International Standard

ISO 13669

Fasteners — Grooved pins — General requirements

Fixations — Goupilles cannelées — Exigences générales

First edition
2025-07

Reference number
ISO 13669:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

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 Shapes and ends for grooved pins ... **2**
4.1 Ends for grooved pins ... 2
4.2 Groove ends ... 2
4.3 Groove shapes ... 3
4.3.1 Diamond groove (symbol D) ... 3
4.3.2 oval groove (symbol O) ... 3
4.3.3 progressive groove (symbol P) ... 3

5 Principles for grooved pins and assembly ... **3**
5.1 Principles for grooved pins ... 3
5.2 Assembly ... 4

6 Dimensions and tolerances ... **5**
6.1 General ... 5
6.2 Expanded diameter d_2 and control method ... 5
6.3 Pin straightness ... 7

7 Mechanical and physical properties ... **7**
7.1 General ... 7
7.2 Shear resistance ... 7
7.3 Hardness ... 8
7.4 Pins in materials other than non-heat treated steel or stainless steel ... 9

8 Inspection ... **9**
8.1 Manufacturer's inspection ... 9
8.2 Supplier's inspection ... 10
8.3 Purchaser's inspection ... 10
8.4 Delivery of test results ... 10

9 Marking and labelling ... **10**
9.1 Marking on grooved pins ... 10
9.2 Labelling on packages ... 10

Annex A (informative) **Control of straightness for grooved pins** ... **11**

Bibliography ... **16**

© ISO 2025 – All rights reserved

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 2, *Fasteners*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 185 *Fasteners*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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 2025 – All rights reserved

Fasteners — Grooved pins — General requirements

1 Scope

This document specifies the general characteristics of grooved pins, made of steel and stainless steel, with nominal diameters 1 mm to 25 mm.

These grooved pins are designed to fulfil the main following functions, due to the elastic fit behaviour of the grooves:

— locking of two (or more) parts,

— positioning or guiding,

— relative rotation of the assembled parts.

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 1891-4, *Fasteners — Vocabulary — Part 4: Control, inspection, delivery, acceptance and quality*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 8749, *Pins and grooved pins — Shear test*

ISO 16228, *Fasteners — Types of inspection documents*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/

3.1
pin
cylindrical or conical shafted fastener designed to be fitted into a hole, which provides functions such as immobilization by locking parts together, positioning, rotation and/or guiding

3.2
groove
<for pins> longitudinal indentation into the material of the pin forming two protruding lips along the side of the groove

© ISO 2025 – All rights reserved