

Götessons Industri AB
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Ignitability of upholstered furniture according to EN 1021-1 and EN 1021-2

(1 appendix)

Introduction

SP has by request of Götessons Industri AB performed fire tests according to EN 1021-1 and EN 1021-2. The purpose of the test is as a basis for technical fire classification.

Product

Padded screen wall called "Götesson A30". According to the client the product consists of:

Material	Manufacturer	Nominal data
Cover fabric called "Camira Blazer"	Camira Fabrics Ltd	460 g/m ²
Laminate, 5 mm polyether foam	Caligen Foam LTD	32 kg/m ³
Acoustic material called "Fiberspring 401"	Libeltex AB	32 – 36 kg/m ³

Sampling

The sample was delivered by the client. It is not known to SP Fire Technology if the product received is representative of the mean production characteristics.

The sample was received on May 23, 2013 at SP Fire Technology.

Test results

The upholstery combination was tested with cigarette (EN 1021-1) and match flame equivalent (EN 1021-2) as ignition sources.

The ignition sources were applied in a position along the junction between seat and back. Special care was taken to note any progressive smouldering and flaming combustion in the combination.

No progressive smouldering or flaming occurred within the 60 minute test time (non-ignition). The test results are given in appendix 1.

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

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Criteria

Section 3 in EN 1021-1, 2006 and EN 1021-2, 2006 describing "Criteria of ignition" with regards to "Progressive smouldering ignition" (3.1) and "Flaming ignition" (3.2).

Assessment

The tested product meets the criteria mentioned above.

Note

This test is designed to test ignitability of material combinations, such as covers and fillings used in upholstered seating, the tested product does not fit in that category.

SP Technical Research Institute of Sweden Fire Technology - Fire Dynamics

Performed by



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Examined by



Per Thureson

Appendix

1. Test results - EN 1021-1, 2006 and EN 1021-2, 2006

Appendix 1

Test results - EN 1021-1, 2006 and EN 1021-2, 2006

Product

Padded screen wall called “Götesson A30”. According to the client the product consists of:

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Cover fabric called “Camira Blazer”	Camira Fabrics Ltd	460 g/m ²
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Observations, EN 1021-1, ignition source cigarette

Table 1. Observations during the cigarette tests.

Test no	1	2
The cigarette was applied in a position along the junction between seat and back, min:s	00:00	00:00
Cover ignited, min:s	_*	_*
Filling ignited, min:s	_*	_*
The cigarette died out, min:s	30:46	30:23
Flames in the cover died out, min:s	-	-
Flames in the filling died out, min:s	-	-
The glow/flames was/were extinguished, min:s	-	-
The test was finished, min:s	60:00	60:00

* Ignition of the materials was not observed.

Appendix 1

Table 2. Test criteria and assessment, cigarette test.

	Test no	
	1	2
<i>"Smouldering criteria"</i>	Yes/No	
Unsafe escalating combustion (3.1 a)	No	No
Test assembly consumed (3.1 b)	No	No
Smoulders to extremities (3.1 c)	No	No
Smoulders through thickness (3.1 c)	No	No
Smoulders more than 1 h (3.1 d)	No	No
In final examination, presence of active smouldering (3.1 e)	No	No
<i>"Flaming criteria"</i>		
Occurrence of flames (3.2)	No	No

Appendix 1

Observations, EN 1021-2, ignition source small flame

Table 3. Observations during the match flame tests.

Test no	1	2	3
The ignition source was applied in a position along the junction between seat and back, min:s	00:00	00:00	00:00
Cover ignited, min:s	-*	-*	-*
Filling ignited, min:s	-*	-*	-*
The ignition source was removed, min:s	00:15	00:15	00:15
Flames in the cover died out, min:s	-	-	-
Flames in the filling died out, min:s	-	-	-
The glow/flames was/were extinguished, min:s	-	-	-
The test was finished, min:s	60:00	60:00	60:00

* Ignition of the materials was not observed.

Table 4. Test criteria and assessment, match flame test.

	Match flame equivalent		
	1	2	3
<i>"Smouldering criteria"</i>	Yes/No		
Unsafe escalating combustion (3.1 a)	No	No	No
Test assembly 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 h (3.1 d)	No	No	No
In the final examination, presence of active smouldering (3.1 e)	No	No	No
<i>"Flaming criteria"</i>			
Unsafe escalating combustion (3.2 a)	No	No	No
Test assembly consumed (3.2 b)	No	No	No
Flames to extremities (3.2 c)	No	No	No
Flames through thickness (3.1 c)	No	No	No
Flames longer than 120 s (3.2 d)	No	No	No

Appendix 1

Measured data of tested product

Material	Thickness, mm	Area weight, g/m ²	Density kg/m ³
Cover fabric and laminate	5.8 – 5.9	664 - 679	
Foam	31 – 34		28 – 29

Pre treatment

According to the client, the cover material has not been chemically treated to reduce ignitability. The cover material has therefore not been subjected to the water soaking and drying procedure described in Annex D before testing.

Conditioning

The tested product was conditioned for a minimum of 24 h at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) %.

Date of test

May 29, 2013.