

Multilayer piping systems for hot and cold water installations inside buildings - Part 3: Fittings

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 21003-3:2008 sisaldab Euroopa standardi EN ISO 21003-3:2008 ingliskeelset teksti.

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English Version

**Multilayer piping systems for hot and cold water installations
inside buildings - Part 3: Fittings (ISO 21003-3:2008)**

Systèmes de canalisations multicouches pour installations
d'eau chaude et froide à l'intérieur des bâtiments - Partie 3:
Raccords (ISO 21003-3:2008)

Mehrschichtverbund-Rohrleitungssysteme für die Warm-
und Kaltwasserinstallation innerhalb von Gebäuden - Teil 3:
Formstücke (ISO 21003-3:2008)

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Foreword

This document (EN ISO 21003-3:2008) 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of an identical text or by endorsement, at the latest by January 2009, and conflicting national standards shall be withdrawn at the latest by January 2009.

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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 21003-3:2008 has been approved by CEN as a EN ISO 21003-3:2008 without any modification.

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Introduction

The system standard of which this is Part 3 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 materials and components other than fittings are specified in ISO 21003-1 and ISO 21003-2. Characteristics for 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 fittings.

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 3: Fittings

1 Scope

This part of ISO 21003 specifies the characteristics of fittings 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 for 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.

This part of ISO 21003 covers fusion, solvent-cemented and mechanical fittings for 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.

2 Normative references

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

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method*

ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces*

ISO 1167-3, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 3: Preparation of components*

ISO 1167-4, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 4: Preparation of assemblies*

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

ISO 7686, *Plastics pipes and fittings — Determination of opacity*

ISO 9080, *Plastics piping and ducting systems — Determination of the long-term hydrostatic strength of thermoplastics material in pipe form by extrapolation*

ISO 15874-3, *Plastics piping systems for hot and cold water installations — Polypropylene (PP) — Part 3: Fittings*

ISO 15875-3, *Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 3: Fittings*

ISO 15876-3, *Plastics piping systems for hot and cold water installations — Polybutylene (PB) — Part 3: Fittings*

ISO 15877-3, *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) — Part 3: Fittings*

ISO 21003-1:2008, *Multilayer piping systems for hot and cold water installations inside buildings — Part 1: General*

ISO 21003-2, *Multilayer piping systems for hot and cold water installation inside buildings — Part 2: Pipes*

ISO 21003-5, *Multilayer piping systems for hot and cold water installations inside buildings — Part 5: Fitness for purpose of the system*

ISO 22391-3:—¹⁾, *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) — Part 3: Fittings*

EN 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 681-2, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers*

EN 1254-3, *Copper and copper alloys — Plumbing fittings — Part 3: Fittings with compression ends for use with plastics pipes*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads — Part 1: Taper external threads and parallel internal threads — Dimensions, tolerances and designation*

1) To be published. (Revision of ISO 22391-3:2007)