INTERNATIONAL STANDARD

ISO 68-1

First edition
1998-12-15

ISO general purpose screw threads — Basic profile —

Part 1:
Metric screw threads

Filetages ISO pour usages généraux — Profil de base —

Partie 1: Filetages métriques

Reference number
ISO 68-1:1998(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.

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 68-1 was prepared by Technical Committee ISO/TC 1, *Screw threads*, Subcommittee SC 1, *Basic data.*

This first edition, together with ISO 68-2, cancels and replaces ISO 68:1973 which has been technically revised by separating the metric dimensions from the imperial dimensions.

ISO 68 consists of the following parts under the general title *ISO general purpose screw threads – Basic profile*

— *Part 1: Metric screw threads*

— *Part 2: Inch screw threads*

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ISO general purpose screw threads — Basic profile —

Part 1:
Metric screw threads

1 Scope

This part of ISO 68 specifies the basic profile for ISO general purpose metric screw threads (M).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 68. At the time of publication the editions indicated were valid. All standards are subject to revision and parties to agreements based on this part of ISO 68 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 965-1:1998, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

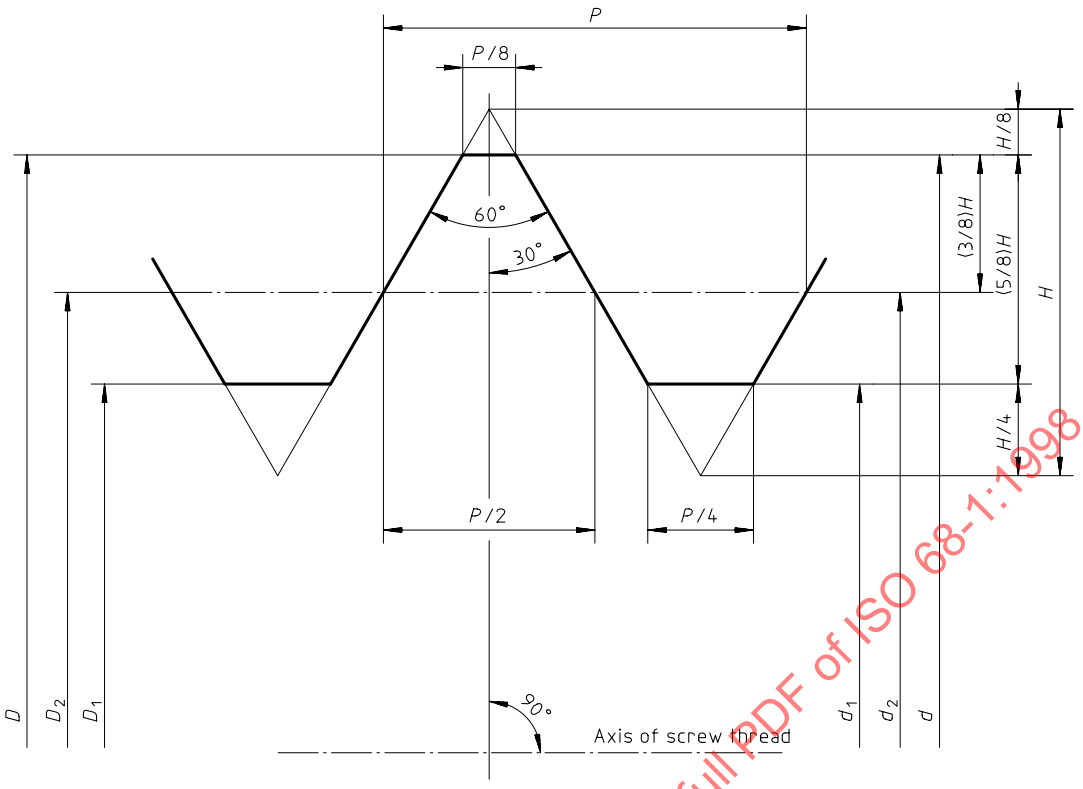
ISO 5408:1983, *Cylindrical screw threads – Vocabulary.*

3 Definitions

For the purpose of this part of ISO 68 the definitions given in ISO 5408 apply. Only the term "basic profile" which might be usefully restated is defined below.

3.1
basic profile
The theoretical profile of a screw thread in an axial plane defined by theoretical dimensions and angles common to internal and external threads

NOTE The basic profile is shown as a thick line in figure 1.



where

D is the basic major diameter of internal thread (nominal diameter)

d is the basic major diameter of external thread (nominal diameter)

D_2 is the basic pitch diameter of internal thread

d_2 is the basic pitch diameter of external thread

D_1 is the basic minor diameter of internal thread

d_1 is the basic minor diameter of external thread

H is the height of fundamental triangle

P is the pitch

Figure 1

4 Dimensions

The fundamental deviations and tolerances specified in ISO 965-1 are applied to the dimensions of the basic profile shown in figure 1 and derived from table 1.

$$H = \frac{\sqrt{3}}{2} P = 0{,}866\,025\,404\,P$$

$$\frac{5}{8} H = 0{,}541\,265\,877\,P$$

$$\frac{3}{8} H = 0{,}324\,759\,526\,P$$

$$\frac{H}{4} = 0{,}216\,506\,351\,P$$

$$\frac{H}{8} = 0{,}108\,253\,175\,P$$