
Plastic piping systems — Mechanical joints between fittings and pressure pipes — Test method for leaktightness under negative pressure

Systèmes de canalisations en matières plastiques — Assemblages mécaniques entre raccords et tubes sous pression — Méthode d'essai pour l'étanchéité sous pression négative



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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).

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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 3459:1976), 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 3459 is prepared under Vienna Agreement, so that the content is also aligned with the EN 911:1995, 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](#);
- no requirements are given;
- an alternative test procedure is introduced;
- 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 may 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 two methods of testing for checking the leaktightness of assembled joints between mechanical fittings and plastic pressure pipes up to and including 63 mm. 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 Principle

Checking of the leaktightness of an assembled joint when submitted to external pressure greater than the pressure within the pipe.

For measurements where the external hydraulic pressure is greater than the atmospheric pressure within the pipe, procedure A shall be used.

For measurements with vacuum inside the pipe segment and an atmospheric pressure outside the pipe, procedure B shall be used.

3 Test parameters and requirements

The test parameters of the standard which refers to this test 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 test standard:

- a) test medium;
- b) test pressure (bar or MPa);
- c) test duration (h);
- d) test temperature (°C);
- e) free length (mm).

4 Apparatus

4.1 Apparatus for procedure A

4.1.1 A suitable apparatus for procedure A is shown in [Figure 1](#).