



NO.: SHFS2307000545FF-01 Date: Jul. 20, 2023 Page 1 of 6

Radial Engineering LTD

1845 Kingsway Ave, Suite 1165 Port Coquitlam, British Columbia, Canada V3C 0H3

Sample Description	:	ECOScapes Panel (24mm pet)				
Material and Mark	:	PET	PET			
Buyer	:	Radial Engineering LTD				
Product specification	:	2440*1220*24mm				
Density	:	3800gsm	Thickness	:	24mm	
Color	:	White	Material components	:	polyester fiber	
End use application	:	For walls and ceilings				

The above sample(s) and data/information 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. Results apply only to the sample as received.

SGS Ref. NO.	:	SHIN2307000857CM01
Sample Receiving Date	:	Jul. 3, 2023
Test Performing Date	:	Jul. 10, 2023 TO Jul. 12, 2023

#### Test Requested:

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

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

Test Results: -- See attached sheet --

Conclusion: According to the test result, Combustion properties identified as: B-s2,d0

<u>Statement</u>: The evaluation is based only on the actual value of laboratory activities, and the effect of uncertainty of laboratory activities is not included.

Signed for and on behalf of

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

中国・上海・嘉定区兴庆路1301号

Alex MAO Approved signatory





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#### I. Test Conducted

This test was conducted in accordance with EN 13501-1:2018 Fire classification of construction products and building elements - Part 1: Classification using test 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. Sample Details

Spacimons Sizo	EN 13823: 1500x1000mm & 1500x495mm
Specimens Size	EN ISO 11925-2: 250x90mm

#### EN13823 Installation and Fixation of Specimens:

Substrate	Fire cement board	Fixing method	Fix mechanically		
Splicing method	None	Tested Face	Front side		
	Fire cement board, with its densit	ty approximate 180	00kg/m³, thickness approximate		
Mounting and	9mm, is as the substrate.				
fixing	The Test specimens are fixed mechanically to the substrate.				
	No joint in the long and short wings of the specimen.				

#### III. Test Results

Test method	Parameter	Number of tests	Results	
	FIGRA <sub>0.2MJ</sub> (W/s)		63.6	
	FIGRA <sub>0.4MJ</sub> (W/s)		63.6	
	LFS < edge of specimen		Yes	
EN 42002-0020	THR <sub>600s</sub> (MJ)	2	7.2	
EN 13023.2020	SMOGRA(m <sup>2</sup> /s <sup>2</sup> )	5	18.7	
	TSP <sub>600s</sub> (m <sup>2</sup> )		193.1	
	Flaming particles or droplets within 600s (Yes/No);		Nie	
	Combustion time, if any burning time: ( $\leq$ 10s / >10s)		INU	
EN ISO 11925-2:2020 i	Fs ≤ 150 mm within 60s	12	Yes	
Exposure = 30 s	Ignition of the filter paper within 60s		No	



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#### IV. Classification and field of application

#### a) Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018. The classes with their corresponding fire performance are given in annex A.

#### b) Classification

The product, in relation to its reaction to fire behaviour is classified:

MEET	Class B
Classification	B-s2, d0

#### c) Field of application

This classification is valid for the following end use applications:

--- With all substrates classified A1 and A2

--- Fix mechanically

--- No joint

This classification is valid for the following product parameters:

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

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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
	EN ISO 1182 <sup>a</sup> and EN ISO 1716		∆T≤30°C, and ∆m≤50%, and t <sub>ī</sub> =0(i.e. no sustained flaming)	-
A1			PCS≤2.0MJ/kg <sup>a</sup> and PCS≤2.0MJ/kg <sup>b c</sup> and PCS≤1.4MJ/m <sup>2 d</sup> and PCS≤2.0MJ/kg <sup>e</sup>	-
	EN ISO 1182 ª or		∆T≤50°C, and ∆m≤50%, and t <sub>f</sub> ≤20 s	-
A2	EN ISO 1716	and	PCS≤3.0MJ/kg $^{a}$ andPCS≤4.0MJ/m2 $^{b}$ andPCS≤4.0MJ/m2 $^{d}$ andPCS≤3.0MJ/kg $^{e}$ $^{e}$	-
	EN 13823		FIGRA₀,2 мJ≤120W/s and LFS <edge and<br="" of="" specimen="">THR<sub>600s</sub>≤7.5MJ</edge>	Smoke production <sup>f</sup> and Flaming droplets/particles <sup>g</sup>
В	EN 13823 and		FIGRA₀,₂ мJ≤120W/s and LFS <edge and<br="" of="" specimen="">THR₀₀₀s≤7.5MJ</edge>	Smoke production <sup>f</sup> and Flaming
	EN ISO 11925-2 <sup>i</sup> Exposure =30s		within 60s Fs≤150mm	droplets/particles <sup>g</sup>
С	EN 13823 and		FIGRA₀,4 мJ≤250W/s and LFS <edge and<br="" of="" specimen="">THR<sub>600s</sub>≤15MJ</edge>	Smoke production <sup>f</sup> and Flaming
	EN ISO 11925-2 <sup>†</sup> Exposure=30s		Fs≤150mm within 60 s	droplets/particles <sup>g</sup>
	EN 13823 and		FIGRA₀,4 мJ≤750W/s	Smoke production <sup>f</sup> and
	EN ISO 11925-2 <sup>i</sup> Exposure=30s		Fs≤150mm within 60 s	droplets/particles <sup>g</sup>



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Class	Test method(s)	Classification criteria	Additional classification				
0.0.00	ENUSO 11025-2 j		Flaming				
Е	EN 130 11923-2	Fs≤150mm within 20 s	droplots/particlos <sup>h</sup>				
			diopiets/particles "				
F	EN ISO 11925-2	Fs>150mm within 20 s					
	Exposure = 15s						
<sup>a</sup> For ho	pmogeneous products and subst	antial components of non-homogeneous p	roducts.				
<sup>b</sup> For ar	ny external non-substantial comp	onent of non-homogeneous products.					
° Alterna	atively, any external non-substar	ntial component having a PCS $\leq$ 2,0 MJ/m <sup>2</sup>	, provided that the product				
satisfi	es the following criteria of EN 13	823: FIGRA $\leq$ 20 W/s, and LFS < edge of	specimen, and THR <sub>600s</sub> ≤				
4,0 M	J, and s1, and d0.						
<sup>d</sup> For ar	ny internal non-substantial compo	onent of non-homogeneous products.					
<sup>e</sup> For th	e product as a whole.						
<sup>f</sup> s1 = S	MOGRA $\leq$ 30m <sup>2</sup> /s <sup>2</sup> and TSP <sub>600s</sub>	≤ 50m <sup>2</sup> ; s2 = SMOGRA ≤ 180m <sup>2</sup> /s <sup>2</sup> and T	SP <sub>600s</sub> ≤ 200m <sup>2</sup> ; s3 = not s1				
or s2							
$^{g}d0 = N$	No flaming droplets/ particles in E	EN 13823 within 600 s;					
d1 = n	o flaming droplets/ particles pers	sisting longer than 10 s in EN 13823 within	600 s;				
d2 = n	ot d0 or d1.						
Ignitio	Ignition of the paper in EN ISO 11925-2 results in a d2 classification.						
<sup>h</sup> Pass = no ignition of the paper (no classification);							
Fail =	Fail = ignition of the paper (d2 classification).						
<sup>i</sup> Under	<sup>i</sup> Under conditions of surface flame attack and, if appropriate to the end–use application of the product, edge						
flame	attack.	•••••••••••••••••••••••••••••••••••••••					

#### 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.

This report supersedes the report NO.SHFS2307000545FF issued on Jul. 14, 2023, the original report is invalid.



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Photo Appendix:



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