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BLUEVIEW ELEC-OPTIC TECH CO., LTD

NO.1000, SECTION 2, 2ND KONGGANG ROAD, SOUTHWEST AVIATION INDUSTRIAL DEVELOPMENT ZONE, CHENGDU, SICHUAN, CHINA

<u>Sample Name</u>: LED LIGHTING <u>SGS Ref No.</u>: CQ21756649

Style No.: BPS1-S

The above sample(s) was / were submitted and identified on behalf of the client. SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion arising therefrom. Results apply to the sample as received.

Test Requested:

EN 13501-1:2018 Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests.

Test Results: -- See attached sheet -

Test Period:

Sample Receiving Date : MAY 27, 2021

Test Performing Date : MAY 27, 2021 TO JUN.09, 2021

Signed for and on behalf of SGS-CSTC Standards Technical Services Anji Branch

Allen Zou

Approved Signatory





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I. Test conducted

This test is conducted as per EN 13501-1:2018 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 13823:2020 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: 2020 Reaction to fire tests Ignitability of 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 "LED Lighting + Aluminum plate substrate" is defined as a decorative sheet. Its classification is valid for the following end use application: Providing light source in sign cabinet lightbox for exhibition and stands, celling lighting, visual and media or customized application.

b) Description

Description	LED Lighting + Aluminum plate substrate	
Color	White	
Sample size	EN 13823: 1500mm×1000mm & 1500mm×495mm EN ISO 11925-2: 250mm×90mm	
Thickness	8.9mm	
Bulk Density	1032.8 kg/m ³	
Substrate information	Aluminum plate, 1.5mm thickness	

Mounting and fixing:

Free standing at a distance of at least 80 mm from the backing board.

III. Test results

Test method	Parameter	Number of tests	Results
	FIGRA _{0.2MJ} (W/s)		45.7
	FIGRA _{0.4MJ} (W/s)		23.9
EN 13823	Whether lateral flame spread (LFS) to the edge of specimen (Yes/No)		No
	THR _{600s} (MJ)	3	1.2
	SMOGRA (m²/s²)		1.9
	TSP _{600s} (m ²)		19.7
	Flaming particles or droplets (Yes/No)		No

To be continued...



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Test method	Parameter	Number of tests	Results
EN ISO 11925-2 Exposure = 30 s	Whether vertical flame spread (Fs) in excess of 150 mm within 60s (Yes/No)	12	No
	Ignition of the filter paper (Yes/No)		No

IV. Classification and field of application

a) Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018.

b) Classification

The product, LED Lighting+ Aluminum plate substrate, in relation to its reaction to fire behaviour is classified:

Fire behaviour		Smoke production			Flaming	droplets
В	_	S	1	,	d	0

Reaction to fire classification: B-s1, d0

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

c) Field of application

This classification is valid for the following end use applications:

- --- With all substrates classified as A1 and A2
- --- With mechanically fixing
- --- No joint

This classification is valid for the following product parameters:

--- Characteristics as described in section II of this test reports.

Statement:

This declaration of conformity is only based on the result of this laboratory activity, the impact of the uncertainty of the results was not included.

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.

To be continued...

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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.

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	△T≤30°C, and △m≤50%, and tr=0(i.e. no sustained flaming)	-	
	EN ISO 1716		PCS≤2.0MJ/kg ^a and PCS≤2.0MJ/kg ^{b c} and PCS≤1.4MJ/m ^{2 d} and PCS≤2.0MJ/kg ^e	-	
	EN ISO 1182 a or		<i>∆T</i> ≤50°C, and <i>∆m</i> ≤50%, and tr≤20 s	-	
A2 EN ISO	EN ISO 1716	and	PCS≤3.0MJ/kg a and PCS≤4.0MJ/m² b and PCS≤4.0MJ/m² d and PCS≤3.0MJ/kg e	-	
	EN 13823		FIGRA≤120W/s and LFS <edge and<br="" of="" specimen="">THR_{600s}≤7.5MJ</edge>	Smoke production ^f and Flaming droplets/particles ^g	
В	EN 13823	and	FIGRA≤120W/s and LFS <edge and<br="" of="" specimen="">THR_{600s}≤7.5MJ</edge>	Smoke production ^f and Flaming droplets/particles ^g	
	EN ISO 11925-2 i Exposure =30s		within 60s Fs≤150mm		
С	EN 13823	and	FIGRA≤250W/s and LFS <edge and<br="" of="" specimen="">THR_{600s}≤15MJ</edge>	Smoke production ^f and Flaming droplets/particles ^g	
	EN ISO 11925-2 i Exposure=30s		Fs≤150mm within 60 s		
D	EN 13823	and	FIGRA≤750W/s	Smoke production ^f and	
	EN ISO 11925-2 i Exposure=30s		<i>F</i> s≤150mm within 60 s	Flaming droplets/particles ^g	
Е	EN ISO 11925-2 i Exposure =15s		Fs≤150mm within 20 s	flaming droplets/particles h	

To be continued...



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_	EN ISO 11925-2 ⁱ		
Г	Exposure = 15 s		

Fs>150mm within 20 s

- ^a For homogeneous products and substantial components of non-homogeneous products.
- ^b For any external non-substantial component of non-homogeneous products.
- ^c Alternatively, any external non-substantial component having a PCS ≤ 2,0 MJ/m², provided that the product satisfies the following criteria of EN 13823: FIGRA ≤ 20 W/s, and LFS < edge of specimen, and THR_{600s} ≤ 4,0 MJ, and s1, and d0.
- ^d For any internal non-substantial component of non-homogeneous products.
- e For the product as a whole.
- f s1 = SMOGRA ≤ 30m²/s² and TSP_{600s} ≤ 50m² ; s2 = SMOGRA ≤ 180m²/s² and TSP_{600s} ≤ 200m²; s3 = not s1 or s2
- 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.

Ignition of the paper in EN ISO 11925-2 results in a d2 classification.

- ^h Pass = no ignition of the paper (no classification);
- Fail = ignition of the paper (d2 classification).
- Under conditions of surface flame attack and, if appropriate to the end–use application of the product, edge flame attack.

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Photo Appendix:



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End of Report



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