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**Plastics piping systems —  
Elastomeric-sealing-ring-type socket  
joints for use with plastic pressure  
pipes — Test method for leaktightness  
under negative pressure, angular  
deflection and deformation**

*Systèmes de canalisations en plastiques — Assemblages par  
emboîture à bague d'étanchéité en élastomère pour les tubes sous  
pression plastiques — Méthode d'essai pour l'étanchéité sous pression  
négative, déviation angulaire et déformation*



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Published in Switzerland

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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](http://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](http://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 13844:2000) 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.

The modifications are the following:

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

# Plastics piping systems — Elastomeric-sealing-ring-type socket joints for use with plastic pressure pipes — Test method for leaktightness under negative pressure, angular deflection and deformation

**WARNING** — Persons using this International Standard 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 a method for testing the leak tightness under negative pressure, angular deflection, and deformation of assembled joints between elastomeric-sealing-ring-type sockets made of plastic or metal and plastic pressure pipes.

## 2 Principle

A test piece consisting of a plastic pipe mounted into a socket is exposed within a specified temperature range to two specified negative internal pressures for a specified test period, while the pipe is being subjected to an angular deflection in the socket and to deformation. During the test, the test piece is monitored for signs of leakage.

## 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 Framework**, comprising at least two fixing devices, one of which is movable, to allow angular deflection to be applied to the test joint, while a negative air pressure (partial vacuum) is being applied.

**4.2 Vacuum gauge**, having an accuracy of  $\pm 1$  % at the measured values.