

Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply —

Part 2: Pipes

ICS 23.040.20; 23.040.45; 91.140.60; 93.025

National foreword

This British Standard is the UK implementation of ISO 4427-2:2007+A1:2014. It supersedes BS ISO 4427-2:2007, which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee PRI/88, Plastics piping systems, to Subcommittee PRI/88/2, Plastics piping for pressure applications.

A list of organizations represented on this subcommittee 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.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 September 2007

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ISBN 978 0 580 84856 8

Amendments/corrigenda issued since publication

Date	Comments
31 May 2014	Implementation of ISO amendment 1:2014: Table 2 corrected to restore “PN 6” in column titles

INTERNATIONAL STANDARD

ISO
4427-2

First edition
2007-08-01

Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply — Part 2: Pipes

*Systèmes de canalisations en plastique — Tubes et raccords en
polyéthylène (PE) destinés à l'alimentation en eau —*

Partie 2: Tubes



Reference number
ISO 4427-2:2007(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.

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 4427-2 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*.

This first edition, together with ISO 4427-1, cancels and replaces ISO 4427:1996, of which it constitutes a technical revision.

ISO 4427 consists of the following parts, under the general title *Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply*:

- *Part 1: General*
- *Part 2: Pipes*
- *Part 3: Fittings*
- *Part 5: Fitness for purpose of the system*

Introduction

ISO 4427, the system standard, specifies the requirements for a piping system and its components when made from polyethylene (PE). The piping system is intended to be used for water supply intended for human consumption, including the conveyance of raw water prior to treatment and that of water for general purposes.

In respect of potential adverse effects on the quality of water intended for human consumption caused by the products covered by ISO 4427:

- a) ISO 4427 provides no information as to whether the products may be used without restriction;
- b) existing national regulations concerning the use and/or the characteristics of these products are in force.

NOTE Guidance for assessment of conformity can be found in Bibliographical references [5] and [6].

Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply —

Part 2: Pipes

1 Scope

This part of ISO 4427 specifies the pipes made from polyethylene (PE) intended for the conveyance of water for human consumption, including raw water prior to treatment and water for general purposes.

It also specifies the test parameters for the test methods to which it refers.

In conjunction with the other parts of ISO 4427, it is applicable to PE pipes, their joints, to joints with components of PE and to mechanical joints with components of other materials, intended to be used under the following conditions:

- a) a maximum operating pressure (MOP) up to and including 25 bar¹⁾;
- b) an operating temperature of 20 °C as the reference temperature.

NOTE 1 For applications operating at constant temperatures greater than 20 °C and up to 40 °C, see ISO 4427-1:2007, Annex A.

NOTE 2 ISO 4427 covers a range of maximum operating pressures and gives requirements concerning colours and additives. 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 guidance or regulations and installation practices or codes.

Three types of pipe are specified:

- PE pipes (outside diameter d_n), including any identification stripes;
- PE pipes with co-extruded layers on either or both the outside and/or inside of the pipe (total outside diameter d_n), as specified in Annex A, where all layers have the same MRS rating.
- PE pipes (outside diameter d_n) having a peelable, contiguous, thermoplastics additional layer on the outside of the pipe ("coated pipe"), see Annex A.

1) 1 bar = 0,1 MPa = 10⁵ Pa; 1 MPa = 1 N/mm².