



BSI Standards Publication

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Polyethylene (PE)

Part 1: Requirements for pipes, fittings and the system

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN 1519-1:2019, incorporating corrigendum March 2021. It supersedes BS EN 1519-1:2000, which is withdrawn.

Products conforming to BS EN 1519-1 are compatible with those of the same size in accordance with BS 5255:1989 (withdrawn). The nominal sizes DN/OD 38, 44 and 57 correspond with the 1¼, 1½ and 2 sizes respectively in BS 5255:1989.

The UK participation in its preparation was entrusted to Technical Committee PRI/88/1, Plastics piping for non-pressure applications.

A list of organizations represented on this committee can be obtained on request to its committee manager.

The UK committee gives the following advice concerning the specification of piping components used with piping systems conforming to this British Standard but not detailed in EN 1519-1:2019.

- See BS 4514:2001 for the UK requirements for the minimum opening dimensions of access fittings, design of swept fittings, connectors to WC pans, stand-off dimensions of pipe and fitting brackets, and requirements for adaptors and plugs. Reference should also be made to the following design requirements of BS 4514:2001, **5.3.1**, **5.3.3**, **5.3.5**, **5.3.7**, **5.3.8** and **5.3.9** and Figures 6, 8 and 9.

The UK committee gives the following advice concerning the use of piping systems conforming to this British Standard in application areas not detailed by EN 1519-1:2019.

- For external above ground installation, which is commonplace and remains allowed in the UK, EN 1519-1:2019 does not include any additional requirements. If the product is to be installed externally, it may require protection by painting or some other means. The advice of the manufacturer of products conforming to BS EN 1519-1 should be sought accordingly.
- For external underground installations, see BS EN 12666-1 or equivalent product specifications for such situations and take account of current national installation practices, e.g. BS EN 1610 and BS EN 752.

The UK committee gives the following advice concerning the selection and installation of piping systems and components conforming to this British Standard BS EN 1519-1.

- The products should only be used in application area B, i.e. suspended from brackets above ground and installed in accordance with BS EN 12056-2 using the Type N (normal type) socket as specified.
- In respect of fire regulations (see **5.8**), for England The Building Regulations 2010, Approved Document B, Volume 1 and Volume 2 give details of the suitable means of sealing pipes passing through a fire-separating element, unless in a protected shaft. Analogous provisions apply in Wales, Scotland and Northern Ireland respectively.

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

EDITORIAL NOTE: REFERENCE TO REGULATIONS In 5.8 the only "requirement" is that "pipes and fittings... shall conform to any relevant requirements on fire regulations". Since the authority for such requirements lies with national regulators and not with standards organizations, which do not have the power to waive regulations even should they so wish, this type of information in standards should be presented as a note, or as a statement in a foreword or introduction. As information it can refer in general or specific terms to the existence of current regulations/legislation/directives applicable to the products or the conditions of their use. The expression here as part of the normative text is inappropriate and should not be considered an acceptable precedent for other standards to follow.

WARNING This British Standard, which is identical to EN 1519-1:2019, does not necessarily detail all the precautions necessary to meet the requirements of the Health and Safety at Work etc. Act 1974. Attention should be paid to any appropriate safety precautions and the test methods referred to in EN 1519-1 should be operated only by trained personnel.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2021
Published by BSI Standards Limited 2021

ISBN 978 0 539 17557 8

ICS 23.040.01; 91.140.80

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 30 April 2019.

Amendments/corrigenda issued since publication

Date	Text affected
31 December 2019	Additional national foreword text added
30 April 2021	Implementation of CEN corrigendum March 2021: replacement of Table 13

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

April 2019

ICS 23.040.01; 91.140.80

Supersedes EN 1519-1:1999

English Version

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Polyethylene (PE) - Part 1: Requirements for pipes, fittings and the system

Systèmes de canalisations en plastique pour l'évacuation des eaux-vannes et des eaux usées (à basse et à haute température) à l'intérieur de la structure des bâtiments - Polyéthylène (PE) - Partie 1 : Exigences pour tubes, raccords et le système

Kunststoff-Rohrleitungssysteme zum Ableiten von Abwasser (niedriger und hoher Temperatur) innerhalb der Gebäudestruktur - Polyethylen (PE) - Teil 1: Anforderungen an Rohre, Formstücke und das Rohrleitungssystem

This European Standard was approved by CEN on 26 November 2018.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

Contents		Page
European foreword.....		4
1	Scope	5
2	Normative references	6
3	Terms and definitions	7
4	Symbols and abbreviations	10
4.1	Symbols.....	10
4.2	Abbreviations	10
5	Material.....	10
5.1	PE compound	10
5.2	Additional requirement for pipe and fitting material for application area BD.....	10
5.3	Utilization of non-virgin material	11
5.4	Melt mass-flow rate	11
5.5	Fusion compatibility	11
5.6	Thermal stability (OIT)	11
5.7	Sealing ring retaining means	11
5.8	Fire behaviour	11
6	General characteristics	12
6.1	General.....	12
6.2	Colour	12
7	Geometrical characteristics	12
7.1	General.....	12
7.2	Dimensions of pipes	12
7.2.1	Outside diameters.....	12
7.2.2	Effective length of pipes.....	13
7.2.3	Chamfering	14
7.2.4	Wall thickness	14
7.3	Dimensions of fittings.....	16
7.3.1	Outside diameters.....	16
7.3.2	Design lengths	16
7.3.3	Wall thickness	16
7.4	Dimensions of sockets and pipe ends.....	17
7.4.1	Dimensions of ring seal sockets and spigot ends	17
7.4.2	Dimensions of electrofusion sockets	21
7.4.3	Dimensions of pipe ends for butt fusion joints	22
7.5	Types of fittings	23
8	Mechanical characteristics	28
8.1	Mechanical characteristics for pipes	28
8.2	Mechanical characteristics of fittings	28
9	Physical characteristics	29
9.1	Physical characteristics of pipes.....	29
9.2	Physical characteristics of fittings	30
10	Performance requirements.....	30
11	Sealing rings.....	32

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

12	Marking	32
12.1	General	32
12.2	Minimum required marking of pipes	32
12.3	Minimum required marking of fittings	33
12.4	Additional marking	33
	Annex A (normative) Utilization of non-virgin PE material	34
A.1	Own reprocessed material from pipes and fittings	34
A.2	External non-virgin materials with an agreed specification	34
A.2.1	Material from PE pipes and fittings	34
A.2.2	Material from PE products other than pipes and fittings	35
	Annex B (informative) Product standards	36
	Bibliography	37

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

European foreword

This document (EN 1519-1:2019) has been prepared by 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 2019, and conflicting national standards shall be withdrawn at the latest by October 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1519-1:1999.

EN 1519, *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Polyethylene (PE)* consists of the following parts:

- *Part 1: Specifications for pipes, fittings and the system*
- *Part 2: Guidance for the assessment of conformity (Technical Specification)*

The main changes in comparison with the previous edition are:

- updating in accordance with the new template;
- updating of normative references;
- thermal stability (OIT) requirement is made valid in general;
- utilization of non-virgin PE materials are described in the new Annex A;
- Annex B has been deleted and the relevant text has been moved to the main standard;
- a new Annex B "Product standards" has been added.

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 on recommended practice for installation.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

This is a preview of "BS EN 1519-1:2019". [Click here to purchase the full version from the ANSI store.](#)

1 Scope

This document specifies the requirements for solid-wall polyethylene (PE) pipes with smooth internal and external surfaces extruded from the same compound/formulation throughout the wall, fittings and the system for:

- soil and waste discharge applications (low and high temperature) inside buildings (application area code "B");
- soil and waste discharge applications (low and high temperature) for both inside buildings and buried in the ground within the building structure (application area code "BD").

NOTE 1 The intended use is reflected in the marking of products by "B" or "BD".

NOTE 2 For use buried in the ground within the building structure are intended only those components marked with "BD", with a nominal ring stiffness of at least SN4 for dimensions equal to or greater than 75 mm.

This document is also applicable to PE pipes and fittings and the system intended for the following purposes:

- ventilating part of the pipework in association with discharge applications;
- rainwater pipework within the building structure.

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

This document covers a range of nominal sizes, a range of pipes and fittings series and gives recommendations concerning colours.

NOTE 3 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, e.g. CEN/TR 13801 [1].

NOTE 4 Pipes, fittings and other components conforming to any of the plastics product standards listed in Annex B can be used with pipes and fittings conforming to this European Standard, if applicable.

It applies to pipes and fittings, marked with "B", which are intended to be used inside buildings and outside buildings fixed onto the wall.

It applies to pipes and fittings, marked with "BD", which are intended to be used for both inside buildings and buried in the ground within the building structure.

This standard is applicable to PE pipes and fittings of the following types:

- plain-ended;
- with integral elastomeric ring seal socket;
- for butt fusion joints;
- for electrofusion joints;
- for mechanical joints

where the fittings can be manufactured by injection-moulding or can be fabricated from pipes and/or mouldings.

NOTE 5 EN 476[2] specifies the general requirements for components used in discharge pipes, drains and sewers for gravity systems. Pipes and fittings conforming to this standard fully meet these requirements.

NOTE 6 For information about the chemical resistance of PE, guidance is given in ISO/TR 10358[3] and for rubber materials in ISO/TR 7620[4].