



DANISH
TECHNOLOGICAL
INSTITUTE

Gregersensvej
DK-2630 Taastrup
Tel. +45 72 20 20 00
Fax +45 72 20 20 19

info@teknologisk.dk
www.teknologisk.dk

Kvadrat
Att.: Lone Henriksen
Lundbjergsvej 10
8400 Ebeltoft

Project no. A602542-8
Page 1 of 2
Date 27th May 2014
Initials Chf/sbk/ac

Test Report

Material: Upholstery combination of material tested:
Cover: Sample of woven cover fabric, designated: Remix
Composition: 90% New wool, 10% Nylon
Approx. mass pr. unit area: 310 g/m²

Filling:
Polyurethane foam, specified in TB 117-2013 Annex B
Density 28,0 - 29,6 kg/m³.
(Foam was delivered from the institute)

Sampling: The test material was submitted by the assignor and received at the Danish Technological Institute 14th May 2014.

Method: California Bureau of Home Furnishings and Thermal Insulation Technical Bulletin 117-2013. Section 1. Cover fabric test.

Period: The testing was completed 26th May 2014.

Results: The cover fabric under test **meets (PASSES)** the requirements to flammability of cover fabrics specified in Technical Bulletin 117-2013, Section 1 from Bureau of Home Furnishings and Thermal Insulation, State of California, USA.

Details of the tests are given on pages 2 of this report.

Terms: The test has been performed according to the rear side conditions, which are according to the guidelines laid down by DANAK (The Danish Accreditation). The testing is only valid for the tested specimen. The test report may only be extracted, if the laboratory has approved the extract.

27th May 2014, Danish Technological Institute, Textile

Signatory

Counter-signatory

Results, continued Testing according to Technical Bulletin 117-2013, Section 1

Smouldering test (cigarette test) for cover fabric materials in combination with standard polyurethane foam, specified in TB 117-2013 Annex B.

Test materials were conditioned at 21 ± 2 °C (70 ± 5 °F) and less than 55 % RH.

Three determinations were carried out.

	Test 1	Test 2	Test 3	Test 4
After smouldering time in minutes	3	0	4	4
Vertical char length in inches	0,63 (16 mm)	0,59 (15 mm)	0,59 (15 mm)	0,71 (18 mm)
Occurrence of flames	No	No	No	No
Comments	Test 2 was self extinguishing after 44 min. Therefore test 4 was made.			

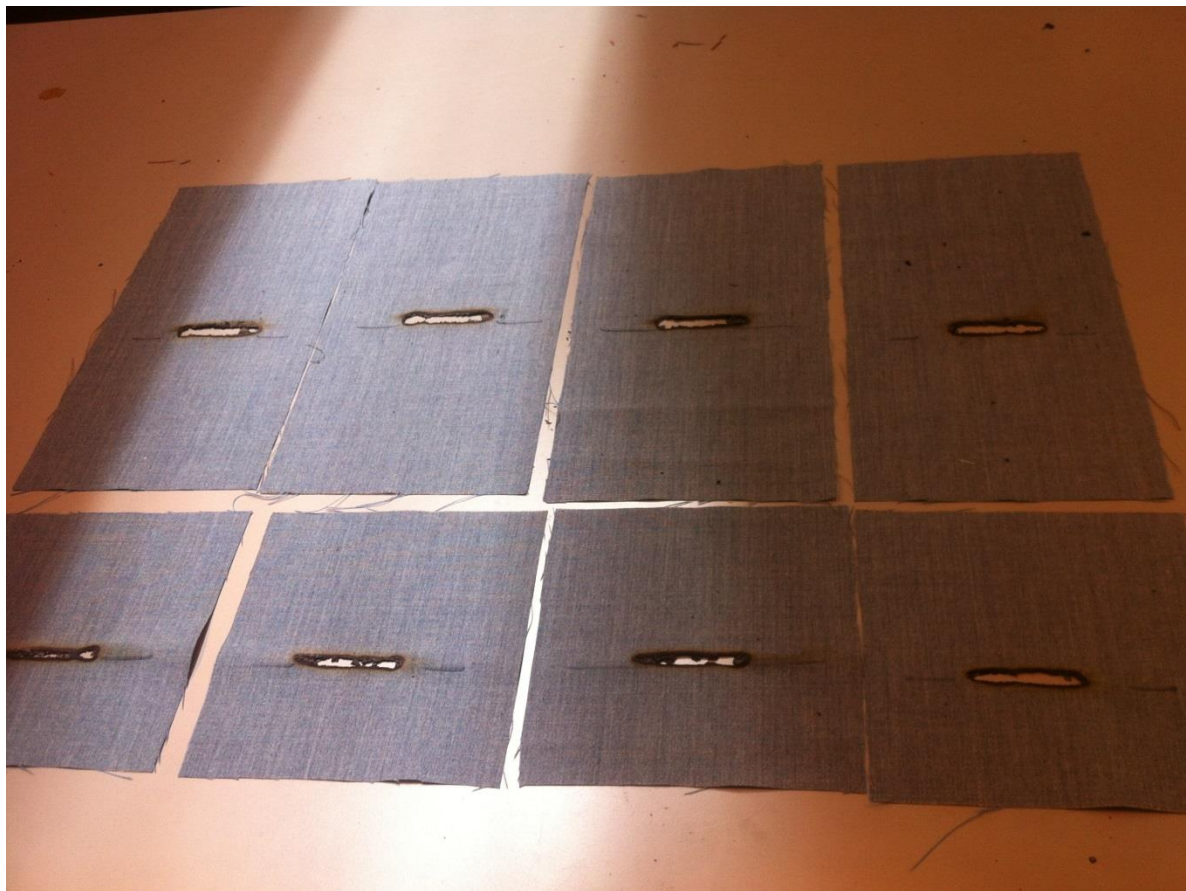
Requirements

A material is considered to pass or fail based on the following criteria according to Technical Bulletin 117-2013, Section 1, item 3.4:

1.	A single mock-up test specimen fails to meet the requirements of this test procedure if any of the following criteria occurs:
	a) The mock-up test specimen continues to smoulder after 45 minute test duration.
	b) A vertical char length of more than 1,5 inches (38 mm) develops on the cover fabric.
	c) The mock-up test specimen transitions to open flame.
2.	The cover fabric passes the test if three initial mock-up specimens pass the test, i.e., the cigarettes burn full length and the mock-ups are no longer smouldering.
3.	If more than one initial specimen fails, the cover fabric fails the test.
4.	If any of the three initial specimen fails, repeat the test on additional three specimens.
5.	If all three additional specimens pass the test, the cover fabric passes the test. If any one of the additional three specimens fails, the cover fabric fails the test.

The cover fabric under test **meets (PASSES)** these requirements.

Photos:



The general conditions pertaining to assignments accepted by Danish Technological Institute shall apply in full to the technical testing and calibration at Danish Technological Institute and to the completion of test reports and calibration certificates within the relevant field.

Danish Accreditation (DANAK)

DANAK was established in 1991 in pursuance of the Danish Act No. 394 of 13 June 1990 on the promotion of Trade and Industry.

The requirements to be met by accredited laboratories are laid down in the "Danish Agency for Trade and Industry's ("Erhvervsfremme Styrelsens") Statutory Order on accreditation of laboratories to perform testing etc. and GLP inspection. The statutory order refers to other documents, where the criteria for accreditation are specified further.

The standards DS/EN ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories" and DS/EN 45002 "General criteria for the assessment of testing laboratories" describe fundamental criteria for accreditation. DANAK uses guidance documents to clarify the requirements in the standards, where this is considered to be necessary. These will mainly be drawn up by the "European co-operation of Accreditation (EA)" or the "International Laboratory Accreditation Co-operation (ILAC)" with the purpose of obtaining uniform criteria for accreditation. In addition, DANAK draws up Technical Regulations with specific requirements for accreditation that are not contained in the standards.

In order for a laboratory to be accredited it is, among other things, required:

- that the laboratory and its personnel are not subject to any commercial, financial or other pressures, which might influence their technical judgement

- that the laboratory operates a documented quality system
- that the laboratory has at its disposal all items of equipment, facilities and premises required for correct performance of the service that it is accredited to perform
- that the laboratory management and personnel have technical competence and practical experience in performing the service that they are accredited to perform
- that the laboratory has procedures for traceability and uncertainty calculations
- that accredited testing or calibration is performed in accordance with fully validated and documented methods
- that the laboratory keeps records, which contain sufficient information to permit repetition of the accredited test or calibration
- that the laboratory is subject to surveillance by DANAK on a regular basis
- that the laboratory shall take out an insurance, which covers liability in connection with the performance of accredited services

Reports carrying DANAK's logo are used, when reporting accredited services and show that these have been performed in accordance with the rules for accreditation.