

TEST REPORT

No. : XMIN2004002032CM

Date : Apr 17, 2020

Page: 1 of 6

scan to see the report



XMIN2004002032CM

CUSTOMER NAME: SPANDEX AG

ADDRESS: AEGERTWEG 4, 8305 DIETLIKON, SWITZERLAND

Sample Name : PVC ADHESIVE VINYL

Material and Mark : Clear Window Film

Other Information : Model:IP 2593

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.

SGS Ref. No. : SDFS2004001728FF

Date of Receipt : Apr 02, 2020

Testing Start Date : Apr 02, 2020

Testing End Date : Apr 17, 2020

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

Bryan

Bryan Hong
Authorized signatory



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

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5765857 f (86-592) 5765380 www.sgsgroup.com.cn
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5765857 f (86-592) 5765380 e sgs.china@sgs.com

TEST REPORT

No. : XMIN2004002032CM

Date : Apr 17, 2020

Page: 2 of 6

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).

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

SAMPLE INFORMATION AND PICTURES

Mass per unit area: About 135 g/m²



Before Test (EN 13823)



After Test (EN 13823)



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

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5765857 f (86-592) 5765380 www.sgsgroup.com.cn
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5765857 f (86-592) 5765380 e sgs.china@sgs.com

TEST REPORT

No. : XMIN2004002032CM

Date : Apr 17, 2020

Page: 3 of 6

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):

There is no ventilation cavity behind the substrate.

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/m³ and thickness of 10mm).

Test Results:

Test method	Parameter	Number of tests	Results
EN 13823:2010+A1:2014	FIGRA _{0.2MJ} (W/s)	3	27.7
	FIGRA _{0.4MJ} (W/s)		22.2
	THR _{600s} (MJ)		1.1
	SMOGRA (m ² /s ²)		2.8
	TSP _{600s} (m ²)		15.7
	LFS < edge of specimen		Yes
	Flaming particles or droplets		No
EN ISO 11925-2:2010+AC:2011 Exposure = 30 s	F _s ≤ 150 mm	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_{0.2MJ}

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]



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5765857 f (86-592) 5765380 www.sgsgroup.com.cn
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5765857 f (86-592) 5765380 e sgs.china@sgs.com

TEST REPORT

No. : XMIN2004002032CM

Date : Apr 17, 2020

Page: 4 of 6

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.



SGS-CTC (Shanghai) Technical Services Co., Ltd.
Xiamen Branch Testing Center Commercial Construction Material Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5765857 f (86-592) 5765380 www.sgsgroup.com.cn
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5765857 f (86-592) 5765380 e sgs.china@sgs.com

TEST REPORT

No. : XMIN2004002032CM

Date : Apr 17, 2020

Page: 5 of 6

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	$\Delta T \leq 50^{\circ}\text{C}$, 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	-



SGS-CSTC (Singapore) Technical Services Co., Ltd.
Xiamen Branch Testing Center Commercial Construction Material Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5765857 f (86-592) 5765380 www.sgsgroup.com.cn
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5765857 f (86-592) 5765380 e sgs.china@sgs.com

TEST REPORT

No. : XMIN2004002032CM

Date : Apr 17, 2020

Page: 6 of 6

- ^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.
- $s1 = SMOGRA \leq 30 \text{ m}^2/\text{s}^2$ and $TSP_{600s} \leq 50 \text{ m}^2$; $s2 = SMOGRA \leq 180 \text{ m}^2/\text{s}^2$ and $TSP_{600s} \leq 200 \text{ m}^2$; $s3 = \text{not } s1 \text{ or } s2$
- ^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.

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



SGS-TESTING SERVICES
Xiamen Branch Testing Center Commercial Construction Material Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5765857 f (86-592) 5765380 www.sgs.com.cn
 中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5765857 f (86-592) 5765380 e sgs.china@sgs.com