
**Sheets, sheeting,
pillowslips, towels,
napkins, counterpanes
and continental quilt
secondary covers
suitable for use in the
public sector —**

**Part 1: Specification for sheeting, sheets
and pillowslips**

ICS 97.160

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Committees responsible for this British Standard

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Foreword

This British Standard has been prepared by Technical Committee TCI/66/1, Sheets, towels and blankets. It supersedes BS 5815-1:1989, which is withdrawn.

Under the generic title *Sheets, sheeting, pillowslips, towels, napkins, counterpanes and continental quilt secondary covers suitable for use in the public sector*, BS 5815 is published in three parts as follows:

Part 1: *Specification for sheeting, sheets and pillowslips*

Part 2: *Specification for towels and napkins*

Part 3: *Specification for counterpanes and continental quilt secondary covers including flammability performance*

The format used is that the standard first defines the fabrics and then the articles made from each fabric. For clarity and ease of communication, each fabric has a reference comprising two letters, followed by a number to indicate the width option.

This standard covers only the basic description of the products and their construction and performance requirements. Purchasing authorities therefore may need to specify additional information.

This Part covers sheeting, sheets and pillowslips but can also be used to specify the fabrics from which they are manufactured.

Many properties cannot be specified objectively and are therefore not included in this standard, e.g. colour, handling qualities and details of additional design features. Public sector purchasing authorities may be able to supply standard patterns that cover these properties and serve to resolve any ambiguities of description.

This Part of BS 5815 does not include a requirement for electrostatic properties. Some of the articles therefore may not be suitable for use in some locations in healthcare premises.

Attention is drawn to Department of Health requirements precluding the use of static-prone textiles in operating theatres. Equally the standard does not cover requirements for physiological comfort and again there may be some medical situations where not all of the products are equally suitable.

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 to ii, pages 1 to 5 and a back cover.

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1 Scope

This Part of BS 5815 specifies requirements for the materials, manufacture, make-up and testing of sheeting, sheets and pillowslips for use in the public sector. The dimensions of these articles are also specified.

Particular requirements for sheets and pillowslips for rail transport are included in Clause 6 of this standard.

Information to be supplied by the purchaser is given in Annex A.

NOTE The standard does not apply to resinated sheets.

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 2471, *Methods of test for textiles — Woven fabrics — Determination of mass per unit length and mass per unit area*

BS 2610, *Method of test for the determination of the cuprammonium fluidity of cotton and certain cellulosic man-made fibres*

BS 3870-1, *Stitches and seams — Part 1: Classification and terminology of stitch types*

BS 3870-2, *Stitches and seams — Part 2: Classification and terminology of seam types*

BS 4032, *Method of test for the determination of certain water- or alkali-soluble additives in cellulosic or synthetic fibres, yarns and fabrics or yarns and fabrics made from blends of such fibres*

BS 4407, *Methods for quantitative analysis of fibre mixtures*

BS 4560:1990, *Specification for fabrics for linings in uniform clothing*

BS EN 1049-2, *Textiles — Woven fabrics — Construction — Methods of analysis — Part 2: Determination of the number of threads per unit length*

BS EN 1773:1997, *Textiles — Fabrics — Determination of width and length*

BS EN 12590:2000, *Textiles — Industrial sewing threads made wholly or partly from synthetic fibres*

BS EN ISO 6330, *Textiles — Domestic washing and drying procedures for textile testing*

BS EN ISO 13934-1, *Textiles — Tensile properties of fabrics — Part 1: Determination of maximum force and elongation at maximum force using three strip method*

BS EN 25077, *Textiles — Determination of dimensional change in washing and drying*

BS EN ISO 105-B02, *Textiles — Tests for colour fastness — Colour fastness to artificial light — Xenon arc fading lamp test*

BS EN ISO 105-B05, *Textiles — Tests for colour fastness — Detection and assessment of photochromism*

BS EN ISO 105-C06:1997, *Textiles — Tests for colour fastness — Colour fastness to domestic and commercial laundering*

BS EN ISO 105-E04, *Textiles — Tests for colour fastness — Colour fastness to perspiration*

BS EN ISO 105-N02, *Textiles — Tests for colour fastness — Colour fastness to bleaching: peroxide*

BS EN ISO 105-X12, *Textiles — Tests for colour fastness — Colour fastness to rubbing*

BS EN ISO 12945-1, *Textiles — Determination of fabric propensity to surface fuzzing and to pilling. Pilling box method*

3 Fabric

3.1 Fabric construction

Fabric shall be manufactured in accordance with the relevant requirements set out in Table 1 and Table 2 (see 6.2 for modifications in the case of sheets and pillowslips for rail transport).

NOTE Fibre blends should be intimately mixed, yarns evenly spun and fabrics uniformly woven. Selvedges should be firm and straight.

3.2 Fabric properties

The fabric shall conform to the relevant requirements of Table 2, Table 3 and Table 4 (see 6.2 for modifications in the case of sheets and pillowslips for rail transport).

NOTE The fabric references use letters to describe fabric type, and numbers to describe fabric width.

Table 1 — Fabric references with weave and dimension options

Reference	Description	Weave	Minimum width cm
ST1 ST2 ST3 ST4 ST5	Fabric for sheets and pillowslips	Plain	230 200 180 175 150
SW1 ^a	Fabric for drawsheets	2 × 2 twill	
Method of test:			BS EN 1773, 8.3
^a Loomstate fabric, previously ST6 for 100 % cotton fabric			

Table 2 — Constructional requirements for fabrics

Fabric description		Fibre content %	Weave	Threads per centimetre, min.		Mass/unit area, min. g/m ²	Filling max. %
				Warp	Weft		
ST	Cotton	100 cotton	Plain	24	22	185	2
	Polyester/cotton	50 polyester 50 cotton	Plain	28	25	145	2
	Polyester	100 polyester	Plain	28	25	145	Nil
SW	Cotton	100 cotton	2 × 2 twill	17	22	270	5
	Polyester	100 polyester	2 × 2 twill	21	17	270	Nil
Method of test:		BS 4407	—	BS EN 1049-2		BS 2471	BS 4032

Table 3 — Performance requirements for fabrics

Fabric description		Breaking strength, min.		Resistance to pilling ^a , min. Grade	Dimensional change on washing, max.		Heat shrinkage, max.		Cuprammonium fluidity, max. Units
		Warp N	Weft N		Warp %	Weft %	Warp %	Weft %	
ST	Cotton	465	510	—	-7.5	-6	—	—	6
	Polyester/cotton	650	600	4	-5	-5	2	2	—
	Polyester	1000	700	4	-2	-2	2	2	—
SW	Cotton	310	845	—	—	—	—	—	—
	Polyester	800	1200	4	—	—	2	2	—
Method of test:		BS EN 13934-1		BS EN ISO 12945-1	BS EN 25077 ^b		BS 4560:1990, Appendix B ^c		BS 2610
^a i.e. tested on fabric in "as received" state (i.e. not washed). ^b After washing in accordance with procedure 1A of BS EN ISO 6330 except at a temperature of 71 °C and drying in accordance with procedure D. ^c Except that a test temperature of (185 ± 4) °C is required.									

Table 4 — Colour fastness requirements for non-flame-retardant fabrics

Agency	Minimum rating	Method of test
Light	5	BS EN ISO 105 – B02
Photochromism	P6 (P3–4)	BS EN ISO 105 – B05
Rubbing: dry wet	4 3–4	BS EN ISO 105 – X12
Bleaching: peroxide	4	BS EN ISO 105 – N02
Perspiration, acid and alkaline: colour change staining cotton staining polyester	4 4 4	BS EN ISO 105 – E04
Washing: colour change staining cotton staining polyester	4 4 4	BS EN ISO 105 – C06, test E2S

4 Sheets

4.1 Fabric

Sheets shall be made from fabric ST as specified in Clause 3. Drawsheets shall be made from fabric SW as specified in Clause 3.

4.2 Sewing thread

The sewing thread shall be polyester and cotton core spun with continuous filament polyester core and cotton sheath, ticket numbers 75, 100 or 120 conforming to BS EN 12590:2000, Table 5.

NOTE The ticket number used depends upon the mass per unit area of the fabric.

The thread shall be of the same colour as the sheet and, in the case of coloured sheets, of the same colour fastness.

4.3 End hems

Sheets shall have 2 cm end hems of hem type 6-03-01 as described in BS 3870-2. A minimum of 0.5 cm of the raw edge shall be turned in.

4.4 Side edges

Side edges for SD1 shall be selvages. For other sheets, side edges shall be either selvages or hems. Hems on side edges shall be hem type 6-03-01 as described in BS 3870-2 and of minimum width 0.6 cm.

4.5 Sewing

For hems, stitch type 301 as described in BS 3870-1 shall be used and there shall be not less than four stitches per centimetre.

NOTE The sewing should be of even tension throughout and the ends should be finished securely and neatly.

4.6 Dimensions

The finished dimensions shall be as specified in Table 5 when determined by the methods described in BS EN 1773.

Table 5 — Dimensions of sheets and drawsheets

Reference	Cotton and polyester/cotton		Polyester	
	Width, min. cm	Length, min. cm	Width, min. cm	Length, min. cm
<i>Sheet</i>				
SH1	230	275	230	260
SH3	180	275	180	260
SH5	150	255	150	255
SH6	150	215	150	215
SH8	135	185	135	185
SH9	100	175	100	175
SH10	65	90	65	90
<i>Drawsheet</i>				
SD 1	115	186	115	186

5 Pillowslips

5.1 Fabric

Pillowslips shall be made from fabric ST conforming to Clause 3.

5.2 Sewing thread

The sewing thread shall be polyester and cotton core spun with continuous filament polyester core and cotton sheath, ticket numbers 75, 100 or 120, conforming to BS EN 12590:2000, Table 5.

NOTE The ticket number used depends upon the mass per unit area of the fabric.

The thread shall be of the same colour as the pillowslip and, in the case of coloured pillowslips, of the same colour fastness.

5.3 Pattern

The pillowslips shall be made to the housewife pattern, i.e. in which the open end of the pillowslip is provided with a flap which is folded and sewn inside the pillowslip to form an internal pocket which retains the pillow and effects a closure. The flap shall be at least 20 cm deep and there shall be selvages at both the end of the flap and at the opening.

5.4 Sewing

The long side seams shall be joined using seam type 1-01-03, as described in BS 3870-2, the flap edges being sewn to the seam such that, when finished, the flap edge is enclosed between the long side seams. The side seams shall be sewn using stitch type 401, as described in BS 3870-1, at 1 cm from the edge and type 503, as described in BS 3870-1, at 0.5 cm from the edge. No cut edges shall be exposed. There shall be not less than four stitches per centimetre.

NOTE The sewing should be of even tension throughout and should be finished securely and neatly.

5.5 Dimensions

The dimensions shall be as specified in Table 6 when determined by the methods of test described in BS EN 1773.

Table 6 — Dimensions of pillowslips

Reference	Width, min. cm	Length, min. cm
<i>Pillowslip</i>		
PS1	45	76
PS2	50	76
PS3	55	76

6 Particular requirements for sheets and pillowslips for rail transport

NOTE Sheets and pillowslips purchased for use in sleeper trains differ somewhat from the articles described elsewhere in this standard because of a decision to use 100 % flame-retardant cotton. To provide acceptable handling qualities and laundry processing performance after such treatment, it is necessary to reduce the construction and physical performance specifications. This leads to a reduced though still acceptable use-life with good flame retardancy and acceptable handling qualities.

6.1 General

In addition to the other requirements of this Part of BS 5815, sheets and pillowslips for use in rail transport shall conform to 6.2 and 6.3.

6.2 Construction and performance

The finished, flame-retardant treated fabric shall conform to the requirements for ST cotton fabric as given in Table 2 and Table 3, except for the following modifications:

mass per unit area, min. (g/m^2)	160
breaking strength, min.:	
warp (N)	415
weft (N)	430
cuprammonium fluidity (units)	not applicable
dimensional change on washing, min.:	
warp (%)	2
weft (%)	2
colour fastness	not applicable

6.3 Finished dimensions

The finished dimensions of the sheets shall conform to the requirements for SH5 as specified in Table 5.

Annex A (informative)

Information to be supplied by the purchaser

The following information should be supplied by the purchaser:

- article type, fibre content, dimensions and reference;
- colour and any special finishing requirements;
- details of any marking or additional design elements;
- packaging instructions;
- instructions for sampling, testing and inspection;
- details of any additional requirements.

NOTE Purchasers in some cases will need to specify additional requirements (see Foreword).

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