

Plastics piping systems for water supply — Unplasticized poly (vinyl chloride) (PVC-U) —

Part 5: Fitness for purpose of the system

ICS 23.040.01; 91.140.60

National foreword

This British Standard is the UK implementation of EN 1452-5:1999. Collectively, Parts 1, 2, 3, 4 and 5 of BS EN 1452 supersede BS 3505:1986, BS 4346-1:1969 and BS 4346-2:1970. Since those British Standards are the basis of piping systems with a design life of at least 50 years, it is intended that they will be declared obsolescent, by 26 June 2001. With BS EN 14814:2007, collectively Parts 1 to 5 of BS EN 1452 also supersede BS 4346-3:1982, which is withdrawn to exclude requirements for joints for pressure pipes for water supply.

NOTE 1 The UK Water Industry has indicated that this British Standard is to be regarded as superseding the following Water Industry Specifications:
WIS 4-31-06, Issue 2: March 1994 *Blue unplasticised PVC pressure pipes, integral joints and post-formed bends for cold potable water (underground use)*
WIS 4-31-07, Issue 2: March 1994 *Unplasticised PVC pressure fittings and assemblies for cold potable water (underground use)*

The UK participation in its preparation was entrusted by Technical Committee PRI/61, Plastics piping systems and components, to Subcommittee PRI/61/2, Thermoplastics piping systems and components for pressure applications.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

The responsible UK committee gives the following advice concerning the selection and installation of piping systems and components conforming to this British Standard.

- a) Water supply companies and other entities are obliged to use Parts 1 to 5 of this suite of European Standards, produced under EC/U mandate, if they wish to purchase PVC-U pipe systems or components within its scope.

NOTE 2 Parts 6 and 7 have each been prepared as an ENV (pre-standard), to allow further development, and their use is voluntary unless invoked contractually.

- b) It is essential that this part of this standard is used in conjunction with BS EN 1452-2, -3 and -4, as it tests the efficacy of the jointing systems of assemblies of the components in withstanding positive and negative pressures. Joints between PVC-U pipes and metal (or GRP) fittings and valves (for use with PVC-U systems but not specified by this standard) are also tested.

This British Standard was published under the authority of the Standards Committee and comes into effect on 15 May 2000

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Amendments/corrigenda issued since publication

Amd. No.	Date	Comments
11014 Corrigendum No. 1	July 2000	Indicated by a sideline
12008 Corrigendum No. 2	October 2000	Correction to National foreword supersession details
	31 August 2009	Correction to National foreword supersession details, and alignment of BSI and CEN publication dates

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c) In figure 2, the negative pressure limits are expressed in units of MPa. In CEN plastics piping test methods, pneumatic and hydrostatic pressures are expressed in bars, with pascals being used for stress or strength. Water system supply and test pressures are also expressed in bars. The requirements for the negative pressure changes are expressed in bars in Table 1. For consistency with these circumstances, the negative pressures reading down the vertical scale in Figure 2 correspond to -0,1 bar and -0.8 bar respectively.

WARNING This British Standard, which is identical with EN 1452-5:1999, does not necessarily detail all the precautions necessary to meet the requirements of the Health and Safety at Work etc. Act 1974 and subsequent regulations. Attention should be paid to any appropriate safety precautions and the test methods should be performed only by trained personnel.

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.

English version

Plastics piping systems for water supply – Unplasticized
poly(vinyl chloride) (PVC-U) – Part 5: Fitness for purpose of the
system

Systèmes de canalisations en plastique pour alimentation
en eau – Poly(chlorure de vinyle) non plastifié (PVC-U) –
Partie 5: Aptitude à l'emploi du système

Kunststoff-Rohrleitungssysteme für die Wasserversorgung
– Weichmacherfreies Polyvinylchlorid (PVC-U) – Teil 5:
Gebrauchstauglichkeit des Systems

This European Standard was approved by CEN on 2 July 1998.

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 Central Secretariat 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 Central Secretariat 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 155, Plastics piping systems and ducting systems, the Secretariat of which is held by NNI. It has been prepared with the cooperation of Eureau and in liaison with CEN/TC 164, Water supply.

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 December 1999, and conflicting national standards shall be withdrawn at the latest by June 2001.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This standard forms 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 on recommended practice for installation.

EN 1452 consists of the following parts, under the general title *Plastics piping systems for water supply – Unplasticized poly(vinyl chloride) (PVC-U)*:

- Part 1: General;
- Part 2: Pipes;
- Part 3: Fittings;
- Part 4: Valves and ancillary equipment;
- Part 5: Fitness for purpose of the system (this standard);
- Part 6: Guide for installation (ENV);
- Part 7: Guide for assessment of conformity (ENV).

This part of EN 1452 includes the following annexes:

- Annex A (normative): Assemblies of imperial(inch)-sized pipes, fittings, valves and ancillaries;
- Annex B (informative): Determination of the long-term test pressure by creep consideration;
- Annex C (informative): 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:

NOTE All listed System Standards have reached the CEN enquiry stage or are in preparation.

prEN 1796, *Plastics piping systems for water supply with or without pressure – Glass-reinforced thermosetting plastics (GRP) based on polyester resin (UP)*;

prEN 12201, *Plastics piping systems for water supply – Polyethylene (PE)*.