

PAS 1188-1

Flood protection products — Specification — Part 1: Building apertures

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Foreword

This Publicly Available Specification, PAS 1188-1, has been prepared by BSI in consultation with HR Wallingford Ltd and research partners to provide a specification for flood protection products designed for installation across building apertures in the UK or locations with similar exposures, i.e. where there is a temperate climate and advanced warning of flooding is available. It was funded as part of a DTI-led collaborative research project “Evaluation of the performance of products and materials to resist flooding of buildings”¹⁾.

The start and finish of text introduced or altered by amendment no. 1 is indicated in the text by tags  .

NOTE 1 A guidance document *Preparing for Floods — Improving the Flood Resistance of Domestic and Small Business Properties* [1] is available from the Office of the Deputy Prime Minister at www.safety.dtlr.gov.uk/bregs/index.htm and through the Environment Agency’s 24-hour “Floodline”, which can be reached on 0845 988 1188. The document is also available through the Agency’s website at www.environment-agency.gov.uk/floodline.

The guide complements the existing CIRIA/Environment Agency guide on *Damage Limitation — How to make your home flood resistant* [2], which focuses on simple inexpensive temporary measures that householders can take to protect existing property from flooding, available from the CIRIA website www.ciria.org.uk.

Information is also available from the Scottish Executive as *Design guidance on flood damage to dwellings* [3].

 In addition to the above guidance documents, a leaflet titled *Flood products. Using flood protection products – A guide for homeowners* [23] is available through the Environment Agency’s 24-hour “Floodline” and the Agency’s website (contact details as above). 

NOTE 2 The flood protection products described in this part of PAS 1188 are not intended for permanent installation, and attention is drawn to the need to ensure a free passage to persons in the event of an emergency and to access and egress for persons with impaired movement. These products should only be installed in the event of an imminent flood and should be removed as soon as danger from flooding is over.

NOTE 3 For rooms containing gas appliances attention is drawn to the Gas Safety (Installation and Use) Regulations 1998 [4] and manufacturers’ instructions regarding the free circulation of air both in and out of the building. In such instances special care should be taken with the use of air ventilation bricks. Air vent flood protection covers should be removed as soon as floodwaters have receded.

NOTE 4 Attention is drawn to the need to consider the prevention of the ingress of flood water into buildings through building fabric (i.e. walls and floors), horizontal pipes, waste water fittings and floor gullies. Anti-flood devices for buildings are covered in BS EN 13564-1.

¹⁾ Evaluation of the performance of products and materials to resist flooding of buildings, Contract C1 39/5/132, cc2322. DTI, 2002-03.

Users' attention is drawn to all existing legislation covering the subject matter of this PAS. The following legislation is relevant.

Gas Safety (Installation and Use) Regulations 1998 [4].
The Building Regulations (England and Wales) 1991 Approved Document B [5].
The Building Standards (Scotland) Regulations 1990 Technical Standard D [6].
The Building Standards (Scotland) Regulations 1990 Technical Standard E [7].
Statutory Rules of Northern Ireland 1994, Technical Booklet E [8].
The Building Regulations (England and Wales) 1991 Approved Document J [9].
The Building Standards (Scotland) Regulations 1990 Technical Standard F [10].
Statutory Rules of Northern Ireland 1991, Technical Booklet L [11].
The Building Regulations (England and Wales) 1991 Approved Document M [12].
The Building Standards (Scotland) Regulations 1990 Technical Standard Q [13].
Statutory Rules of Northern Ireland 2000, Technical Booklet R [14].
The Building Regulations (England and Wales) 1991 Approved Document F [15].
The Building Standards (Scotland) Regulations 1990 Technical Standard K [16].
Statutory Rules of Northern Ireland 1994, Technical Booklet K [17].
The Building Regulations (England and Wales) 1991 Approved Document H [18].
The Building Standards (Scotland) Regulations 1990 Technical Standard M [19].
Statutory Rules of Northern Ireland 1994, Technical Booklet N [20].
The Fire Precautions Act 1971 [21].
The Disability Discrimination Act 1995 [22].

Acknowledgement is given to the following organizations that were partners in the project and/or consulted in the development of this specification.

Department of Trade and Industry
DEFRA (Department for Environment, Food and Rural Affairs)
Environment Agency
CIRIA (Construction Industry Research and Information Association)
Association of British Insurers
Council for Mortgage Lenders
House Builders Federation
National House-Building Council
Scottish Executive
Welsh Assembly Government
National Flood Forum
Flood Protection Association
Severn Trent Water
Thames Water
Water UK
Worcester City Council
Birmingham City Council

BRE (Building Research Establishment)
Office of the Deputy Prime Minister (ODPM)
English Heritage
Local Government Authority
Construction Service (NI)
Scottish Executive
BSI Product Services
BSI Technical Subcommittees B/538 and B/209/1

It is intended that this PAS will form the basis of a product conformity certification scheme to provide assurance to potential purchasers of flood protection products that they have been independently tested and that the manufacturer's production controls are in accordance with stated requirements.

WARNING This PAS calls for the use of procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage. Attention is also drawn to additional company health and safety policy that may be in place. Testing should be stopped immediately if the safety of persons is in doubt at any time.

This PAS is not intended to restrict new developments in design and materials.

This PAS is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

NOTE 5 The PAS process enables a specification to be rapidly developed in order to fulfil an immediate need in industry. A PAS may be considered for further development as a British Standard, or constitute part of the UK input into the development of a European or International Standard.

This PAS has been prepared and published by BSI, which retains its ownership and copyright. BSI reserves the right to withdraw or amend this PAS on receipt of authoritative advice that it is appropriate to do so. This PAS will be reviewed at regular intervals, and any amendments arising from the reviews will be published as an amended PAS and publicized in *Update Standards*.

Product certification. Users of this PAS are advised to consider the desirability of third-party certification of products conforming to this PAS.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a Publicly Available Specification does not in itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 15 and a back cover.

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1 Scope

This PAS specifies requirements for the designation, testing, factory production control, installation documentation and marking for different types and configurations of flood protection products intended for temporary sealing of building apertures and entrances to properties, in the event of static flood water rising up to a nominal level, not exceeding 900 mm, above ground level, for use in the UK or locations with similar exposures, i.e. where there is a temperate climate and advanced warning of flooding is available.

This PAS specifies the method of testing and an allowable leakage rate.

The range of building aperture sizes covered is a nominal width of up to 2 400 mm.

NOTE 1 The hydrostatic pressures exerted by water can cause sudden or long-term structural damage and undermine the foundations of a building or cause leakage through the walls, floor or sub-floor, unless the building is specifically designed to withstand such stresses. Flood protection products are not normally intended to prevent water more than approximately one metre above the level of the ground surrounding the property from entering the building.

NOTE 2 The PAS test conditions represent typical conditions that can be experienced during a flood. This includes testing the product for leakage under static water levels, waves up to 0.1 m high and parallel currents up to 1.5 m/s.

NOTE 3 This PAS does not cover testing with polluted or saline water.

NOTE 4 Certification of the product does not mean it is suitable for all situations. If the user is in any doubt as to the suitability of a product they should seek further guidance as set out in *Preparing for floods — Improving the flood resistance of domestic and small business properties* [1], or from the Flood Protection Association (www.floodprotectionassociation.org) or other professional advisers.

[A₁] This PAS is not applicable to the testing of foam products, such as those composed with a composite polyurethane. **[A₁]**

This PAS is not applicable to temporary or demountable flood protection barriers which are designed to be installed away from and not attached to buildings, including flood protection products intended for installation across driveway entrances and gateways at property boundaries. These are covered by PAS 1188-2¹⁾.

This PAS is not applicable to penstocks for use in water supply, sewage treatment and other liquid flow applications, which are covered by BS 7775.

¹⁾ In preparation.