



DANISH
TECHNOLOGICAL
INSTITUTE

Four Design A/S
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Report no. A672936-1
Page 1 of 2
Date 20 November 2015
Initials ldkr/chf/ac

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Test Report

Material: Material tested:
Plastic shell, designated: Four Cast 2 (PP 7% GF)

Sampling: The material was submitted by the assignor and received on Danish Technological Institute 12 November 2015.

Method: Testing of ignitability according to EN 1021-1:2014, Furniture - Assessment of ignitability of upholstered furniture - Part 1: Ignition source smouldering cigarette.

Modified: Cigarettes were placed directly upon shell. No test rig was used.

Details of the test are given on page 2 in this report.

Period: The testing was completed 19 November 2015

Results: According to the criteria of ignition described in EN 1021-1, chapter 3, the result is:

EN 1021-1: Non-ignition > PASSED

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.

20 November 2015, Danish Technological Institute, Textile

Signatory

Counter-signatory

TEST Reg. No. 2

Report No. A672936-1

Page 2 of 2

Material under test: **Material tested:**
Plastic shell, designated: Four Cast 2 (PP 7% GF)

Results, continued: The test results relate only to the ignitability of the combination of materials under the particular conditions of test; they are not intended as a means of assessing the full potential fire hazard of the materials in use.

Test method: EN 1021-1:2014.

Ignition source: Smouldering cigarette.

Conditioning atmosphere: 23±2 °C / 50±5 % RH.

Test result: Non-ignition > PASS

Smouldering criteria	Cigarette		
	Test 1	Test 2	Test 3
Unsafe escalating combustion (3.1.a)	No	No	No
Test assembly largely consumed (3.1.b)	No	No	No
Smoulders to extremities (3.1.c)	No	No	No
Smoulders through thickness (3.1.c)	No	No	No
Smoulders more than 1 hour (3.1.d)	No	No	No
Progressive smouldering on final examination (3.1.e)	No	No	No
Flaming criteria			
Any flames initiated by smouldering source (3.2)	No	No	No
Self-extinguishing of the cigarettes before smouldering entire length	No	No	No

Comments: Modified test method. Cigarettes were placed directly upon shell. No test rig was used. See photo at Annex 1.
Before testing the sample was **not** subjected to the water soaking and drying procedure described in EN 1021-1, annex D.

Photo:



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.