

**SLOVENSKI
STANDARD**

SIST EN ISO 15874-1:2004

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Plastics piping systems for hot and cold water installations - Polypropylene (PP) -
Part 1: General (ISO 15874-1:2003)

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Referenčna številka
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ICS 23.040.01; 91.140.60

English version

Plastics piping systems for hot and cold water installations -
Polypropylene (PP) - Part 1: General (ISO 15874-1:2003)

Systèmes de canalisations en plastique pour les
installations d'eau chaude et froide - Polypropylène (PP) -
Partie 1: Généralités (ISO 15874-1:2003)

Kunststoff-Rohrleitungssysteme für die Warm- und
Kaltwasserinstallation - Polypropylen (PP) - Teil 1:
Allgemeines (ISO 15874-1:2003)

This European Standard was approved by CEN on 14 March 2003.

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

This European Standard 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN ISO 15874-1:2003) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids".

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of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by December 2005.

NOTE 1 This draft was submitted for CEN enquiry as prEN 12202-1:1995.

This standard is part of a System Standard for plastics piping systems of a particular material for a specified application. There are a number of such System Standards.

System Standards are based on the results of the work undertaken in ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids", which is a Technical Committee of the International Organization for Standardization (ISO).

They are supported by separate standards on test methods to which references are made throughout the System Standard.

The System Standards are consistent with general standards on functional requirements and recommended practices for installation.

EN ISO 15874 consists of the following Parts ¹⁾ under the general title *Plastics piping systems for hot and cold water installations – Polypropylene (PP)*

Part 1: General (the present standard)

Part 2: Pipes

Part 3: Fittings

Part 5: Fitness for purpose of the system

Part 7: *Guidance for the assessment of conformity* is intended to be published as CEN ISO/TS 15874-7

This Part 1 of EN ISO 15874 includes a Bibliography.

At the date of publication of this standard, System Standards for piping systems of other plastics materials used for the same application are the following:

EN ISO 15875:2003, *Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X)*

EN ISO 15876:2003, *Plastics piping systems for hot and cold water installations — Polybutylene (PB)*

EN ISO 15877:2003, *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C)*

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 on installation of plastics piping systems made from different materials intended to be used for hot and cold water installations is given by ENV 12108.

EN ISO 15874-1:2003 (E)

For pipes and fittings which have conformed to the relevant national standard before 1st November 2003, as shown by the manufacturer or by a certification body, the national standard may continue to apply until 30th November 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

The System Standard, of which this is Part 1, specifies the requirements for a piping system and its components when made from polypropylene (PP). 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 product covered by EN ISO 15874;

- 1) This standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;
- 2) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

Requirements and test methods for components of the piping system are specified in Part 2 and Part 3 of EN ISO 15874:2003. Characteristics for fitness of purpose (mainly for joints) are covered in Part 5. Part 7 (CEN ISO/TS 15874-7) gives guidance for the assessment of conformity.

This Part of EN ISO 15874 specifies the general aspects of the plastics piping system.

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1 Scope

This Part of EN ISO 15874 specifies the general aspects of polypropylene (PP) piping systems intended to be used for hot and cold water installations within buildings for the conveyance of water whether or not intended for human consumption (domestic systems) and for heating systems, under design pressures and temperatures according to the class of application (see Table 1).

This standard covers a range of service conditions (classes of application), design pressures and pipe dimension classes.

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.

It also specifies the test parameters for the test methods referred to in this standard.

In conjunction with the other Parts of EN ISO 15874 it is applicable to PP pipes, fittings, their joints and to joints with components of other plastics and non-plastics materials intended to be used for hot and cold water installations.

2 Normative references

This Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO 15874-2:2003, *Plastics piping system for hot and cold water installations — Polypropylene (PP) — Part 2: Pipes (ISO 15874-2:2003)*

EN ISO 15874-3:2003, *Plastics piping systems for hot and cold water installations — Polypropylene (PP) — Part 3: Fittings (ISO 15874-3:2003)*

ISO 472:1999, *Plastics — Vocabulary*

ISO 1043-1:2001, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

3 Terms and definitions, symbols and abbreviated terms

For the purposes of this standard, the following terms and definitions, symbols and abbreviated terms apply.

3.1 Terms and definitions

In addition to the terms and definitions given below, the terms and definitions given in ISO 472:1999 and ISO 1043-1:2001 apply.

3.1.1 Geometrical terms and definitions

3.1.1.1 Nominal size

3.1.1.1.1

nominal size DN

numerical designation of the size of a component, which is a convenient round number, approximately equal to the manufacturing dimensions in millimetres (mm)

3.1.1.1.2**nominal size DN/OD**

nominal size, related to outside diameter

3.1.1.2**nominal outside diameter (d_n)**

specified diameter, in millimetres, assigned to a nominal size DN/OD

3.1.1.3**outside diameter (at any point) (d_e)**

measured outside diameter through the cross-section at any point of a pipe or spigot end of a fitting, rounded up to the nearest 0,1 mm

3.1.1.4**mean outside diameter (d_{em})**

measured length of the outer circumference of a pipe or spigot end of a fitting in any cross section divided by π ($\approx 3,142$) rounded up to the nearest 0,1 mm

3.1.1.5**minimum mean outside diameter ($d_{em,min}$)**

minimum value of the mean outside diameter as specified for a given nominal size

3.1.1.6**maximum mean outside diameter ($d_{em,max}$)**

maximum value of the mean outside diameter as specified for a given nominal size

3.1.1.7**mean inside diameter of socket (d_{sm})**

arithmetical mean of two measured inside diameters perpendicular to each other at the midpoint of the socket length

3.1.1.8**out-of-roundness (ovality)**

difference between the measured maximum outside diameter and the measured minimum outside diameter in the same cross-sectional plane of a pipe or spigot end of a fitting, or the difference between the measured maximum inside diameter and the measured minimum inside diameter in the same cross-sectional plane of a socket

3.1.1.9**nominal wall thickness (e_n)**

numerical designation of the wall thickness of a component, approximately equal to the manufacturing dimension in millimetres (mm)

3.1.1.10**wall thickness (at any point) (e)**

measured wall thickness at any point around the circumference of a component, rounded up to the nearest 0,1 mm

3.1.1.11**minimum wall thickness (at any point) (e_{min})**

minimum wall thickness at any point around the circumference of a component, as specified

3.1.1.12**maximum wall thickness at any point (e_{max})**

maximum wall thickness at any point around the circumference of a component, as specified

3.1.1.13**tolerance**

permitted variation of the specified value of a quantity, expressed as the difference between the permitted maximum and the permitted minimum value