

# CONFIDENTIAL TEST REPORT

Our Ref : 26759  
Your Ref :

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26 May 2010

**Client:** Gudbrandsdalens Uldvarefabrik as  
N-2626 Lillehammer  
Norway

**Job Title:** Various Tests On One Fabric Sample

**Client's order no.:**  
**Date of receipt:** 7 May 2010  
**Date of test start:** 10 May 2010

**Description of sample(s):** One full width sample of woven fabric, reference:-  
**Quality 5054 Vadai Uni**

**Work requested:** Shirley Technologies Ltd. was requested to carry out the following tests on the sample/s supplied:-  
EN ISO 12947-2:1999, abrasion  
EN ISO 12945-2:2000, pilling (to 7,000 and 10,000 rubs)

**UKAS Accreditation:** Our Laboratories are UKAS accredited. However, it should be noted that tests marked \* are not UKAS accredited in this report and are not included in the UKAS Accreditation Schedule for our laboratory, either due to the work not conforming fully to the standard (e.g. reduced number of specimens) or to it being outside the scope of our accreditation, or subcontracted

**Testing Atmosphere:** Unless otherwise specified the sample has been conditioned and tested, where appropriate, in the standard atmosphere for conditioning and testing textiles (BS EN ISO 139:2005) of 65±4% r.h. and 20±2°C.

This report is incomplete without all the pages specified above, together with a copy of our conditions of sale. Results of all tests quoted in this report, issued by the Company, relate only to the sample/s supplied and should not be construed or interpreted in any other way.



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Reg. Office: Shirley Technologies Ltd.,  
Wira House, West Park Ring Road, Leeds LS16 6QL, UK.  
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## Determination of the Abrasion Resistance of Fabrics by the Martindale Method – Determination of Specimen Breakdown

Date of test start: 10.05.10. Four specimens from the sample were tested, under a nominal pressure of 12 kPa (795±7g), with foam backing as requested by the Client, in accordance with BS EN ISO 12947-2:1998, using a Martindale abrasion tester as described in BS EN ISO 12947-1:1998.

The reference abradant was mounted over woven backing felt and the physically significant end point assessed when at least two individual threads had broken. The change of shade of the test specimens was not assessed. The tested specimens are enclosed.

No. of rubs to end point  
104,000  
110,000  
95,000  
98,000  
mean: 102,000

### Observations during testing

loss of the fibrous fabric surface (nap) resulting in the fabric weave becoming visible, at approximately 3,000 rubs  
pills formed at approximately 3,000 rubs and continued throughout the test; these were cut off at intervals  
total removal of nap occurred at approximately 5,000 rubs

## Determination of the Resistance to Pilling and Change of Appearance of Fabrics - Modified Martindale Method (\*)

Specimens from the sample were tested on a modified Martindale Abrasion Machine, using wool abradant fabric and a loading weight of 415 ± 2g. The specimens were tested for 500, 1,000, 2,000, 5,000 rubs, as stated in Annex A, Table A.1, following the Category 1 procedure for upholstery fabric described in BS EN ISO 12945-2:2000, with additional assessments at 7,000 and 10,000 rubs, as requested by the Client. A tested specimen is enclosed.

The specimens were visually assessed at the required intervals and rated according to the following scale:-

- 5 - no change
- 4 - slight surface fuzzing and/or partially formed pills
- 3 - moderate surface fuzzing and/or moderate pilling
- 2 - distinct surface fuzzing and/or distinct pilling
- 1 - dense surface fuzzing and/or severe pilling

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<u>Number of rubs</u>	<u>Pilling grade</u>	<u>Description</u>
500	4-5	slight surface fuzzing
1,000	4	slight surface fuzzing
2,000	3-4	moderate surface fuzzing
5,000	3-4	moderate surface fuzzing, partial pilling
7,000	3-4	moderate surface fuzzing, partial pilling
10,000	3-4	moderate surface fuzzing, partial pilling

(\*) test subcontracted to UKAS Laboratory number 1516.

The information contained on page no's 1/3 of this certificate is hereby certified to be a correct statement of the tests and investigations carried out by Shirley Technologies Ltd. on the materials referred to.

Signed.....Date.....

L I Butler (Mrs)  
Senior Technician - Textiles

Signed.....Date.....

J M Bullers (Mrs)  
Operational Head - Textiles

JMB/26759

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