

## Fastness to Buffing of Dyed Leather

### 1 Purpose and Scope

- 1.1 By fastness to buffing is meant the behaviour in buffing of leathers, the surface of which is buffed after or during dyeing.
- 1.2 The colour of leather may be changed by buffing depending on the degree of penetration of the dyes used to colour the leather and on their constitution.
- 1.3 This method is valid for dyed leathers, particularly suedes and nubuk, the surface of which is to be buffed.

### 2 Principle

- 2.1 The side of the leather to be tested is rubbed with buffing paper of specified grit under a given pressure with 10 and 110 to and fro motions on separate tracks.
- 2.2 The test is carried out with air-dry leather, which is stretched in the direction of rubbing.
- 2.3 The contrast between the tracks after 10 and after 110 to and fro motions is assessed with the standard Grey Scale.

### 3 Apparatus and Buffing Element

- 3.1 **Apparatus**  
Apparatus suitable for carrying out this test (see Section 7.1) must incorporate the following features:
  - 3.1.1 A carriage with:
    - (a) a horizontal, completely planar metal platform,
    - (b) a holder for fastening the leather, leaving 80 mm freely exposed,
    - (c) a device which allows the leather to be extended linearly at least 10% in the direction of rubbing.
  - 3.1.2 A finger, 500 g in weight, removable, yet able to be fixed, with:
    - (a) a base, 15 x 15 mm,
    - (b) a device for attaching pieces of wool felt (Section 3.2.2) to the base (a),
    - (c) means of fastening, under tension, a strip of abrasive paper (Section 3.2.1) over the wool felt,
    - (d) an additional weight of 500 g,
    - (e) means of guiding the finger when fully loaded (total weight 1 kg) flat on to the stretched specimen.
  - 3.1.3 Means for driving the carriage to and fro with:
    - (a) a distance of travel of 50 mm,
    - (b) a frequency of  $40 \pm 2$  to and fro motions per minute.
  - 3.1.4 The following items are convenient, but not essential to the apparatus:
    - (a) means to move the finger at right angles to the direction of rubbing, so that two or three tracks may be used for rubbing on one piece of leather,
    - (b) motor as means for driving carriage to and fro (Section 3.1.3),
    - (c) means for pre-selecting a given number of to and fro motions.
  - 3.1.5 A key for setting the torsion in the range 0-20 N for tensioning the abrasive paper attached to the finger.
- 3.2 **Buffing element**
  - 3.2.1 Strip of abrasive paper, No 320 (Carborundum), 15 mm wide (Section 7.2).

- 3.2.2 Support for the strip of abrasive paper: piece of wool felt, 15 mm square, punched out of a sheet of felt of the following specification (Section 7.3):
- (a) Material: pure wool felt,
  - (b) Weight:  $1750 \pm 87.5 \text{ g/m}^2$ ,
  - (c) Thickness, determined with IUP 4 thickness gauge:  $5.5 \pm 0.5 \text{ mm}$ .
- 3.2.3 Air-blower or suction to remove dust during buffing.

#### **4 Specimen**

- 4.1 Rectangular piece, 120 x 50 mm.

#### **5 Procedure**

- 5.1 Attach the additional weight of 500 g to the finger.
- 5.2 Fasten the specimen on to the apparatus and stretch it 10% in length in the direction of rubbing.
- 5.3 Attach a dry, square piece of felt (Section 3.2.2) to the finger, place a strip of abrasive paper (Section 3.2.1) over it, and tension it by means of the key (Section 3.1.5) with a force of 10 N.
- 5.4 Place the finger carrying the abrasive paper just to the left of the long axis of the specimen and fasten it. Carry out 10 to and fro motions. Lift finger.
- 5.5 Move on strip of buffing paper at least 2 cm and tension as in Section 5.3. Place the finger carrying the buffing paper just to the right of the long axis of the specimen, so that the two tracks just touch each other on the long axis. Fasten finger. Carry out 110 to and fro motions. Lift finger.
- 5.6 Release specimen and assess it.
- 5.7 *Assessment*
- 5.7.1 Before assessing the change in colour, brush with a brush, with bristles of a length of trim of about 3.5 cm, in the direction of the nap.
- 5.7.2 Assess the contrast between the two tracks, which have been exposed to 10 and 110 to and fro motions, respectively, with the Grey Scale (Section 7.5).

#### **6 Report**

This should comprise:

- 6.1 Description of the type of leather.
- 6.2 State which surface of the leather was tested.
- 6.3 Reference to the present method.
- 6.4 Details of any deviations from the procedure.
- 6.5 Numerical rating of the contrast.
- 6.6 If the contrast is mainly due to a change in hue, state the nature of the change (Sections 7.4 and 7.5).

#### **7 Notes**

- 7.1 A suitable apparatus is the Rub Fastness Tester VESLIC, which is made under VESLIC licence by W Keuny, Mechanik und Maschinbau, St Jakob-Strausse 38, CH-4123 Muttentz, Switzerland.

- 7.2 Strips of buffing paper may be obtained from Eidgenössische Materialprüfungs- und Versuchsanstalt, EMPAC, Abteilung 219, Unterstrasse 11, CH-9001 St Gallen, Switzerland.
- 7.3 Pieces of wool felt may be obtained as Standard Felts for use with Rub Fastness Tester VESLIC in packs of 1000 from Eidgenössische Materialprüfungs- und Versuchsanstalt, EMPAC, Abteilung 219, Unterstrasse 11, CH-9001 St Gallen, Switzerland.
- 7.4 When the contrast between the track after 100 to and fro motions and the original leather consists mainly of a change in hue and this is greater than that between the two tracks, which have been exposed to 10 and 100 to and fro motions, respectively, include the numerical rating of the greater contrast in the report (Section 6.6).
- 7.5 See:
- (a) *General Principles of Colour Fastness Testing of Leather, IUF 120.*
  - (b) *Grey Scale for assessing Change in Colour, IUF 131.*