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BSI Standards Publication

# Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Acrylonitrile-butadiene-styrene (ABS)

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Part 1: Specifications for pipes, fittings and the system

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## National foreword

This British Standard is the UK implementation of EN 1455-1:2022. It supersedes BS EN 1455-1:2000 which is withdrawn.

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 advises users that this standard is complemented by BS 4514:2001.

The UK Committee also gives the following advice and recommendations concerning the specification of piping components that are used with systems that conform to this standard, but which are not detailed in it.

- a) BS 4514:2001 specifies requirements for pipes, fittings and other sizes of accessories not covered by this standard; the minimum clear opening size dimensions of access fittings; design dimensions of swept fittings; stand-off distances of fittings and clips used to fasten pipes to a wall; and connectors for WC pans.
- b) As this standard does not cover threaded components, if an ABS fitting is intended to adapt to a threaded metal component, it is advised that the thread form conform to either BS EN 10226 1 or BS EN ISO 228 1.
- c) Although this standard expands on its specifications for the geometrical characteristic requirements of swept angle bend and branch fittings by cross-referring users to ISO 265-1 (see Subclause 7.5), in the UK, all such products also have to conform to the requirements of national regulations. Further guidance is given in subclause 5.3.7 of BS 4514:2001.
- d) As this standard is specific to internal piping system installations – and so does not cover requirements for external installations, which are commonplace and remain allowed in the UK – pipes and fittings intended for outdoor use might require protection by painting or some other means. Further guidance is available from the pipe manufacturer.

Finally, the UK Committee gives the following advice regarding the selection and installation of piping components and systems conforming to this standard.

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

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#### **Amendments/corrigenda issued since publication**

Date	Text affected
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## EUROPÄISCHE NORM

December 2022

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Supersedes EN 1455-1:1999

English Version

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure -  
Acrylonitrile-butadiene-styrene (ABS) - Part 1:  
Specifications 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 - Acrylonitrile-butadiène-styrène (ABS) - Partie 1 : Spécifications pour tubes, raccords ainsi que pour le système

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

This European Standard was approved by CEN on 30 October 2022.

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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

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## European foreword

This document (EN 1455-1:2022) 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 June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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 1455-1:1999.

The main changes compared to the previous edition are listed below:

- updating of normative references;
- editorial improvement and alignment with new recently revised standards, e.g. EN 1329-1 [1], EN 1401-1 [2], EN 1451-1 [3], EN 14541-1 [4];
- addition of subclause 6.3 *External above ground application*;
- addition of subclause 6.4 *Reaction to fire*;
- introduction of a subclause 8.3.2 *Additional requirements of fittings* with Table 18 introducing mechanical strength or flexibility and impact strength;
- deletion of Clause 10 as its content is distributed elsewhere in the document;
- deletion of Annex A *General characteristics of ABS pipes and fittings*;
- addition of a new Annex A *Product standards*.

The EN 1455 / CEN/TS 1455 series, *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Acrylonitrile-butadiene-styrene (ABS)*, consists of the following parts:

- EN 1455-1, *Part 1: Specifications for pipes, fittings and the system* (the present document);
- CEN/TS 1455-2, *Part 2: Assessment of conformity*.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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## 1 Scope

This document specifies the requirements for solid wall pipes with smooth internal and external surfaces, extruded from the same formulation throughout the wall, fittings and the system of acrylonitrile-butadiene-styrene (ABS) and acrylonitrile-styrene-acrylester (ASA) piping systems intended for soil and waste discharge applications (low and high temperature):

- inside buildings (application area code "B");
- for both inside buildings and buried in 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 Application "B" covers uses above ground inside buildings, or outside buildings fixed onto the wall.

NOTE 3 Pipes and fittings of the pipe series S 25 are intended to be used for application area "B" only.

NOTE 4 For use buried in ground within the building structure are intended only those components (marked with "BD") with nominal outside diameters equal to or greater than 75 mm.

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

This document is also applicable to ABS and ASA pipes, 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 that are referred to.

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

NOTE 6 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.

NOTE 7 Pipes, fittings and other components conforming to any of the plastics product standards listed in Annex A can be used with pipes and fittings conforming to this document, provided they conform to the requirements for joint dimensions given in Clause 7 and to the requirements of Table 21.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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 - Material requirements for pipe joint seals used in water and drainage applications - Part 2: Thermoplastic elastomers*

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*