

BRITISH STANDARD

Acrylonitrile-butadiene-styrene (ABS) fittings for use with ABS pressure pipe –

Part 1: Specification

ICS 23.040.45

Confirmed December 2011

BSi
British Standards

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 14, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI and came into effect on 29 December 2006. It was prepared by Subcommittee PRI/88/2, *Plastics piping for pressure applications*, under the authority of Technical Committee PRI/88, *Plastics piping systems*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This British Standard supersedes BS 5392-1:1976, which is withdrawn.

Relationship with other publications

Attention is also drawn to BS 5391-1, which specifies requirements for compatible ABS pressure pipe.

Information about this document

This British Standard can be referred to as BS 5392 instead of BS 5392-1 because there are no other parts to this standard. Future revisions of this standard will drop Part 1 from the identifier. In preparation for this, fittings conforming to this standard can be marked with “BS 5392” instead of “BS 5392-1”.

For this revision, the nominal size dimensions specified in Table 1 conform to BS ISO 727-2:2005. This revision also introduces nominal dimension sizes of 10 and 12.

Product certification/inspection/testing. Users of this British Standard are advised to consider the desirability of third-party certification/inspection/testing of product conformity with this British Standard. Appropriate conformity attestation arrangements are described in BS EN ISO/IEC 17025. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

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.

1 Scope

This British Standard specifies requirements for injection moulded pipe fittings made from acrylonitrile-butadiene-styrene (ABS) polymer, for solvent welding to ABS pressure pipe conforming to BS 5391-1:2006.

This British Standard is applicable, for example, to fittings intended to be used for:

- a) chemical plants;
- b) industrial sewerage engineering;
- c) power engineering (cooling and general-purpose water supply);
- d) electroplating and pickling plants;
- e) the semiconductor industry;
- f) agricultural production plants;
- g) water treatment;
- h) potable water supply;
- i) low temperature applications down to $-40\text{ }^{\circ}\text{C}$.

NOTE Pipe fittings conforming to this standard can be used for the transport of water intended for human consumption if it conforms to the relevant national, regional or local regulatory provisions applicable in the place of use. For products in the United Kingdom, attention is drawn to The Water Supply (Water Fittings) Regulations 1999 [1].

2 Normative references

The following referenced documents are indispensable for the application 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.

BS 5391-1, *Specification for acrylonitrile butadiene styrene (ABS) pressure pipe – Part 1: Pipe for industrial uses*

BS EN ISO 306:2004, *Plastics – Thermoplastic material – Determination of Vicat softening temperature (VST)*

BS EN ISO 580:2005, *Plastics piping and ducting systems – Injection-moulded thermoplastics fittings – Methods for visually assessing the effects of heating*

BS EN ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids – Determination of the resistance to internal pressure – General method*

BS EN ISO 3126, *Plastics piping systems – Plastics components – Determination of dimensions*

ISO 12092:2000, *Fittings, valves and other piping system components made of unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly(vinyl chloride) (PVC-C), acrylonitrile-butadiene-styrene (ABS) and acrylonitrile-styrene-acrylester (ASA) for pipes under pressure - Resistance to internal pressure – Test method*

3 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in BS 5391-1 apply.

4 Material

4.1 The material from which the fittings are made shall be acrylonitrile-butadiene-styrene (ABS) polymer.

NOTE If the pipe is intended for use with foodstuffs or pharmaceuticals, attention is drawn to the guidance given in British Plastics Federation publication, Plastics in contact with food – A guide [2].

4.2 The Vicat softening temperature of the material from which fittings are made shall be determined in accordance with BS EN ISO 306:2004, method B50. The deformation temperature of the material shall not be lower than 90 °C.

4.3 When using reprocessible material, it shall be from either:

- a) fittings manufactured in accordance with this standard; or
- b) pipe manufactured in accordance with BS 5391-1.

5 Classification of fittings

5.1 The pressure class of a fitting shall be classified in accordance with Table 1, according to its suitability for maintaining a particular maximum sustained working pressure.

Table 1 Classification of fittings by pressure class

Pressure class	Working pressure bar ^{A)}
Class B	6.0
Class C	9.0
Class D	12.0
Class E	15.0

^{A)} 1 bar = 10⁵ N/m² = 100 kPa

5.2 The shape of a fitting shall be classified in accordance with Table 2.

Table 2 Classification of fittings by shape

Shape group	Shape
1	Elbows, branches, bends and tees, 45° and 90°
2	Reducers, couplers, sockets and caps
3	Unions, flange adaptors and/or their parts