

BSI Education



Information for Schools and Colleges

So you want to...

Design furnishings

BSI
British Standards

Some standards for Furniture

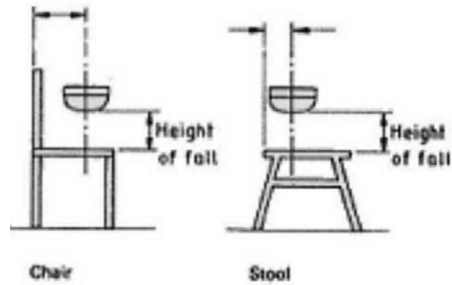
BS EN 1728: Domestic Furniture – Seating

Test methods for the determination of strength and durability

BS 4875 –1 Strength and stability of furniture – Part 1

Requirements for the strength and durability of the structure of domestic and contract seating

- Chairs
- Settees
- Stools



Furniture is tested depending on the level of usage. Detailed below are the five levels along with examples:

| Test Level | Performance Category | | Example of use |
|------------|----------------------|---------------------|---|
| 1 | Delicate | | Seats of delicate appearance |
| 2 | Careful Domestic | | Domestic bedroom |
| 3 | General Domestic | Careful contract | Domestic living/dining room, hotel bedroom |
| 4 | Severe Domestic | General contract | Seating where rough treatment and careless handling occur, e.g. college study, hotel reception area |
| 5 | | Severe Contract | Seating intended for exceptionally heavy use, e.g. transport terminus, student common room, barrack room. |

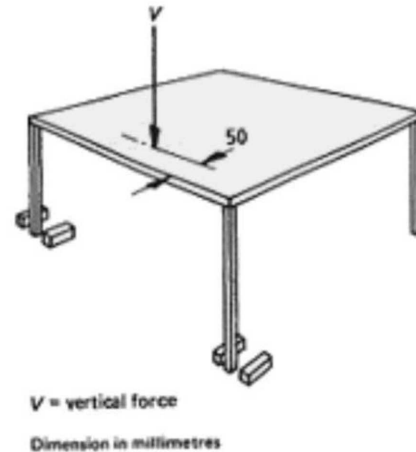
BS EN 1730: Domestic Furniture – Tables

Test methods for determination of strength, durability and stability

BS 4875 –5 Strength and stability of furniture – Part 5

Requirements for strength, durability and stability of tables and trolleys for domestic and contract use:

- Tables and trolleys
- Storage furniture (e.g. cupboards not CD racks)



Some standards for Soft Furnishings

BS 5867 Specification for fabrics for curtains and drapes

Part 1: Looks at colour fastness and labelling requirements

Part 2: Indicates how the fabric should behave when tested to BS 5438 for flammability.

BS 5438 Methods of test for flammability of textile fabrics

Fabrics are subjected to a small igniting flame applied to the face bottom edge of vertically hung specimens.

These tests are designed to find out:

- How easily the material catches light
- How far the flames spread
- How quickly the flames spread.

BS 4723 Specification for stretch covers for upholstered furniture

This standard specifies for stretch covers:

- The fabric content
- Wear and tear performance

British and European standards do not tend to set specifications for design but more often state the performance requirements that a product should conform to once it has been designed. So for example, a chair can look like anything you want it to but it should still pass the performance tests set out by the appropriate standards.

Most standards covering furniture are voluntary. This means that legally furniture does not have to be manufactured to British and European standards. The only standard incorporated into the law is BS 5852: Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources. To help you understand what a standard might cover, here is BS 5867 in the spotlight.

BS 5867 Fabrics for curtains and drapes

This standard covers curtains and drapes which:

1. Must conform to certain labelling requirements
2. Must conform to certain flammability tests
3. Are tested for their washing, fading and dry cleaning conformity.

1. Labelling requirements

Curtains and drapes which have been tested and conform to BS 5867 must carry a label stating:

- The standard number against which the product has been tested
- The manufacturer's name
- Care instructions
- Appropriate care labels
- If fabric should not be washed this should also be noted
- Fibre content



2. Flammability

When testing the flammability of curtains and drapes BS 5438 should be used. A test for this standard is to see whether the curtains will catch light from a small flame, not once a fire has started. The test is really to see what sort of damage a small flame will do and BS 5867: Part 2 states what the results should be.

3. The effect of washing, fading and dry cleaning on material

When testing materials BS 1006 and BS EN ISO 105 are useful. These standards describe the testing criteria for different types of materials.

When testing 'colour fastness to washing' the standards state:

- Material should be 'mechanically agitated'
- The type of the machine equipment to be used
- The type of soap to be used
- Two pieces of fabric should be sewn onto the material being tested; one of the same fibre and the other of a different one. For example, if the material being tested is cotton then the second piece should be wool.

This is to compare the change in the depth of shade in the sample compared with the two controls. There are separate tests, which use man made fibres as controls.

- Size of specimens
- The ratio of soap to liquid

One to try at home!

Experiment – How much a material sample will run*

*This is not a British Standard test but is based on one

Equipment

3cm X 5cm sample of white wool fabric

3cm X 5cm sample of white cotton fabric

3cm X 5cm sample of test material

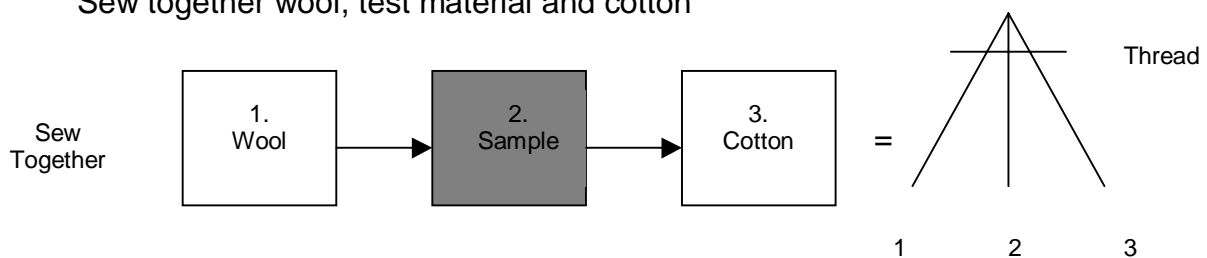
1 cup and saucer

Needle and thread

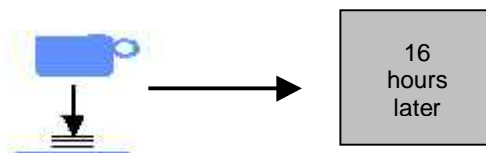
Water

Method

Sew together wool, test material and cotton

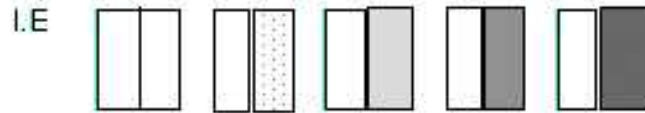


Thoroughly wet materials – but don't immerse in a pool of water! Place on a saucer and put a cup or saucer on top to keep them pressed down for 16 hours.



Results

Compare the wool and cotton samples with a grey scale. The grey scale is a series of 5 depth of shade steps, which go from white to black.



This is only an example of what a grey scale looks like. Your school could order a set from the BSI customer services department.

The scale is used to compare the depth of shade in the two control pieces of material i.e. how much dye has run out of the sample and on to them.

Scales of colours were tried i.e. red scale, a yellow scale etc. However this was found to be impractical, as there are thousands of different colour variations, so the grey scale was settled on.

Some things to think about

How could this test be used in the textiles industry?

Is this an accurate test?

This is just a brief summary of some of the standards for furniture and furnishings. The full versions of the standards are available to view at most libraries and universities. An on-line list can be found through the education web site.

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