TEST REPORT

No. : XMIN2204003431CM
Date : Apr 26, 2022
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scan to see the report
XMIN2204003431CM

CUSTOMER NAME: SPANDEX AG
ADDRESS: AEGERTWEG 4,8305 DIETLIKON, SWITZERLAND

Sample Name	:	PVC ADHESIVE VINYL
Material and Mark	:	Polymeric Vinyl
Other Information	:	Model: IP 2556 Plus / IP 2556PA Plus Model for testing: IP 2556 Plus

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.

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SGS Ref. No.	:	SDFS2204001962FF
Date of Receipt	:	Apr 08, 2022
Testing Start Date	:	Apr 08, 2022
Testing End Date	:	Apr 25, 2022
Test result(s)	:	For further details, please refer to the following page(s) (Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

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

Civi Huang
Authorized signatory

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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).

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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 13823:2020 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 building products subjected to direct impingement of flame-Part 2: Single-flame source test.

Mounting and fixing (For EN 13823:2020):
As per client's requirement, the sample was self-adhesive to the substrate (test substrates is calcium silicate board meets the requirement of EN13501-1 of Class A2-s1,d0, the density of 900 kg/m^3 and thickness of 10mm).

Test Results:

Test method	Parameter	Number of tests	Results
EN 13823:2020	FIGRA$_{0.2MJ}$（W/s）	3	22.9
	FIGRA$_{0.4MJ}$（W/s）		18.6
	THR$_{600s}$（MJ）		1.9
	SMOGRA（m^2/s^2）		1.9
	TSP$_{600s}$（m^2）		18.6
	LFS < edge of specimen (Yes/No)		Yes
	Flaming particles or droplets within 600s (Yes/No); Combustion time, if any burning time: (≤10s / >10s)		No
EN ISO 11925-2:2020 Exposure = 30 s	*Fs* ≤ 150 mm (Yes/No)	12	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$_{0.2}$MJ
For the classes C and D, FIGRA$_{0.4}$MJ
LFS-Lateral flame spread [m]
THR$_{600s}$-Total heat release within 600 s [MJ]
SMOGRA-Smoke growth rate [m^2/s^2]
TSP$_{600s}$-Total smoke production within 600 s [m^2]

Classification and direct field of application:
This classification has been carried out in accordance with **EN 13501-1:2018.**

SGS-CSTC Certification Technical Services Co.,Ltd. Xiamen Branch Testing Center of Commercial Construction Material Laboratory

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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 the highest level and F is the lowest level.

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.

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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		$\Delta T \leq 30$℃, and $\Delta m \leq 50\%$, and t_f=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]	-
A2	EN ISO 1182 [a] or	and	$\Delta T \leq 50$℃, and $\Delta m \leq 50\%$, and $t_f \leq 20$ s	-
	EN ISO 1716		*PCS*≤3.0MJ/kg [a] and *PCS*≤4.0MJ/m^2 [b] and *PCS*≤4.0MJ/m^2 [d] and *PCS*≤3.0MJ/kg [e]	-
	EN 13823		*FIGRA*≤120W/s and *LFS*<edge of specimen and *THR*$_{600s}$≤7.5MJ	Smoke production [f] and Flaming droplets/particles [g]
B	EN 13823 and		FIGRA≤120W/s and LFS<edge of specimen and THR600s≤7.5MJ	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure =30s		Fs≤150mm within 60 s	
C	EN 13823 and		FIGRA≤250W/s and LFS<edge of specimen and THR600s≤15MJ	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure=30s		Fs≤150mm within 60 s	

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Class	Test method(s)	Classification criteria	Additional classification
D	EN 13823 and	FIGRA≤750W/s	Smoke production [f] and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure=30s	Fs≤150mm within 60 s	
E	EN ISO 11925-2 [i] Exposure =15s	Fs≤150mm within 20 s	flaming droplets/particles [h]
F	EN ISO 11925-2 [i] Exposure =15s	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/m^2 , 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] 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 = SMOGRA ≤ 30m^2/s^2 and TSP_{600s} ≤ 50m^2 ; s2 = SMOGRA ≤ 180m^2/s^2 and TSP_{600s} ≤ 200m^2; 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).
[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 project/method was carried out by subcontractors.

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SAMPLE INFORMATION AND PICTURES

Density of the test specimen: 132g/m^2

Before Test (EN 13823)

After Test (EN 13823)

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

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