Irish Standard
I.S. EN ISO 22391-1:2009

Plastics piping systems for hot and cold water installations - Polyethylene of raised temperature resistance (PE-RT) - Part 1: General (ISO 22391-1:2009)

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EUROPEAN STANDARD

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English Version

Plastics piping systems for hot and cold water installations - Polyethylene of raised temperature resistance (PE-RT) - Part 1: General (ISO 22391-1:2009)

Systèmes de canalisations en plastique pour les installations d'eau chaude et froide - Polyéthylène de meilleure résistance à la température (PE-RT) - Partie 1: Généralités (ISO 22391-1:2009)

Kunststoff-Rohrleitungssysteme für die Warm- und Kaltwasserinstallation - Polyethylen erhöhter Temperaturbeständigkeit (PE-RT) - Teil 1: Allgemeines (ISO 22391-1:2009)

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Contents

Page

Foreword

This document (EN ISO 22391-1:2009) 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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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.

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Endorsement notice

The text of ISO 22391-1:2009 has been approved by CEN as a EN ISO 22391-1:2009 without any modification.

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I.S. EN ISO 22391-1:2009

INTERNATIONAL STANDARD

ISO 22391-1

Second edition
2009-12-01

Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) —

Part 1: General

Systèmes de canalisations en plastique pour les installations d'eau chaude et froide — Polyéthylène de meilleure résistance à la température (PE-RT) —

Partie 1: Généralités

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Contents

Page

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.

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.

ISO 22391-1 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*.

This second edition cancels and replaces the first edition (ISO 22391-1:2007), which is extended from only dealing with PE-RT material (referred to as Type I) to cover PE-RT materials Type I and Type II.

ISO 22391 consists of the following parts[1)], under the general title *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT)*:

— *Part 1: General*

— *Part 2: Pipes*

— *Part 3: Fittings*

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

1) This System Standard does not incorporate a Part 4: Ancillary equipment or a Part 6: Guidance for installation. For ancillary equipment, separate standards can apply. Guidance for installation of plastics piping systems made from different materials, intended to be used for hot and cold water installations, is covered by ENV 12108.

Introduction

The System Standard, of which this is Part 1, specifies the requirements for a piping system and its components when made from polyethylene of raised temperature resistance (PE-RT). The piping system is intended to be used for hot and cold water installations.

In respect of potential adverse effects on the quality of water intended for human consumption caused by the products covered by ISO 22391, the following are relevant.

a) This part of ISO 22391 provides no information as to whether the products can be used without restriction.

b) Existing national regulations concerning the use and/or characteristics of the products remain in force.

This part of ISO 22391 specifies the general aspects of the plastics piping system. At the date of publication of this part of ISO 22391, System Standards Series for piping systems of other plastics materials used for the same application are the following:

ISO 15874 (all parts), *Plastics piping systems for hot and cold water installations — Polypropylene (PP)*

ISO 15875 (all parts), *Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X)*

ISO 15876 (all parts), *Plastics piping systems for hot and cold water installations — Polybutylene (PB)*

ISO 15877 (all parts), *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C)*

Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) —

Part 1: General

1 Scope

This part of ISO 22391 specifies the general characteristics of piping systems made of

— polyethylene of raised temperature resistance (PE-RT), Type I, and

— polyethylene of raised temperature resistance (PE-RT), Type II,

intended to be used for hot and cold water installations within buildings for the conveyance of water, whether or not the water is intended for human consumption (domestic systems) and for heating systems, under specified design pressures and temperatures appropriate to the class of application.

This part of ISO 22391 covers a range of service conditions (classes of application), design pressures and pipe dimension classes, and also specifies test parameters and defines terms. In conjunction with the other parts of ISO 22391, it is applicable to PE-RT pipes, fittings, their joints and to joints having components of PE-RT, as well as of other plastics and non-plastics materials, respectively, used for hot and cold water installations.

It is not applicable to values of design temperature, maximum design temperature or malfunction temperature in excess of those it specifies.

NOTE 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.

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 472, *Plastics — Vocabulary*

ISO 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

ISO 4065*, Thermoplastics pipes — Universal wall thickness table*

ISO 22391-2, *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) — Part 2: Pipes*

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