

Test Report

No. SDFS2203001257FF

Date: May 06, 2022

Page 1 of 5

CHANGZHOU SUN PLUS LAMINATE CO., LTD
NO.16 WUQING ROAD, WEIXING INDUSTRY, HENGLIN TOWN, CHANGZHOU, CHINA

Sample Description : TOP FIRE RESISTANT PHENOLIC BOARD (FIRE RESISTANT BOARD)

The above data and 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.

SGS Ref No. : SDHL2203003546HI
Sample Receiving Date : Mar.11, 2022
Test Performing Date : Mar.11, 2022 to Apr.25, 2022

Test Result Summary

| Test(s) Requested | Result(s) |
|--|---------------------------------|
| GB 8624-2012 Fire classification for burning behavior of building materials and products Clause 5.1.1 Table 2 Classes of reaction to fire performance for slab building materials and construction products | Classification: A (A2-s1,d0) |

Summary:

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

Signed for and on behalf of
Shunde Branch
SGS-CSTC Co., Ltd.

Irvette Zhang
Approved signatory

scan to see the report



SDFS2203001257FF

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

1/F, 1st Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgsgroup.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号楼首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com

TESTS AND RESULTS

Test Conducted:

GB 8624-2012 Fire classification for burning behavior of building materials and products

Clause 5.1.1 Table 2 Classes of reaction to fire performance for slab building materials and construction products. And the test methods as following:

1. GB/T 14402-2007 Reaction to fire tests for products-Determination of the gross heat of combustion. (Calorific Value)
2. GB/T 20284-2006 Single burning item test for building materials and products.

Mounting and fixing (For GB/T 20284):

There is no ventilation cavity behind the specimen. There is no joint between the specimens.

Test sample is installed on the substrate by screw (test substrates is calcium silicate board and meets the requirement of standard, the density of 900 kg/m³ and thickness of 10mm).

Test Results:

| Test method | Parameter | Number of tests | Results |
|-----------------|--|-----------------|---------|
| GB/T 14402-2007 | The product as a whole ^e : -PCS (MJ/kg) | 3 | 2.6 |
| | Melamine paper ^b : -PCS (MJ/m ²) | | 0.2 |
| | Glass fiber composites ^a : -PCS (MJ/kg) | | 2.6 |
| GB/T 20284-2006 | FIGRA _{0.2MJ} (W/s) | 3 | 29.6 |
| | FIGRA _{0.4MJ} (W/s) | | 29.6 |
| | LFS < edge of specimen | | Yes |
| | THR _{600s} (MJ) | | 0.8 |
| | SMOGRA (m ² /s ²) | | 5.4 |
| | TSP _{600s} (m ²) | | 39.5 |
| | Flaming particles or droplets within 600s (Yes/No); Combustion time, if any burning time: (≤10s / >10s) | | No |

Remark:

PCS-gross heat of combustion [MJ/kg or MJ/m²]

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

For Class A2 and Class B FIGRA= FIGRA_{0.2MJ}

For Class C and Class D FIGRA= 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

11F, 1 Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Dailing Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn

中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号楼首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com



SGS-CS Standards Technical Services Co., Ltd.
Shunde Branch

Test Report

No. SDFS2203001257FF

Date: May 06, 2022

Page 3 of 5

Classification and direct field of application:

This classification has been carried out in accordance with GB 8624-2012 Clause 5.1.1 Table 2 Classes of reaction to fire performance for slab building materials and construction products

Conclusion:

According to the test result, Combustion properties identified as: GB 8624 A (A2-s1,d0) ;

The submitted sample satisfies Class A requirement of combustion performance of flat building materials and products in GB 8624-2012.

Table 2-Classification criteria of combustion performance of flat building materials and products

| Class | Test method(s) | | Classification criteria |
|----------------|----------------|----------------------------|---|
| A | A1 | GB/T 5464 ^a and | $\Delta T \leq 30^{\circ}\text{C}$; $\Delta m \leq 50\%$; $t_f = 0$ |
| | | GB/T 14402 | $\text{PCS} \leq 2.0\text{MJ/kg}$ ^{a, b, c, e} ; $\text{PCS} \leq 1.4\text{MJ/m}^2$ ^d |
| | A2 | GB/T 5464 ^a or | $\Delta T \leq 50^{\circ}\text{C}$; $\Delta m \leq 50\%$; $t_f \leq 20\text{ s}$ |
| | | GB/T 14402 | $\text{PCS} \leq 3.0\text{MJ/kg}$ ^{a, e} ; $\text{PCS} \leq 4.0\text{MJ/m}^2$ ^{b, d} |
| | | GB/T 20284 | $\text{FIGRA}_{0.2\text{MJ}} \leq 120\text{W/s}$; $\text{LFS} < \text{edge of specimen}$; $\text{THR}_{600\text{s}} \leq 7.5\text{ MJ}$ |
| B ₁ | B | GB/T 20284 and | $\text{FIGRA}_{0.2\text{MJ}} \leq 120\text{W/s}$; $\text{LFS} < \text{edge of specimen}$; $\text{THR}_{600\text{s}} \leq 7.5\text{MJ}$ |
| | | GB/T 8626 Exposure =30s | $\text{Fs} \leq 150\text{mm}$ within 60s; No ignition of paper within 60s |
| | C | GB/T 20284 and | $\text{FIGRA}_{0.4\text{MJ}} \leq 250\text{W/s}$; $\text{LFS} < \text{edge of specimen}$; $\text{THR}_{600\text{s}} \leq 15\text{MJ}$ |
| | | GB/T 8626 Exposure=30s | $\text{Fs} \leq 150\text{mm}$ within 60 s; No ignition of paper within 60s |
| B ₂ | D | GB/T 20284 and | $\text{FIGRA}_{0.4\text{MJ}} \leq 750\text{W/s}$ |
| | | GB/T 8626 Exposure=30s | $\text{Fs} \leq 150\text{mm}$ within 60 s; No ignition of paper within 60s |
| | E | GB/T 8626 Exposure =15s | $\text{Fs} \leq 150\text{mm}$ within 20 s; No ignition of paper within 20s |
| B ₃ | F | No performance determined | |



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

1/F, Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgs.com.cn

中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com

- ^a For homogeneous products or substantial components of non-homogeneous products.
^b For any external non-substantial component of non-homogeneous products.
^c any external non-substantial component having a PCS $\leq 2.0 \text{ MJ/m}^2$, provided that the product satisfies the following criteria of FIGRA_{0.2MJ} $\leq 20 \text{ W/s}$, and LFS < edge of specimen, and THR_{600s} $\leq 4.0 \text{ MJ}$, and s1, and d0 can be defined A1.
^d For any internal non-substantial component of non-homogeneous products.
^e For the product as a whole.

Table B.1 smoke production levels and grading criterion

| SMOGRA | Test Method | Requirement |
|--------|-------------|--|
| s1 | GB/T 20284 | SMOGRA $\leq 30 \text{ m}^2/\text{s}^2$; TSP _{600s} $\leq 50 \text{ m}^2$ |
| s2 | | SMOGRA $\leq 180 \text{ m}^2/\text{s}^2$; TSP _{600s} $\leq 200 \text{ m}^2$ |
| s3 | | not s1 or s2 |

Table B.2 Burning droplets / particles grades and grading criterion

| Burning droplets / particles grades | Test Method | Requirement |
|-------------------------------------|-------------|--|
| d0 | GB/T 20284 | No flaming droplets/ particles within 600 s |
| d1 | | Flaming droplets/ particles persisting longer than 10 s within 600 s |
| d2 | | not d0 or d1 |

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.



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

1/F, 1 Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757)22805888 f (86-757)22805858 www.sgsgroup.com.cn
 中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号厂房首层 邮编: 528333 t (86-757)22805888 f (86-757)22805858 sgs.china@sgs.com

SAMPLE INFORMATION AND PICTURES

| | |
|-------------------------------------|---------------------------------|
| Thickness of specimen: | 3.6mm |
| Density of specimen: | 5.02kg/m ² |
| ★Density of melamine paper: | 0.02kg/m ² |
| ★Density of glass fiber composites: | 4.623kg/m ² |
| ★Product usage: | Use of architectural decoration |

The above data and information with ★ 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 to the sample as received.



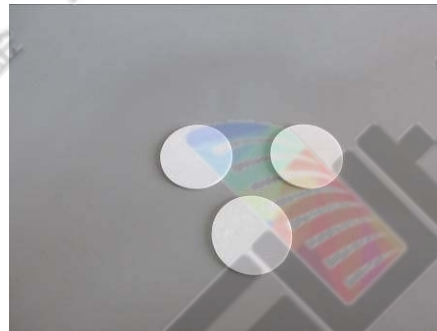
Before Test for GB/T 20284



After Test for GB/T 20284



Melamine paper



Glass fiber composites

Remark: The report is English version of Chinese test report SDFS2203001257FF_CN. The Chinese version shall prevail in case of discrepancy between the Chinese version and English version.

End of Report



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

11F, 1 Building European Industrial Park, No.1 Shunde South Road, Wusha Section, Daliang Town, Shunde Foshan, Guangdong, China 528333 t (86-757) 22805888 f (86-757) 22805858 www.sgsgroup.com.cn
中国·广东·佛山市顺德区大良街道办事处五沙顺和南路1号欧洲工业园一号楼首层 邮编: 528333 t (86-757) 22805888 f (86-757) 22805858 sgs.china@sgs.com