

Test Report

Date: JUL.31, 2018

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The following sample(s) was / were submitted and identified on behalf of the client as:

Sample Description: FRONTLIT BANNER

Style/Item No.: /

Test Requested:

EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements—Part 1:

Classification using data from reaction to fire tests, Class B

Test Results: -- See attached sheet --

Test Period:

Sample Receiving Date : JUL.17, 2018

Test Performing Date : JUL.17, 2018 TO JUL.30, 2018

Signed for and on behalf of
SGS-CSTC Co., Ltd. Anji Branch



Allen Zou
Technical Manager



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I. Test conducted

This test is conducted as per EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests. And the test methods as following:

1. EN 13823:2010+A1:2014 Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item.
2. EN ISO 11925-2:2010+Cor1:2011 Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test.

II. Details of classified product

a) Nature and end use application

The product "frontlit banner" is defined as a decorative sheet. Its end use for frontlit banner.

b) Description

The details of the product given above have been prepared from information provided by the sponsor of the test.

Description	Frontlit banner
Color	White
Mass per unit area	496 g/m ²

Mounting and fixing:

Calcium silicate board, with its density approximate 900kg/m³, thickness approximate 9mm, is as the substrate. The test specimens are fixed mechanically to the substrate with clamp. No joint in the long wing.

III. Test results

Test method	Parameter	Number of tests	Results
EN 13823	FIGRA _{0.2MJ} (W/s)	3	0.0
	FIGRA _{0.4MJ} (W/s)		0.0
	LFS < edge of specimen		Yes
	THR _{600s} (MJ)		0.2
	SMOGR _A (m ² /s ²)		50.3
	TSP _{600s} (m ²)		112.9
	Flaming particles or droplets		No

To be continued...



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Test method	Parameter	Specimen number	Results
EN ISO 11925-2 Exposure = 30 s	$F_s \leq 150$ mm	6	Yes
	Ignition of the filter paper		No

IV. Classification and direct field of application

This classification has been carried out in accordance with EN 13501-1:2007+A1:2009.

a) Classification

The product, Frontlit banner, classification is as following,

Fire behaviour		Smoke production		Flaming droplets
B	—	s	2	, d 0

Reaction to fire classification: B—s2, d0

Remark: The classes with their corresponding fire performance are given in annex A.

b) Field of application

This classification for the submitted sample is valid for the following end use condition:

- With all substrate classified as A1 and A2
- With mechanical fixing.
- No joint

This classification is valid for the following product parameters:

- Characteristics of various layers identical to those as described in § II b) of this test reports.

Statement: The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Warning:

This classification report does not represent type approval or certification of the product.

The test laboratory has, therefore, play no part in sampling the product for the test, although it holds appropriate references to the manufacturer's factory production control that is aimed to be relevant to the samples tested and that will provide for their traceability.

To be continued...



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Annex A

Classes of reaction to fire performance for construction products excluding floorings and linear pipe thermal insulation products

Class	Test method(s)	Classification criteria	Additional classification
A1	EN ISO 1182 ^a and	$\Delta T \leq 30^\circ\text{C}$, and $\Delta m \leq 50\%$, and $t_f = 0$ (i.e. no sustained flaming)	-
	EN ISO 1716	$PCS \leq 2.0\text{MJ/kg}$ ^a and $PCS \leq 2.0\text{MJ/kg}$ ^{b,c} and $PCS \leq 1.4\text{MJ/m}^2$ ^d and $PCS \leq 2.0\text{MJ/kg}$ ^e	-
A2	EN ISO 1182 ^a or	$\Delta T \leq 50^\circ\text{C}$, and $\Delta m \leq 50\%$, and $t_f \leq 20\text{ s}$	-
	EN ISO 1716	and $PCS \leq 3.0\text{MJ/kg}$ ^a and $PCS \leq 4.0\text{MJ/m}^2$ ^b and $PCS \leq 4.0\text{MJ/m}^2$ ^d and $PCS \leq 3.0\text{MJ/kg}$ ^e	-
	EN 13823	$FIGRA \leq 120\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7.5\text{MJ}$	Smoke production ^f and Flaming droplets/particles ^g
B	EN 13823 and	$FIGRA \leq 120\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7.5\text{MJ}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ Exposure = 30s	within 60s $F_s \leq 150\text{mm}$	
C	EN 13823 and	$FIGRA \leq 250\text{W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 15\text{MJ}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ Exposure = 30s	$F_s \leq 150\text{mm}$ within 60 s	
D	EN 13823 and	$FIGRA \leq 750\text{W/s}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ Exposure = 30s	$F_s \leq 150\text{mm}$ within 60 s	
E	EN ISO 11925-2 ⁱ Exposure = 15s	$F_s \leq 150\text{mm}$ within 20 s	flaming droplets/particles ^h

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F	No performance determined
<p>^a For homogeneous products and substantial components of non-homogeneous products.</p> <p>^b For any external non-substantial component of non-homogeneous products.</p> <p>^c Alternatively, any external non-substantial component having a PCS $\leq 2,0 \text{ MJ/m}^2$, provided that the product satisfies the following criteria of EN 13823: FIGRA $\leq 20 \text{ W/s}$, and LFS < edge of specimen, and THR_{600s} $\leq 4,0 \text{ MJ}$, and s1, and d0.</p> <p>^d For any internal non-substantial component of non-homogeneous products.</p> <p>^e For the product as a whole.</p> <p>^f In the last phase of the development of the test procedure, modifications of the smoke measurement system have been introduced, the effect of which needs further investigation. This may result in a modification of the limit values and/or parameters for the evaluation of the smoke production.</p> <p>s1 = SMOGRA $\leq 30 \text{ m}^2/\text{s}^2$ and TSP_{600s} $\leq 50 \text{ m}^2$; s2 = SMOGRA $\leq 180 \text{ m}^2/\text{s}^2$ and TSP_{600s} $\leq 200 \text{ m}^2$; s3 = not s1 or s2</p> <p>^g d0 = No flaming droplets/ particles in EN 13823 within 600 s; d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s; d2 = not d0 or d1.</p> <p>Ignition of the paper in EN ISO 11925-2 results in a d2 classification.</p> <p>^h Pass = no ignition of the paper (no classification); Fail = ignition of the paper (d2 classification).</p> <p>ⁱ Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.</p>	

To be continued...



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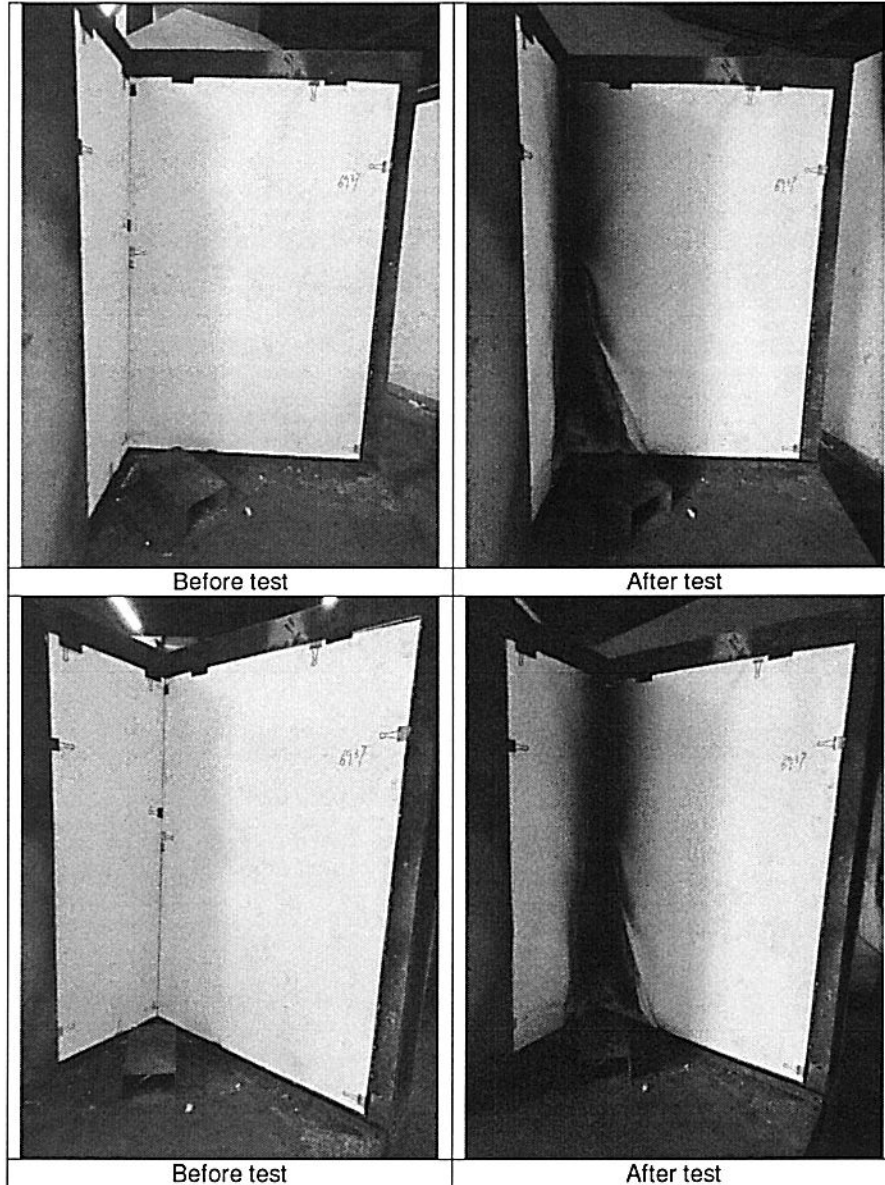
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Photo Appendix:



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End of Report



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