

TEST REPORT

No. : XMIN191002497CCM

Date : Nov.01, 2019

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CUSTOMER NAME: A. BERGER GMBH
 ADDRESS: WEYERHOFSTRAÙE 68/E49, 47803 KREFELD, GERMANY

Sample Name : 4435-26-RECY BE.TEX®GREEN REVOLUTION FR
 Product Specification : 180g/m²
 Manufacturer : A. BERGER GMBH
 Buyer : A. BERGER GMBH
 Material and Mark : 100%Polyester with FR

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

Test Required : Selected test(s) as requested by applicant
 SGS Ref. No. : SDFS1910006765FF
 Date of Receipt : Oct.18, 2019
 Testing Start Date : Oct.18, 2019
 Testing End Date : Oct.30, 2019

Test Result Summary

Test(s) Requested	Result(s)
EN 13501-1:2018 Fire classification of construction products and building elements-Part 1: Classification using data from reaction to fire tests	Classification: B-s1, d0

Summary:

1. For further details, please refer to the following page(s).

***** To be continued*****

Signed for
 SGS-CSTC Standards Technical
 Services Co. , Ltd Xiamen Branch
 Testing Center



Bryan Hong
 Authorized signatory



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TESTS AND RESULTS

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 13823:2010+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+AC:2011 Reaction to fire tests-Ignitability of building products subjected to direct impingement of flame-Part 2: Single-flame source test.

Mounting and fixing (For EN 13823:2010+A1:2014):

Test sample is installed on the substrate by screw (test substrates for calcium silicate board, the density of 900 kg/m³).

Test Results:

Test method	Parameter	Number of tests	Results
EN 13823:2010+A1:2014	FIGRA _{0.2MJ} (W/s)	3	30.0
	FIGRA _{0.4MJ} (W/s)		30.0
	THR _{600s} (MJ)		0.6
	SMOGRA (m ² /s ²)		0.8
	TSP _{600s} (m ²)		6.5
	LFS < edge of specimen		Yes
	Flaming particles or droplets		No
EN ISO 11925-2:2010+AC:2011 Exposure = 30 s	F _s ≤ 150 mm	6	Yes
	Ignition of the filter paper		No

Remark:

FIGRA-Fire growth rate index used for classification purposes [W/s]

For the classes A2 and B, FIGRA_{0.2MJ}

For the classes C and D, FIGRA_{0.4MJ}

LFS-Lateral flame spread [m]

THR_{600s}-Total heat release within 600 s [MJ]

SMOGRA-Smoke growth rate [m²/s²]

TSP_{600s}-Total smoke production within 600 s [m²]

***** To be continued*****



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Classification and direct field of application:

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

Classification:

Fire behaviour		Smoke production			Flaming droplets	
B	—	s	1	,	d	0

Remark:

The classes with their corresponding fire performance are given in Table 1.

Reaction to fire classification is based on the 7-step scale of A1 to F, where A1 is good and F is bad

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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Table 1 — 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	and $\Delta T \leq 50^\circ\text{C}$, and $\Delta m \leq 50\%$, and $t_f \leq 20\text{ s}$	-
	EN ISO 1716		-
	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	$F_s \leq 150\text{mm}$ within 60 s	
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
F	EN ISO 11925-2 ⁱ Exposure = 15s	$F_s > 150\text{mm}$ within 20 s	-

***** To be continued *****



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- ^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 $PCS \leq 2,0 \text{ MJ/m}^2$, provided that the product satisfies the following criteria of EN 13823: $FIGRA \leq 20 \text{ W/s}$, and $LFS < \text{edge of specimen}$, and $THR_{600s} \leq 4,0 \text{ MJ}$, and $s1$, and $d0$.
- ^d For any internal non-substantial component of non-homogeneous products.
- ^e For the product as a whole.
- ^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.
- $s1 = \text{SMOGRA} \leq 30\text{m}^2/\text{s}^2$ and $\text{TSP}_{600s} \leq 50\text{m}^2$; $s2 = \text{SMOGRA} \leq 180\text{m}^2/\text{s}^2$ and $\text{TSP}_{600s} \leq 200\text{m}^2$; $s3 = \text{not } s1 \text{ or } s2$
- ^g $d0 = \text{No flaming droplets/ particles in EN 13823 within 600 s}$;
 $d1 = \text{no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s}$;
 $d2 = \text{not } d0 \text{ or } d1$.
 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).
- ⁱ Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.

Note: The above test was carried out by SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch.

***** To be continued*****



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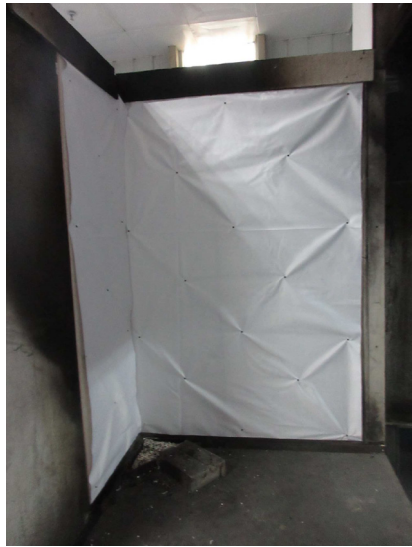
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SAMPLE INFORMATION AND PICTURES

Mass per unit area: About 185g/m²



Before Test (EN 13823)



After Test (EN 13823)

SGS authenticate the photos on original report only

***** End of report*****



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