BS EN ISO 17778:2015

BSI Standards Publication

Plastics piping systems — Fittings, valves and ancillaries — Determination of gaseous flow rate/pressure drop relationships

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National foreword

This British Standard is the UK implementation of EN ISO 17778:2015. It supersedes BS EN 12117:1998 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/88/4, Test Methods - Plastic Piping.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Plastics piping systems - Fittings, valves and ancillaries - Determination of gaseous flow rate/pressure drop relationships (ISO 17778:2015)

Systèmes de canalisations en plastiques - Raccords, robinets et équipements auxiliaires - Détermination du rapport débit gazeux/perte de charge (ISO 17778:2015)

Kunststoff-Rohrleitungssysteme - Formstücke, Armaturen und Zubehörteile - Bestimmung des Zusammenhanges zwischen Gasdurchfluss und Druckabfall (ISO 17778:2015)

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 17778:2015) has been prepared by Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids" in collaboration with Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2015, and conflicting national standards shall be withdrawn at the latest by September 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12117:1997.

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Endorsement notice

The text of ISO 17778:2015 has been approved by CEN as EN ISO 17778:2015 without any modification.

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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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 plastics materials and their accessories — Test methods and basic specifications.*

This is the first version of this International Standard. This edition of ISO 17778 is prepared under Vienna Agreement so that the content is aligned with the EN 12117:1997, which will be replaced.

Plastics piping systems — Fittings, valves and ancillaries — Determination of gaseous flow rate/pressure drop relationships

WARNING — Persons using this International Standard 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 determining the flow rate/pressure drop relationship of components for plastics piping systems when tested using air at 25 mbar.

NOTE 1 bar = 10^5 N/m^2.

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.

EN 837-1, *Pressure gauges — Part 1: Bourdon tube pressure gauges — Dimensions, metrology, requirements and testing*

3 Principle

Utilizing a constant main pressure, the flow rate through a piping component is varied between specific limits to assess the pressure drop. The average value of the air flow rate for a pressure drop appropriate to the size of the component is then determined. The value for other gases can be calculated on the basis of density differences.

NOTE It is assumed that the following test parameters are set by the standard making reference to this International Standard:

a) the relevant value(s) for pressure drop, Δp_n (see 7.2);

b) the relevant value to be used for ρ_{air} and the relevant temperature and pressure if not as given in 7.3;

c) the relevant value to be used for ρ_{gas} and the relevant temperature and pressure if not as given in 7.3.

4 Apparatus

4.1 Schematic test arrangement for determination of flow rate/pressure drop relationship is shown in Figure 1.

4.2 A source of air.