



**FIRE
TECHNOLOGY
SERVICES**

Confidential Report

Our Ref: 27/03736A/11/15

Notified Body
for PPE Directive,
Construction Products
Regulation & Marine
Equipment Directive
I.D. No. 0338 & 0339

**Fire Technology Services
A division of BTTG T & C Ltd
Wira House, West Park Ring Road,
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18 December 2015

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Client: Kvadrat A/S
Lundbergsvej 10
8400 Ebeltoft
Denmark

Job Title: **Fire Test on One Sample of Fabric**

Clients Order Ref: ---

Date of Receipt: 27 November 2015

Description of Sample: One sample of fabric, referenced: **Crystal Field, 38% New Wool, 53% Cotton, 9% Polyester.**

Work Requested: Fire Technology Services were requested to carry out a fire test on the sample supplied to BS 5852:2006(2011).





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FIRE TESTS ACCORDING TO BS 5852:2006 (2011)

Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources

Date of Test: 18/12/2015

Conditioning

Immediately prior to testing the sample was placed in indoor ambient conditions for 72 hours and then conditioned in a standard atmosphere of $20 \pm 5^\circ\text{C}$ temperature and $50 \pm 20\%$ relative humidity for at least 16 hours.

The sample was tested in a room of volume 25m^3 and 21°C

Procedure

The test was carried out in accordance with BS 5852:2006. The sponsor sampled the material and the specimens were cut from the sample received to the dimensions set out in the standard.

The specimen of fabric was mounted over fillings of combustion modified high resilience foam of density about 35 kg/m^3 .

The test was made using ignition source 5 in accordance with Section 11 'Methods of test for the ignitability of upholstery composites' and pass classifications were assigned for each ignition source if the performance requirements stated below were met.





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Requirements

| Ignition Source | Maximum duration allowed for progressive smouldering | Maximum duration allowed for flaming |
|-----------------|--|--|
| 2 3 | 15 min after removal of burner tube | 120 seconds after removal of burner tube |
| 4 5 | 60 minutes after ignition of wood crib | 10 minutes after ignition of wood crib |
| 6 7 | 60 minutes after ignition of wood crib | 13 minutes after ignition of wood crib |

Failure also occurs if:

- smouldering or flaming necessitates forcible extinction due to escalating combustion behaviour so it is unsafe to continue
- flaming or smouldering essentially consumes the specimen within the test duration
- smouldering reaches the extremities of the specimen, that is to either side or to the full thickness of the filling
- flaming reaches the extremities of the specimen other than the top of the vertical part of the test specimen
- flaming passes through the full thickness of the specimen within the test duration
- any specimen that on final examination shows evidence of charring, within the filling 100 mm from the nearest part of the original position of the source
- any debris that causes an isolated floor fire that does not meet the requirements stated in the above table



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Results

The test results relate only to the ignitability of the combination of upholstery composites under the particular conditions of test. They are not intended as a means of assessing the full potential fire hazard of the materials or products in use.

| | Source 5 | |
|-----------------------------|----------|------|
| | (Top) | |
| Time of ignition(s) | 33 | 35 |
| Time of Flame Extinction(s) | 321 | 338 |
| Time of Smoke Extinction(s) | 500 | 488 |
| Time of cover split(s) | DNO | DNO |
| Damage on seat width (mm) | 175 | 195 |
| Damage on seat length (mm) | 80 | 100 |
| Damage on seat depth (mm) | 40 | 55 |
| Damage on back width (mm) | 165 | 180 |
| Damage on back length (mm) | 380 | 360 |
| Damage on back depth (mm) | 45 | 43 |
| Melting (Yes or No) | No | No |
| Dripping (Yes or No) | No | No |
| Charring (Yes or No) | Yes | Yes |
| Other Phenomena | | |
| Pass/Fail | Pass | Pass |

DNO – Did not observe time of event





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Comment

The results indicate that the above sample met the performance requirements for source 5.

Uncertainty of measurement has not been taken into account when presenting the test result. The relevant uncertainty value is included as an annex which forms an integral part of the report.

Reported by:..... *23. Marsden* B Marsden (Mrs), Fire Technician

Countersigned by:..... *[Signature]* P Doherty, Operational Head

Enquiries concerning this report should be addressed to Customer Services.





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Uncertainty Budget - Annex

The overall uncertainty budget for BS 5852:Part 1:1979 is as follows:-

Measurements: $\pm 2\text{mm}$
Timings: ± 2 seconds.

