Confidential Report

Our Ref: 23/58400-1-2B

ilac-MRA

UKAS TESTING

1066

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

Wira House, West Park Ring Road, Leeds, LS16 6QL, UK.
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Email: info@bttg.co.uk
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Date: 15 April 2021

Our Ref: 23/58400-1-2B
Your Ref: ---

Client: **Kvadrat A/S**

Lundbergsvej 10
8400 Ebeltoft
Denmark

Job Title: Fire Test on One Fabric Sample

Clients Order Ref: --

Date of Receipt: 29 March 2021

Date Test Started: 09 April 2021

Description of Sample: One sample of fabric, which was referenced by the client as;

Atrium Outdoor, stated to be 100% Trevira CS with water repellent finish

Work Requested: We were asked to make the following fire test:

BS 7176: 2007 + A1:2011 (Medium Hazard)

* subcontracted test, UKAS accredited
** subcontracted test, EN ISO/IEC 17025 accredited
*** not UKAS accredited

Note: This report relates only to the samples submitted and as described in the report.

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Client: **Kvadrat A/S**

Specification BS 7176: 2007 + A1:2011 Resistance to Ignition of Upholstered Furniture for non-domestic seating by testing composites using BS EN 1021:2006 Furniture – Assessment of the ignitability of upholstered furniture Parts 1 and 2 and BS 5852:Clause 11:2006 (Medium Hazard)

Pre-Treatment

The sample did not have a flame retardant treatment therefore it was not subjected to a water soak pre-treatment

Conditioning

The materials for testing to Source 0 and 1 were conditioned and tested in the environments specified in Clause 7 of BS EN 1021:2006.

Foam Used

The sample was tested over combustion modified polyurethane foam with a density of approximately 35-36kg/m^3.

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Client: **Kvadrat A/S**

Testing to BS EN 1021-1:2006 – Source 0 – Cigarette

The sample was tested in accordance with BS EN 1021-1:2006. The sample was tested over combustion modified polyurethane foam with a density of approximately 34-36kg/m^3.

The test results relate only to the ignitability of the combustion of upholstery composites under the particular conditions of test stated, they are not intended as a means of assessing he full potential fire hazard of the materials of products in use.

Results

	Specimen No.	
Smouldering criteria	**1**	**2**
Placement of Cigarette	**Flat**	**Flat**
Unsafe escalating combustion	No	No
Testing assembly consumed	No	No
Smoulders to extremities/full thickness	No	No
Smoulders more than 1 hour	No	No
Char >50mm from source	No	No
In final examination, presence of progressive smouldering	No	No
Flaming criteria	**1**	**2**
Occurrence of flames	No	No
Specimen Result (Ignition or Non-ignition)	**Non-Ignition**	**Non-Ignition**

Any “Yes” in smouldering or flaming criteria means Ignition

Cigarette Test Result **PASS**

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Client: **Kvadrat A/S**

BS EN 1021-2: 2006 – Source 1 – Butane Flame (Match)

The sample was tested in accordance with BS EN 1021-2:2006. The sample was tested over combustion modified polyurethane foam with a density of approximately 35-36kg/m^3.

The test results relate only to the ignitability of the combustion of upholstery composites under the particular conditions of test stated, they are not intended as a means of assessing he full potential fire hazard of the materials of products in use.

	Specimen No.	
Smouldering criteria	**1**	**2**
Placement of Butane Flame	**Flat**	**Flat**
Unsafe escalating combustion	No	No
Testing assembly consumed	No	No
Smoulders through thickness	No	No
Smoulders more than 1 hour	No	No
Char >50mm from source	No	No
In final examination, presence of progressive smouldering	No	No
Flaming criteria	**1**	**2**
Unsafe escalating combustion	No	No
Testing assembly consumed	No	No
Burns through thickness	No	No
Flames longer than 120 seconds	No	No
In final examination, presence of progressive smouldering	No	No
Specimen Result (Ignition or Non-ignition)	**Non-Ignition**	**Non-Ignition**

Any “Yes” in smouldering or flaming criteria means Ignition

Match Test Result **PASS**

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Client: **Kvadrat A/S**

Testing BS 5852:Clause 11:2006 (2011) Assessment of the ignitability of upholstered seating by Smouldering and Flaming sources – Source 5 (Crib 5)

The material was subjected to the water soak procedure according to BS 5852:Annex E:2006 (2011). The sample was conditioned and tested in the environments specified in Clause 10 of BS 5852:2006 (2011).

The material was tested in accordance with the above standard using Source 5 (Crib 5) and was tested over approximately 35-36 kg/m3 combustion modified polyurethane foam. The sample was tested at 18°C and 35% r.h.

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

	Specimen 1	**Specimen 2**
Time of Ignition (s)	30	29
Time of Flame Extinction (s)	224	222
Time of Smoke Extinction (s)	391	377
Time of cover split	30	33
Extent of damage (mm) - Seat		
Width	151	160
Length	145	144
Depth	51	54
Extent of damage (mm) - Back		
Width	127	166
Length	387	385
Depth	48	56
Melting	No	No
Dripping	No	No
Charring	Yes	Yes
Comments and Observations		
Specimen Result (Ignition or Non-ignition)	**Non-Ignition**	**Non-Ignition**

Acronyms

ME – Manually extinguished
DNO – Did not observe time of event
EC – Escalating combustion
BTT – Burnt through thickness of foam
DNS – Material did not split
DNI – Did not ignite

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Comment

The results indicate "Non-Ignition" combustion of the materials is designated NI/5 (ie. Pass).

Conclusion

The combination of materials meets BS 7176: 2007 + A1:2011 for Medium Hazard.

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.

See BS 7176: 2007 + A1:2011 Clause 6 for labelling and identification requirements. The test results relate only to the ignitability of the combination of upholstery composites under the particular conditions of test stated (BS EN 1021-1: 2006, BS EN 1021-2: 2006 and BS 5852: 2006 respectively); they are not intended as a means of assessing the full potential fire hazard of the materials or products in use.

Reported by:..... B Bland, Technical Customer Services Officer

Countersigned by:..... P Doherty, Manager

Enquiries concerning this report should be addressed to Customer Services.

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Uncertainty Budget - Annex

The overall uncertainty budget for both BS 7176:2007+A1:2011is as follows:-

Measurements:	±2mm
Timings:	±2 seconds.

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