INTERNATIONAL STANDARD

ISO 10485

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Cone proof load test on nuts

Essai de charge d'épreuve au cône des écrous

Reference number
ISO 10485:1991(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 10485 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Sub-Committee SC 1, *Mechanical properties of fasteners*.

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Cone proof load test on nuts

1 Scope

This International Standard specifies the properties of nuts with

— nominal thread diameter, d, from 5 mm up to and including 39 mm,

— product grades A and B,

— property classes 8 to 12,

under the conditions of the cone proof load test.

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 898-2:—[1], *Mechanical properties of fasteners — Part 2: Nuts with specified proof load values — Coarse thread.*

ISO 898-6:1988, *Mechanical properties of fasteners — Part 6: Nuts with specified proof load values — Fine pitch thread.*

3 Principle

Detection of the presence of seams or cracks which could be detrimental. The use of a conical washer exaggerates the influence of such defects on the load-bearing ability of the nut by introducing a simultaneous dilating and stripping action.

4 Apparatus

4.1 Conical washer (see figure 1), having a minimum hardness of 57 HRC. The contact point of the cone shall be flat and shall have a width of 0,13 mm $\pm$ 0,03 mm for nominal thread diameters $d \leqslant 12$ mm and a width of 0,38 mm $\pm$ 0,03 mm for nominal thread diameters $d > 12$ mm.

Dimensions in millimetres
surface roughness in micrometres

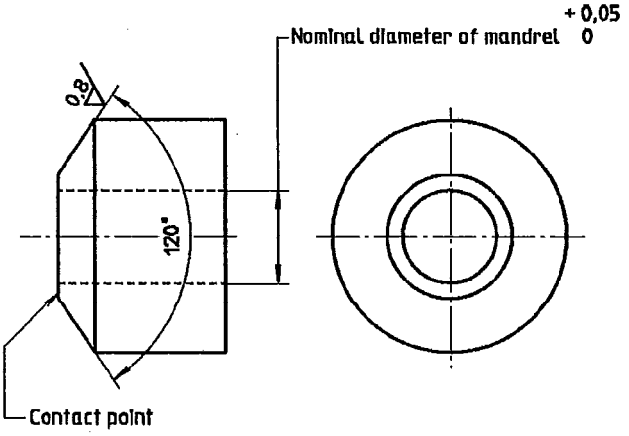

Figure 1 — Conical washer

4.2 Mandrel, hardened (45 HRC min.) and threaded to tolerance class 6g, except that the tolerance of the major diameter shall be the last quarter of the 6g range on the minimum material side.

1) To be published. (Revision of ISO 898-2:1980)

5 Procedure

Assemble the nut and conical washer on the mandrel as shown in figure 2. The conical washer shall bear against a nut face which is flat and normal to the nut axis. Apply the specified cone proof load (see clause 6) to the nut.

The speed of testing, as determined with a free-running cross-head, shall not exceed 3 mm/min. The cone proof load shall be retained for 10 s.

6 Criteria

The nut shall support the proof load specified in ISO 898-2 or ISO 898-6, as applicable, without stripping or rupture.

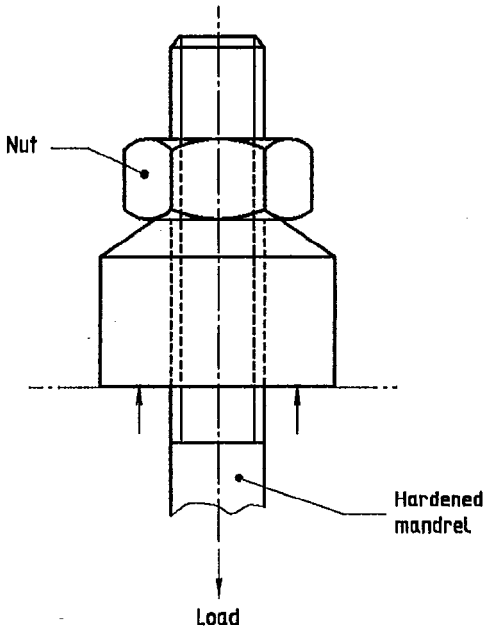

Figure 2 — Test assembly

UDC 621.882.3:620.162

Descriptors: fasteners, nuts (fasteners), tests, mechanical tests.

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