
Plastics piping systems — Mechanical joints between fittings and pressure pipes — Test method for resistance to pull-out under constant longitudinal force

Systèmes de canalisations en plastique — Assemblages mécaniques entre raccords et tubes sous pression — Méthode d'essai de résistance à l'arrachement sous une force longitudinale constante



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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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories — Test methods and basic specifications*.

This second edition cancels and replaces the first edition (ISO 3501:1976), which has been technically revised. The reason for modification is for applicability to other plastics materials, other sizes and/or other test conditions and alignment with texts of other standards on test methods. This edition of ISO 3501 is prepared under the Vienna Agreement, so that the content is also aligned with EN 712:1994, which will be replaced.

The modifications are:

- no material is mentioned;
- test parameters are omitted, although the original test parameters can be found in [Annex A](#);
- the diameter limit is removed;
- no requirements are given;
- editorial changes have been introduced.

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WARNING — Persons using this document should be familiar with normal laboratory practice, if applicable. The use of this International Standard can involve hazardous materials, operations, and equipment. This International Standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this International Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies a method for checking the ability of assembled uniaxial joints between fittings and plastic pressure pipes to withstand longitudinal tensile stresses. The test applies regardless of the design and material of the fitting used for jointing plastics pipe.

This test method is not applicable to fusion-welded joints.

2 Normative references

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

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

ISO 17456:2006, *Plastics piping systems — Multilayer pipes — Determination of long-term strength*

3 Principle

An assembled joint is subjected to a longitudinal tensile force calculated as a function of the pipe dimensions and the maximum permissible induced hoop stress of the relevant pipe.

4 Test parameters and requirements

The test parameters of the standard which refers to this International Standard shall be used and the requirements shall be fulfilled. If one or more parameters are not given in the referring International Standard, the ones given in [Annex A](#) shall apply.

The following test parameters should be given by the standard which refers to this International Standard:

- a) pull-out force (N);
- b) test duration (h);
- c) test temperature (°C);
- d) free length (mm).