

# Specification for Tarpaulins

Confirmed  
February 2011

# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Textiles and Clothing Standards Policy Committee (TCM/-) to Technical Committee TCM/4, upon which the following bodies were represented:

- Association of Heavy Textile Proofers of Great Britain
- Association of Metropolitan Authorities
- British Pest Control Association
- British Plastics Federation
- British Railways Board
- British Wood Preserving and Damp-proofing Association
- Chief and Assistant Chief Fire Officers' Association
- Home Office
- Institution of Fire Engineers
- Made-up Textiles Association
- Ministry of Defence
- National Federation of Roofing Contractors

This British Standard, having been prepared under the direction of the Textiles and Clothing Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 28 February 1992

© BSI 04-1999  
First published August 1961  
Second edition April 1977  
Third edition February 1992

The following BSI references relate to the work on this standard:  
Committee reference TCM/4  
Draft for comment 91/37682 DC

ISBN 0 580 20358 1

## Amendments issued since publication

| Amd. No. | Date         | Comments                              |
|----------|--------------|---------------------------------------|
| 8301     | October 1984 | Indicated by a sideline in the margin |
|          |              |                                       |
|          |              |                                       |
|          |              |                                       |

# Contents

|                                                                                              | Page               |
|----------------------------------------------------------------------------------------------|--------------------|
| Committees responsible                                                                       | Inside front cover |
| Foreword                                                                                     | ii                 |
| 1 Scope                                                                                      | 1                  |
| 2 Definitions                                                                                | 1                  |
| 3 Impregnated uncoated tarpaulins                                                            | 1                  |
| 4 PVC-coated synthetic fibre fabric tarpaulins                                               | 5                  |
| 5 Accessories                                                                                | 8                  |
| 6 Marking                                                                                    | 8                  |
| Appendix A Determination of low temperature flexibility                                      | 9                  |
| Appendix B Determination of water resistance of treated fabrics                              | 9                  |
| Appendix C Determination of flammability                                                     | 10                 |
| Appendix D Recommendations for cleaning PVC-coated synthetic fibre fabric tarpaulins         | 10                 |
| Table 1 — Untreated cotton fabrics                                                           | 2                  |
| Table 2 — Untreated flax fabrics                                                             | 2                  |
| Table 3 — Untreated polyester/cotton fabrics, core spun                                      | 3                  |
| Table 4 — Untreated cotton/polyester blended fabrics                                         | 3                  |
| Table 5 — Untreated polyester, polyamide and polyester/polyamide fabrics                     | 3                  |
| Table 6 — Performance requirements for PVC-coated polyamide and PVC-coated polyester fabrics | 6                  |
| Publication(s) referred to                                                                   | Inside back cover  |

## Foreword

This British Standard has been prepared under the direction of the Textiles and Clothing Standards Policy Committee. It supersedes BS 3408:1977 which is withdrawn.

This revision specifies construction and performance requirements for a series of products that have individual ranges of usefulness and limitations and which should not be regarded as alternatives to each other. Potential users are recommended to consult suppliers on the most suitable choice of fabric for particular purposes and conditions of service, since some of the tarpaulins may not be suitable for specific end uses, e.g. hatch coverings on ships.

Where required, flammability performance is specified in this standard: the test is based on test 2A of BS 5438:1989. An additional procedure, for non-PVC-coated specimens, gives an indication of the durability of flame retardant treatments. Due allowance has been made in this standard for the effect on other properties due to the application of flame retardants.

The availability of treatments other than those specified in this British Standard has been considered, and some provision for their use, as well as for future developments in this direction, has been made in **3.2**. A specification that merely formulated a number of recipes to be adopted for rendering textiles rot resistant would automatically preclude the use of all agents or mixtures other than those specified, and this kind of limitation has been avoided in this revision of BS 3408.

Methods of test for verification of certain requirements are given in Appendix A to Appendix C, and Appendix D recommends cleaning procedures for PVC-coated synthetic fibre fabric tarpaulins.

BS 3408 does not cover tarpaulins based on knitted fabrics.

*Product certification.* Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality schemes against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes will be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

## 1 Scope

This British Standard specifies requirements for the materials, manufacture and treatment of tarpaulins that have been impregnated and/or coated to render them water resistant and rot resistant. Clause 3 specifies impregnated, uncoated tarpaulins, clause 4 specifies PVC-coated synthetic fibre fabric tarpaulins and clause 5 specifies tarpaulin accessories such as lashing ropes and grommets or eyelets.

BS 3408 is not applicable to certain types of fitted tarpaulins. Potential users are recommended to consult manufacturers on the most suitable choice of fabric for particular purposes.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

## 2 Definitions

For the purpose of this British Standard the definitions given in BS 6189 apply, together with the following.

### 2.1

#### boiling

scouring at the boil or under pressure with sodium hydroxide (caustic soda) or with lime followed by sodium carbonate (soda ash), or with a mixture of sodium hydroxide and sodium carbonate

### 2.2

#### coated fabric

a material composed of two or more layers, at least one of which is of a textile material (woven, knitted, or nonwoven) and at least one of which is a substantially continuous polymeric film, bonded closely together by means of an added adhesive or by the adhesive properties of one or more of the component layers

### 2.3

#### impregnated fabric

a fabric which has been treated generally by dipping into a mixture of chemical reagents, or by a similar process, followed by expressing excess of the mixture, in order to render the fabric water repellent, rot resistant and, if required, to have flammability performance. In the case of tarpaulins, the treatment does not disturb the physical properties or surface detail, i.e. does not obscure the fabric structure as would a coating, but preserves the fabric's water vapour permeability. The impregnated fabric is essentially dry, non-tacky and flexible

### 2.4

#### water resistant

impervious to water

NOTE The term "water resistant" should not be interpreted in the absolute sense.

### 2.5

#### tarpaulin

a covering, or sheet of fabric, coated or impregnated so as to make it resistant to the transmission of water, and used to spread over anything to protect it from the elements

## 3 Impregnated uncoated tarpaulins

### 3.1 Fabric

#### 3.1.1 General

The fabric shall be cotton, flax, polyester/cotton core spun, polyester/cotton blended, polyester, polyamide (nylon) or polyester/polyamide (nylon), woven in accordance with 3.1.2 to 3.1.6, as appropriate.

NOTE 1 Selvedges, including woven, sealed and fringe selvedges, should be flat and even in appearance.

NOTE 2 The fabric should be uniformly woven and reasonably free from defects.

NOTE 3 Fabric in the untreated state should contain no foreign matter.

NOTE 4 Interested parties may agree on the width of the fabric, as determined in accordance with BS 1930. A minimum width of 90 cm is recommended.

NOTE 5 Yarns should be reasonably free from slubs, snarls, knots, yarn sleeving and other defects.

#### 3.1.2 Cotton

##### 3.1.2.1 Yarns

Yarns shall be spun from 100 % cotton.

##### 3.1.2.2 Construction

Fabric shall comply with the appropriate requirements given in Table 1.

NOTE Fabric references 1 and 2 are not recommended for tropical use.

#### 3.1.3 Flax

##### 3.1.3.1 Yarns

Yarns shall be dry-spun from pure flax.

The yarns, with the exception of those for fabric reference 9 as given in Table 2, shall be boiled to such an extent that, when tested in accordance with BS 6645, the residual alkali solubility does not exceed 10 %. Compounds which liberate chlorine and other deleterious substance shall not be used in the boiling process.

Fabric reference 9 shall be woven from unboiled flax tow.

Fabric reference 10 shall be woven from flax line.