Irish Standard
I.S. EN ISO 21003-2:2008

Multilayer piping systems for hot and cold water installations inside buildings - Part 2: Pipes (ISO 21003-2:2008)

I.S. EN ISO 21003-2:2008

Incorporating amendments/corrigenda/National Annexes issued since publication:
EN ISO 21003-2:2008/A1:2011

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This document replaces:	*This document is based on:* EN ISO 21003-2:2008	*Published:* 1 July, 2008

This document was published
under the authority of the NSAI
and comes into effect on:
4 September, 2008

ICS number:
91.140.60
23.040.20

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I.S. EN ISO 21003-2:2008

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 21003-2:2008/A1

April 2011

ICS 91.140.60; 23.040.20

English Version

Multilayer piping systems for hot and cold water installations inside buildings - Part 2: Pipes - Amendment 1 (ISO 21003-2:2008/Amd 1:2011)

Systèmes de canalisations multicouches pour installations d'eau chaude et froide à l'intérieur des bâtiments - Partie 2: Tubes - Amendement 1 (ISO 21003-2:2008/Amd 1:2011)

Mehrschichtverbund-Rohrleitungssysteme für die Warm- und Kaltwasserinstallation innerhalb von Gebäuden - Teil 2: Rohre - Änderung 1 (ISO 21003-2:2008/Amd 1:2011)

This amendment A1 modifies the European Standard EN ISO 21003-2:2008; it was approved by CEN on 14 April 2011.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Ref. No. EN ISO 21003-2:2008/A1:2011: E

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Foreword

This document (EN ISO 21003-2:2008/A1:2011) 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 October 2011, and conflicting national standards shall be withdrawn at the latest by October 2011.

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Endorsement notice

The text of ISO 21003-2:2008/Amd 1:2011 has been approved by CEN as a EN ISO 21003-2:2008/A1:2011 without any modification.

I.S. EN ISO 21003-2:2008

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 21003-2

July 2008

ICS 91.140.60; 23.040.20

English Version

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Systèmes de canalisations multicouches pour installations d'eau chaude et froide à l'intérieur des bâtiments - Partie 2: Tubes (ISO 21003-2:2008)

Mehrschichtverbund-Rohrleitungssysteme für die Warm- und Kaltwasserinstallation innerhalb von Gebäuden - Teil 2: Rohre (ISO 21003-2:2008)

This European Standard was approved by CEN on 15 June 2008.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Ref. No. EN ISO 21003-2:2008: E

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This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

For relationship with EC Directive(s), see informative Annex ZA, B, C or D, which is an integral part of this document.

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Endorsement notice

The text of ISO 21003-2:2008 has been approved by CEN as a EN ISO 21003-2:2008 without any modification.

I.S. EN ISO 21003-2:2008

INTERNATIONAL STANDARD

ISO 21003-2

First edition
2008-07-01

Multilayer piping systems for hot and cold water installations inside buildings —

Part 2: **Pipes**

Systèmes de canalisations multicouches pour installations d'eau chaude et froide à l'intérieur des bâtiments —

Partie 2: Tubes

Reference number
ISO 21003-2:2008(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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ISO 21003-2 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 2, *Plastics pipes and fittings for water supplies*.

ISO 21003 consists of the following parts, under the general title *Multilayer piping systems for hot and cold water installations inside buildings*:

— *Part 1: General*

— *Part 2: Pipes*

— *Part 3: Fittings*

— *Part 5: Fitness for purpose of the system*

— *Part 7: Guidance for the assessment of conformity* [Technical Specification]

NOTE ISO 21003 does not include a Part 4: *Ancillary equipment*, or a Part 6: *Guidance for installation*.

Introduction

The system standard of which this is Part 2 specifies the requirements for a multilayer piping system.

The multilayer piping system is intended to be used for hot and cold water installations inside buildings.

In respect of potentially adverse effects on the quality of water intended for human consumption caused by the products covered by ISO 21003:

— no information is provided as to whether the products may be used without restriction in any of the member states of the EU or EFTA;

— it should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of these products remain in force.

Requirements and test methods for material and components other than pipes are specified in ISO 21003-1 and ISO 21003-3. Characteristics relating to fitness for purpose (mainly for joints) are covered in ISO 21003-5. ISO/TS 21003-7 gives guidance on the assessment of conformity.

This part of ISO 21003 specifies the characteristics of pipes.

Other system standards which, at the date of publication of this part of ISO 21003, had been published for plastics piping systems used for the same application are listed in Annex A.

Multilayer piping systems for hot and cold water installations inside buildings —

Part 2: Pipes

1 Scope

This part of ISO 21003 specifies the characteristics of pipes for multilayer piping systems intended to be used for hot and cold water installations inside buildings for the conveyance of water — whether or not the water is intended for human consumption (domestic systems) or heating systems — under specified design pressures and temperatures appropriate to the class of application (see Table 1 of ISO 21003-1:2008).

It also specifies the test parameters for the test methods referred to in this part of ISO 21003.

ISO 21003 is a reference product standard. It is applicable to multilayer pipes, fittings, their joints, and also to joints with components made of other plastics and non-plastics materials intended to be used for hot and cold water installations. This part of ISO 21003 is intended for use only in conjunction with all the other parts of ISO 21003.

ISO 21003 covers a range of service conditions (application classes) and design pressures. It is not applicable for values of design temperature, T_D, maximum design temperature, T_{max}, and malfunction temperature, T_{mal}, in excess of those in Table 1 of ISO 21003-1:2008.

NOTE 1 It is the responsibility of the purchaser or specifier to make the appropriate selections from these aspects, taking into account their particular requirements and any relevant national regulations and installation practices or codes.

The polymeric materials used for the stress-designed layers are the following: polybutylene (PB), polyethylene of raised temperature resistance (PE-RT), crosslinked polyethylene (PE-X), polypropylene (PP) and chlorinated poly(vinyl chloride) (PVC-C).

The PE-X used shall be fully crosslinked and shall comply with the requirements of the relevant reference product standard (ISO 15875).

NOTE 2 For the purposes of ISO 21003, crosslinked polyethylene (PE-X) as well as adhesives are considered as thermoplastic materials.

Solid-wall pipes with thin outer layers (applied as protection layers or barrier layers, for instance) are not covered by ISO 21003 but are specified in the Amendments to ISO 15874-2, ISO 15875-2 and ISO 15876-2. The total thickness of such outer layers, including the thickness of the adhesives used, shall be $\leqslant$ 0,4 mm.