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British Standard Methods of test for Buttons

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Méthodes d'essai des boutons

Verfahren zur Prüfung von Knopfwaren

2004年6月29日

2005年7月11日

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Foreword

This British Standard is a revision of the standard first published in 1967 and amended in 1969 and 1974, and has been prepared under the direction of the Textile Products and Leather Standards Committee. BS 4162 : 1967 is now withdrawn.

This British Standard was prepared at the request of the British Button Manufacturers' Association and others interested in ascertaining and establishing the ability of buttons to meet user specifications, particularly with regard to various methods of cleaning the garments to which they are attached.

The principal changes introduced by this revision are as follows:

(a) units and quantities are now based on the metric system of measurement;

(b) new tests are described for resistance to wash liquors; resistance to dry-cleaning solvents; resistance to free steam pressing and resistance to hot head pressing;

(c) the test for strength of buttons has been extended to include an impact test;

(d) additional tests are given for resistance to abrasive action, resistance to atmospheric corrosion and resistance to water, sea-water (sodium chloride solution) and chlorine water.

The methods of test are, in appropriate cases, based on the corresponding methods of test in BS 1006.

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

British Standard Methods of test for Buttons

1. Scope

This British Standard describes methods of test for all types of buttons for the fastening and ornamentation of wearing apparel.

NOTE 1. The tests cannot be directly related to laundering and dry-cleaning occurring in practice because other factors such as mechanical effects cannot be reproduced satisfactorily on a small scale, but they can be used to indicate the suitability of buttons for general and specific uses.

NOTE 2. The titles of the publications referred to in this standard are listed on page 9.

2. Sampling

Batch sampling for each test, except for the strength test, shall be as follows:

up to 1000 buttons	five buttons taken at random
1001 to 10 000 buttons	five buttons plus one for each additional 1000 or part thereof taken at random
10 001 to 100 000 buttons	15 buttons plus one for each additional 10 000 or part thereof taken at random
100 001 buttons upwards	25 buttons plus one for each additional 25 000 or part thereof taken at random.

When duplicate test samples are required each test sample shall be taken as near as possible from the same source.

For the strength test (clause 4) the above sampling procedure shall be followed, except that the minimum size of sample shall be 10 buttons.

3. Determination of abrasion resistance

3.1 General. This test determines the resistance of all types of buttons to normal 'wear and tear' such as may be encountered during the lifetime of garments.

3.2 Principle. The buttons, together with a specified quantity of a designated grade of pumice powder are tumbled in a small cylindrical barrel which is rotated at a specified number of revolutions per minute over a specified period of time. The buttons are examined for any change in appearance.

3.3 Apparatus

3.3.1 Cylindrical PVC barrel, inside diameter 105 mm, length 70 mm having a removable lid. The barrel is mounted horizontally and rotated by a fractional horsepower motor at a constant speed of 60 r/min.

3.3.2 Pumice powder, dry, commercial grade, i.e. mean particle diameter less than 425 μm .

3.3.3 Balance, capable of weighing to an accuracy of 0.1 g.

3.3.4 Small sieve, aperture size approximately 6.7 mm.

3.3.5 Soft brush or duster.

3.4 Procedure. Weigh out 50 g of pumice powder, and place in the barrel with:

(a) for 11 mm to 25 mm buttons, 5 test buttons;

(b) for 26 mm to 38 mm buttons, 3 test buttons.

Replace the lid and rotate the barrel at 60 r/min for 30 min. Remove the lid and empty the contents of the barrel on the sieve. Separate the buttons from the pumice powder by gently shaking the sieve. Remove all traces of pumice powder from the buttons by means of a soft brush or duster. Repeat until all the test buttons have been tested.

Examine carefully the tested buttons and compare with untested buttons in a north sky light.

The buttons shall be considered to have passed the test if there is no visible change in their appearance.

NOTE 1. The surfaces to be compared are illuminated by north sky light in the Northern hemisphere (or south sky light in the Southern hemisphere) or an equivalent source of light giving an illuminance of 600 lx or more. The light is incident upon the surfaces at an angle of approximately 45° , and the direction of viewing is approximately along the perpendicular to the plane of the surfaces.

NOTE 2. Fresh pumice powder should be used for each batch sample of buttons tested.

3.5 Test report. The test report shall include the following particulars:

(a) the test result, pass or fail;

(b) reference to this standard;

(c) details of any deviation from the test method.

4. Determination of strength

4.1 General. This test determines the resistance of all types of buttons (10 mm diameter and over) to strain imposed during clothing manufacture or normal use (tension) and/or to violent blows encountered during clothing manufacture or normal use (impact).

4.2 Principle. The buttons are subjected (a) to tension whereby the load is steadily increased until the point of breakage occurs and/or (b) to impact by a pendulum of a specified mass released from a specified height.

4.3 Apparatus

4.3.1 Tension

4.3.1.1 Mechanically driven tensometer giving a rate of separation of the grips of 6.35 mm/min.