

## Loss Prevention Standard

LPS 1215 : Issue 4.1

Requirements for the LPCB Approval and Listing for Fire Performance of Containment Net and Sheet Materials for External Use on Construction Sites

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## **PARTICIPATING ORGANISATIONS**

This standard was approved by the BRE Global Governing Body with input from the BRE Global Standing Panel and Group D. The following organisations participated in the preparation of this standard:-

Association for Specialist Fire Protection (ASFP)  
 Association of British Insurers (ABI)  
 Association of Insurance Surveyors  
 BAA plc  
 British Automatic Fire Sprinkler Association (BAFSA)  
 British Property Federation (BPF)  
 British Rigid Urethane Foam Manufacturers Association (BRUFMA)  
 Chief Fire Officers' Association (CFOA)  
 Construction Industry Council (CIC)  
 Construction Products Association  
 Co-op Banking  
 Door & Hardware Federation  
 Engineered Panels in Construction (EPIC)  
 Fire Industry Association (FIA)  
 Glass & Glazing federation (GGF)  
 Heating, Ventilation & Air Conditioning Manufacturers Association (HEVAC)  
 Home Builders Federation (HBF)  
 Homes & Communities Agency (HCA)  
 International Association for Cold Storage construction (IACSC)  
 Intumescent Fire Seals Association (IFSA)  
 Lend Lease  
 London Underground Ltd  
 Modular & Portable Building Association (MPBA)  
 Mineral Wool Insulation Manufacturer Association (MIMA)  
 National Access & Scaffolding Confederation (NASC)  
 NHBC  
 RIBA  
 RICS  
 Risktech Ltd  
 Sustainability + Architecture  
 Sustainable by Design

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## **REVISION OF LOSS PREVENTION STANDARDS**

Loss Prevention Standards (LPSs) will be revised by issue of revised editions or amendments. Details will be posted on our website at [www.RedBookLive.com](http://www.RedBookLive.com).

Technical or other changes which affect the requirements for the approval or certification of the product or service will result in a new issue. Minor or administrative changes (e.g. corrections of spelling and typographical errors, changes to address and copyright details, the addition of notes for clarification etc.) may be made as amendments.

The issue number will be given in decimal format with the integer part giving the issue number and the fractional part giving the number of amendments (e.g. Issue 3.2 indicates that the document is at Issue 3 with 2 amendments).

**USERS OF LOSS PREVENTION STANDARDS SHOULD ENSURE THAT THEY POSSESS THE LATEST ISSUE AND ALL AMENDMENTS.**

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## FOREWORD

This Standard identifies the evaluation and / or testing practices undertaken by LPCB for the purposes of approval and listing of products and services. LPCB listing and approval of products and services is based on evidence acceptable to LPCB:-

- that the product or service meets the standard;
- that the manufacturer or service provider has staff, processes and systems in place to ensure that the product or service delivered meets the standard

and on:-

- periodic audits of the manufacturer or service provider including testing as appropriate;
- compliance with the contract for LPCB listing and approval including agreement to rectify faults as appropriate;

The responsibility for ensuring compliance with the technical and managerial process and requirements for the product or service lies with the manufacturer, service provider or supplier.

## NOTES

Compliance with this LPS does not of itself confer immunity from legal obligations. Users of LPSs should ensure that they possess the latest issue and all amendments.

LPCB welcomes comments of a technical or editorial nature and these should be addressed to “the Technical Director” at [enquiries@breglobal.co.uk](mailto:enquiries@breglobal.co.uk).

The BRE Trust, a registered charity, owns BRE and BRE Global. BRE Global and LPCB (part of BRE Global) test, assess, certificate and list products and services within the fire and security sectors. For further information on our services please contact BRE Global, Watford, Herts. WD25 9XX or e-mail to [enquiries@breglobal.co.uk](mailto:enquiries@breglobal.co.uk)

Listed products and services appear in the LPCB “List of Approved Products and Services” which may be viewed on our website: [www.redbooklive.com](http://www.redbooklive.com) or by downloading the LPCB Red Book App from the App Store (for iPhone and iPad), from Google Play (for Android devices) or from the Windows Store (for Windows 8 Phones and Tablets from 2014).

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## 1 SCOPE

This standard describes the flammability test and performance requirements specific to temporary containment sheeting, net or sheet materials for external use on construction sites, such as scaffold sheeting, wall/side sheets, temporary roof sheets and covers normally supplied in rolls or tarpaulins, debris netting and meshes and twin wall/fluted sheet materials used externally on construction sites. The performance requirements are intended to ensure that containment nets and sheet materials used as external scaffold cladding materials during construction, refurbishment or demolition of buildings should not add to the fire risk. This standard covers fire performance only. This standard does not cover other requirements that may be required of protective coverings, such as resistance to abrasion or liquid absorption.

LPCB approval demonstrates compliance with the Temporary Covering Materials requirements of Fire Prevention on Construction Sites – The Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation(1).

LPS 1215 does not cover other physical product characteristics such as strength or weather performance requirements. Reference should be made to other relevant standards such as BS 7955, Containment nets and sheets on construction works – Specification for performance and test methods(2).

This standard does not cover internal protective coverings for floors, walls and furnishings used during construction or refurbishment of buildings; these materials are covered in LPS 1207, Requirements for the LPCB Approval and Listing for Fire Performance of Temporary Protective Covering Materials for Use in the Interior of Buildings (3).

## 2 DEFINITIONS

### 2.1 Containment net

Knitted or woven nets or mesh fabrics intended to restrain small objects, or tools and debris, to reduce the effects of weather, to provide protection for persons from falling objects and to reduce the risk of persons falling from scaffold platforms.

### 2.2 Containment sheeting

Impervious flexible coated fabric sheeting material intended to protect a structure from inclement weather, to contain dust and other pollution, to prevent small objects, tools and debris from falling, and to reduce the risk of persons falling from scaffold platforms.

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### **2.3 Containment sheet**

Impervious semi-rigid sheet intended to protect a structure from inclement weather, to contain dust and other pollution, to prevent small objects, tools and debris from falling, and to reduce the risk of persons falling from scaffold platforms. This includes wide format hoardings and twin-wall or fluted sheets supplied in panels.

### **2.4 Fastening ties**

Means used to join containment sheeting or nets into larger configurations and to secure them in position.

### **2.5 Attachment points**

Designated points within nets and sheeting to which fastening ties can be attached.

### **2.6 Flaming debris**

For the purposes of this standard, flaming debris shall be taken as any burning material on the floor or base of the test equipment that has detached from the test sample.

## **3 REQUIREMENTS**

### **3.1 Documentation**

The applicant for certification of the flame retardant containment sheeting, nets and sheet material shall supply a full description of the product or product range to be tested and approved as follows:

- a) The type and base colour of material from which the product is made.
- b) If it is single or multi-layered, the thickness and description of each layer.
- c) The minimum film thickness and maximum product thickness (mm) and weight per unit area ( $\text{g/m}^2$ ) including manufacturing tolerances. Where the finished product has a profiled surface, full dimensional details of the profile are required.
- d) For reinforced materials, state the reinforcement material specifications and the dimensions of the scrim (warp and weft).

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- e) If the material has cavities or indentations, state whether they are continuous and give their dimensions.
- f) If, for the purposes of printing, a tape or receiving layer is laminated, bonded or in any way part of the product, then this shall be declared and full details supplied.
- g) Where products are printed with additional logo's or advertising, full details of the print type (e.g. water based, solvent based, flexographic, inkjet etc.) and colour ranges used shall be supplied.
- h) The normal method of fixing the containment sheeting, net or sheet to the scaffold or other framework.
- i) A complete formulation list of components by % weight addition including tolerance.
- j) Supplier data sheets for all components incorporated in the product.
- k) Instructions for the correct use, storage, transportation, handling and installation of the product.

### **3.2 Flammability Testing**

The range of product variations that are to be tested shall be decided by LPCB in consultation with the applicant. Testing shall cover the product thickness range, weight and base colour and, where applicable, print type and colour. Typically, where various print colours are used for additional logos or advertising, the primary colour print inks, yellow, magenta and cyan shall be tested during the flammability tests. In this case, test samples may be prepared with a solid block of each colour of at least 100mm wide across the width of the product and at least 300mm high and repeated at regular intervals on the sample submitted for test. A sample of a typical information band, which will normally carry the applicant's names and approval information, and the reinforcing, shall also be represented in the tests.

All testing shall be carried out under the direction of LPCB and shall normally be conducted by BRE Global. Exceptionally, LPCB may commission testing with an organisation with a suitable schedule of accreditation issued by UKAS (or equivalent) and acceptable to LPCB. All the flammability tests shall be carried out in suitably ventilated, draught-free conditions.

Prior to test, the specimens shall be conditioned according to BS EN 13238, Reaction to fire tests for building products. Conditioning procedures and general rules for selection of substrates<sup>(4)</sup>. This conditioning procedure supersedes any other conditioning requirements specified in the individual test standards referenced in this LPS.

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### **3.2.1 Small flame test**

3.2.1.1 The test is described in BS 476: Part 12: 1991, Fire tests on building materials and structures - Method of test for ignitability of products by direct flame impingement<sup>(5)</sup>.

Three samples shall be tested for each flame application time and at each flame application position on each base material, print colour band, information band, and reinforcing band or eyelet/grommet as applicable.

The test details specific to these materials are as follows:

- (i) Ignition source: C;
- (ii) Specimen size: 300 x 300mm;
- (iii) Flame application: surface and bottom edge;
- (iv) Flame application time: 5, 10 and 20 seconds.

3.2.1.2 The requirements for the small flame test for any of the samples tested are:

- (i) No greater than 10 seconds flaming after flame removal;
- (ii) No flaming droplets or flaming debris 10 seconds after flame removal;
- (iii) No flaming shall reach any edge of the specimen during application of the ignition source or within 10 seconds after flame removal.

Note; In consideration of potential variability in test or fire performance of the material, should one sample only of material not comply with any of the above requirements, a retest shall be conducted on three additional samples of the same specification (colour, thickness etc.) and at the particular flame application time and orientation where the failure occurred. If all the retest samples comply with the requirements listed above, the material can be considered to comply with the requirements of the small flame test.

### **3.2.2 Medium flame test**

3.2.2.1 The test is described in BS 476: Part 12: 1991. Three samples shall be tested at each flame application time and at each flame application position on each print colour band, information band, and reinforcing band or eyelet/grommet, as applicable.

The details specific to this test are as follows:

- (i) Ignition source: G;
- (ii) Specimen size: 500 x 750mm;
- (iii) Flame application: surface and bottom edge;
- (iv) Flame application time: 20, 40 and 60 seconds.

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3.2.2.2 The requirements for the medium flame test on any of the samples tested are:

- (i) No greater than 10 seconds flaming after flame removal;
- (ii) No flaming droplets or flaming debris 10 seconds after flame removal;
- (iii) No flaming shall reach any edge of the specimen during application of the ignition source or within 10 seconds after flame removal.

Note; In consideration of potential variability in test or fire performance of the material, should one sample only of material not comply with any of the above requirements, a retest shall be conducted on three additional samples of the same specification (colour, thickness etc.) and at the particular flame application time and orientation where the failure occurred. If all the retest samples comply with the requirements listed above, the material can be considered to comply with the requirements of the medium flame test.

### **3.2.3 Large flame test (Flammable liquid)**

3.2.3.1 This test was developed by LPCB to represent a large ignition source, for example when a flammable liquid is encountered.

Only one sample of each product shall be tested. For test purposes, the size of the material shall not be less than 2m x 2m and shall include the print colour bands and reinforcing band or eyelet/grommet, where applicable. The product shall be tested in the vertical orientation. The bottom edge shall be positioned 150mm above the top of the tray of fuel. The material for test shall be supported by a suitable framework, such that the unsupported span is equal or greater than 2m high x 1.8m wide and fixed with the applicant's recommended fixings. (See figure 1).

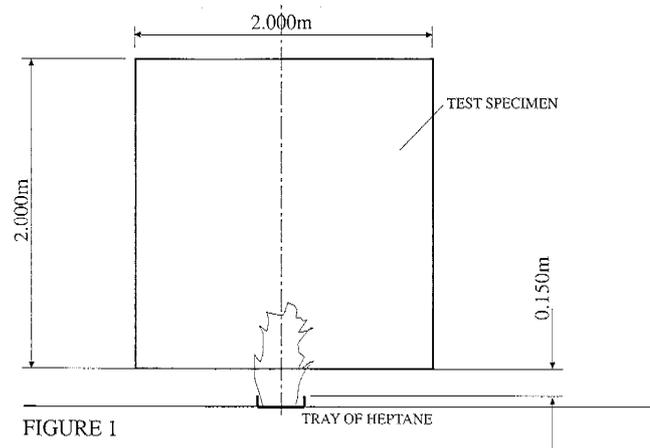
- (i) A tray shall be positioned such that it is below the bottom edge and mid-width of the product and that one half of the tray is on one side of the product and the other on the other side.
- (ii) The tray shall be made from steel 1.6mm thick and be 300mm diameter and 100mm high. It shall be filled with water to a depth of 10mm and then 0.50 litre of heptane shall be added.
- (iii) The heptane shall be ignited and the timing device started. The general behaviour of the material throughout the test shall be recorded, making note of the distance of flaming on the material under test if that occurs.

3.2.3.3 The requirements for the flammable liquid test are:

- (i) No greater than 10 seconds flaming after the heptane stops burning
- (ii) No flaming droplets or flaming debris 10 seconds after the heptane stops burning

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- (iii) No flaming reaching any edge of the specimen during application of the ignition source or within 10 seconds after the heptane stops burning.



### 3.3 Test report

The test report shall include a full description of the material tested including suppliers product designation, thickness, weight, colour and print details where applicable, details of multiple layers and any reinforcing scrim (weft and warp). The report shall also include details as required in each of the above test standards and the results in relation to the requirements for each test.

## 4 MANUFACTURING QUALITY ASSURANCE REQUIREMENTS

The manufacturing quality assurance requirements as detailed in SD 198 shall apply to all approved materials.

## 5 MARKING, LABELLING AND PACKAGING

LPCB approved flame retardant protection materials shall be suitably marked as detailed in Scheme Document SD 198 and in the "Use of the Certification Mark" publication PN103 and shall carry information that relates to the batch and/or date of manufacture.

Any limitations relating to the product shall be controlled, wherever possible, through the use of appropriate packaging e.g. sensitivity to UV exposure

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## **6 PUBLICATIONS REFERRED TO:**

- (1) Fire Prevention on Construction Sites – The Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation, Eighth edition July 2012, Construction Industry Publications/Fire Protection Association 2012, ISBN 978-1-902790-77-0.
  - (2) BS 7955, Containment nets and sheets on construction works – Specification for performance and test methods.
  - (3) LPS 1207 Requirements for the LPCB Approval and Listing for Fire Performance of Temporary Protective Covering Materials for Use in the Interior of Buildings. BRE Global, Watford.
  - (4) BS EN 13238, Reaction to fire tests for building products. Conditioning procedures and general rules for selection of substrates
  - (5) BS 476: Part 12 Fire tests on building materials and structures: Part 12: Method of test for ignitibility of products by direct flame impingement.
- SD 198 Scheme Document for LPCB approval of passive fire protection products.
- PN 103 Use of the BRE and LPCB Certification marks.

For undated references please refer to the latest published issue.

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## **7 AMENDMENTS ISSUED SINCE PUBLICATION**

<b>DOCUMENT NO.</b>	<b>AMENDMENT DETAILS</b>	<b>SIGNATURE</b>	<b>DATE</b>
LPS 1215-3.1	Change to copyright information	CJA	16/09/05
LPS 1215 Issue 4.0	Re-write with updated references and test requirements for printed product	TB	August 2014
LPS 1215 Issue 4.1	Format contents page 3.2 Remove ref to Appendix 1	DW	November 2014