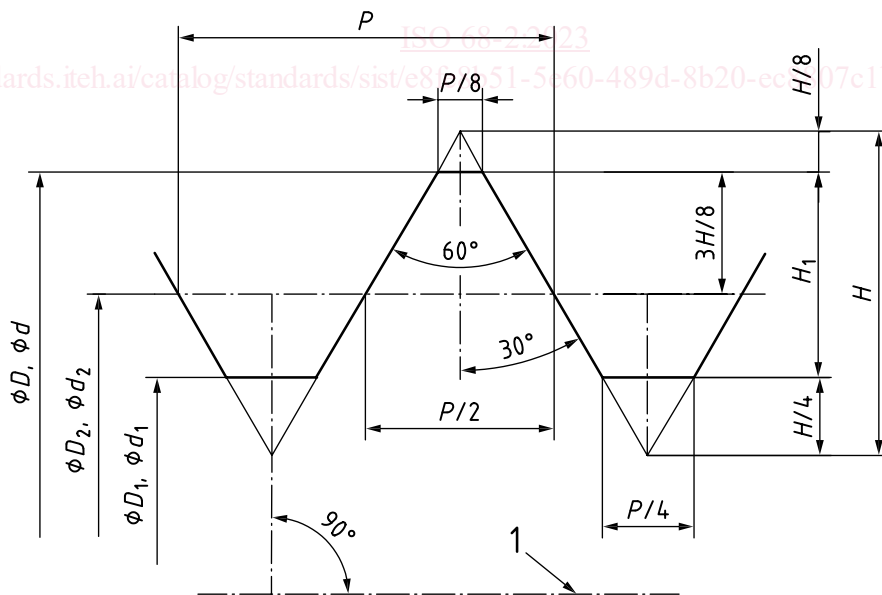
$$H_1 = 5H/8 = 0,541\ 265\ 88/n$$

$$3H/8 = 0,324\ 759\ 53/n$$

$$H/4 = 0,216\ 506\ 35/n$$

$$H/8 = 0,108\ 253\ 18/n$$

$$P = 1/n$$



- Key**
- 1 axis of screw thread

Figure 1 — Basic profile