Polyester panel - GB reaction to fire

Source report: SHFS2306000520FF_CN

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Sample-specific evidence: this document does not establish certification or performance of every HUANGSI pod, or identify the tested sample as SL-XL1.

Report identity and sample

Field	Source information
Report / date	SHFS2306000520FF_CN / 4 July 2023
Client / address	Jiangsu Suyin New Material Technology Co., Ltd. (translated name); No. 27 Panlong Avenue, Panwan Town, Sheyang County, Yancheng, Jiangsu
Sample	100% polyester fiber; 1850 g/m2 (source labels this density); 9 mm; black
End use	Indoor wall surfaces for sound-absorbing decorative use
SGS reference	CZHL2306004268SD
Receipt / testing	25 June 2023 / 28 June-3 July 2023
Issuer / signatory	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. / Mao Chenchen (transliterated)

Sample data and information were supplied and confirmed by the client. SGS disclaims responsibility for their authenticity, completeness and resulting validity of results/conclusions. Results apply only to the sample received.

Request and classification

GB 8624-2012, clause 5.1.1, Table 2: classification and criteria for flat building materials/products, requested B1. Conclusion: **GB 8624 B1(B-s1,d0)**; meets B1(B). The conformity statement uses actual measured values without accounting for measurement uncertainty.

Test methods and mounting

GB/T 20284-2006: single burning item test for building materials/products. GB/T 8626-2007: ignitability test for building materials. Specimens: 1500 x 1000 mm and 1500 x 495 mm for GB/T 20284; 250 x 90 mm for GB/T 8626. Calcium-silicate substrate about 900 kg/m3, 11 mm thick; mechanical screw fixing; no joints; test face: either side.

Parameter	Result
GB/T 20284 specimens	3
FIGRA0.2MJ / FIGRA0.4MJ	51.4 / 40.5 W/s
LFS below specimen edge	Yes
THR600s	1.9 MJ
SMOGRA / TSP600s	2.1 m2/s2 / 16.9 m2
Flaming droplets/particles within 600 s	None

Parameter	Result
GB/T 8626 specimens / ignition	12 / 30 s
Fs<=150 mm within 60 s	Yes
Filter paper ignited by flaming droplets within 60 s	No

Classification and direct application

Classification under GB 8624-2012 clause 5.1.1: B1(B-s1,d0). Valid with A1 or A2 substrates, mechanical fixing and no joints, and only when specimen parameters match Section II. This is a sample panel reaction-to-fire result, not a whole-cabin fire-resistance rating or proof of equivalence to another jurisdiction's classification.

Appendix A - classification criteria

Translated from the appendix in the supplied report; these are classification criteria, not additional test results for the sample.

Class / method	Classification criteria (as supplied)
A / A1: GB/T 5464 and GB/T 14402	Temperature rise <=30 C; mass loss <=50%; tf=0; PCS<=2.0 MJ/kg (a,b,c,e); PCS<=1.4 MJ/m2 (d).
A / A2: GB/T 5464 or GB/T 14402, and GB/T 20284	Temperature rise <=50 C; mass loss <=50%; tf<=20 s; or PCS<=3.0 MJ/kg (a,e) and <=4.0 MJ/m2 (b,d). Also FIGRA0.2MJ<=120 W/s; lateral flame spread does not reach long-wing edge; THR600s<=7.5 MJ.
B1 / B: GB/T 20284 and GB/T 8626	FIGRA0.2MJ<=120 W/s; flame does not reach long-wing edge; THR600s<=7.5 MJ. Ignition 30 s: Fs<=150 mm within 60 s; no flaming droplets ignite filter paper within 60 s.
B1 / C: same methods	FIGRA0.4MJ<=250 W/s; flame does not reach long-wing edge; THR600s<=15 MJ. Same small-flame criteria as B.
B2 / D: same methods	FIGRA0.4MJ<=750 W/s. Ignition 30 s: Fs<=150 mm within 60 s; no flaming droplets ignite filter paper within 60 s.
B2 / E: GB/T 8626	Ignition 15 s: Fs<=150 mm within 20 s; no flaming droplets ignite filter paper within 20 s.
B3 / F	No performance requirement.

Notes a-e: (a) homogeneous products and substantial components of non-homogeneous products; (b) external non-substantial components; (d) any internal non-substantial component; (e) the whole product. (c) Alternative for external non-substantial components with PCS<=2.0 MJ/m2: the whole product must satisfy FIGRA<=20 W/s, LFS<specimen edge, THR600s<=4.0 MJ, s1 and d0.

Smoke: s1 requires SMOGRA<=30 m2/s2 and TSP600s<=50 m2; s2 requires SMOGRA<=180 m2/s2 and TSP600s<=200 m2; s3 does not achieve s2.

Flaming droplets/particles: d0 = none within 600 s; d1 = none persisting longer than 10 s within 600 s; d2 = does not achieve d1.

For wall-insulation foam plastics, the report additionally specifies oxygen index OI>=30% for B1 and >=26% for B2, tested under GB/T 2406.2.

Source declaration: results relate to sample performance under specified test conditions and cannot alone assess potential fire hazard in actual use.

Photographic appendix

Source page 5: specimen SHFS2306000520FF before and after GB/T 20284 testing. Photographs may only be used together with the SGS original report; the complete supplied report follows.

Complete original report

The following appendix reproduces every page of the supplied original report, including photographs, diagrams, signatures, seals and source terms. No translated seal or laboratory signature has been created. Refer to these original pages for graphic details and handwritten signatures.

检测报告

报告编号：SHFS2306000520FF_CN　　日期：2023 年 7 月 4 日　　第 1 页 共 5 页

江苏苏茵新材料科技有限公司
盐城市射阳县盘湾镇盘龙大道 27 号

样品描述　：　100%聚酯纤维
密度　：　1850g/m²
厚度　：　9mm
颜色　：　黑色
最终用途　：　最终应用于室内墙面，作吸声装饰用途。

以上测试样品及数据和信息为客户提供并确认，SGS 不对这些数据和信息的真实性、完整性以及由此引发的结果和/或结论的有效性负责。检测结果仅适用于收到的样品。

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SGS 参考号　：　CZHL2306004268SD

试样收到日期　：　2023 年 6 月 25 日

测试执行日期　：　2023 年 6 月 28 日 至 2023 年 7 月 3 日

测试要求：　GB 8624-2012《建筑材料及制品燃烧性能分级》

条款 5.1.1 表 2 平板状建筑材料及制品的燃烧性能等级和分级判据 (B_1 级)

测试结果：　---参见数据附表---

结论：　根据测试结果及燃烧性能等级判据，燃烧性能等级为：GB8624 B_1(B-s1,d0)

陈述：　此符合性声明仅基于本次实验室活动的实际值，未将本次实验室活动的结果不确定度影响计入。

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SHFS2306000520FF

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I. 试验方法

试验按照 GB 8624-2012《建筑材料及制品燃烧性能分级》条款 5.1.1 表 2 平板状建筑材料及制品的燃烧性能等级和分级判据进行，测试方法如下：

(1) GB/T 20284-2006《建筑材料或制品的单体燃烧试验》

(2) GB/T 8626-2007《建筑材料可燃性试验方法》

II. 试样信息

试样大小	GB/T20284：1500*1000mm & 1500*495mm GB/T8626：250*90mm

GB/T20284 试样的安装与固定：

基材	硅酸钙板	固定方式	机械固定
拼接方式	无	测试面	任意面
试样安装与固定	采用密度约 900kg/m³，厚度约 11mm 的硅酸钙板作为基材。 样品采用螺钉机械方式固定于基材上，样品无接缝。		

III. 测试结果

试验方法	参数	样品数量	试验结果
GB/T 20284-2006	燃烧增长速率指数 $FIGRA_{0.2MJ}$(W/s)	3	51.4
	燃烧增长速率指数 $FIGRA_{0.4MJ}$(W/s)		40.5
	火焰横向蔓延 LFS<试样边缘		是
	前 600 秒总放热量 THR_{600s}(MJ)		1.9
	烟气生成速率指数 SMOGRA(m^2/s^2)		2.1
	前 600 秒总产烟量 TSP_{600s}(m^2)		16.9
	600s 内是否有燃烧滴落物/颗粒物 [若有，燃烧时间：(≤10s / >10s)]		无
GB/T 8626-2007 点火时间 30s	60s 内焰尖高度 Fs≤150mm	12	是
	60s 内燃烧滴落物是否引燃滤纸		否

IV. 分级和直接应用领域

a) 分级依据

试验制品燃烧性能等级按照 GB 8624-2012 条款 5.1.1 平板状建筑材料的相关内容判定，分级参数参见附录 A。

b) 燃烧分级

所提供样品，分级如下：

符合	B_1(B)级
燃烧性能等级	GB 8624 B_1 (B - s1, d0)

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c) 应用领域

本分级报告在下述最终条件下有效：

--- 基材防火等级达到 A1 或 A2

--- 机械固定

--- 无接缝

本分级报告仅对试样参数符合本报告第 II 部分描述时有效。

附录 A

GB8624 表 2 平板状建筑材料及制品的燃烧性能等级和分级判据

燃烧性能等级		试验方法		分级判据
A	A1	GB/T 5464 [a] 且		炉内温升 $\Delta T \leq 30$ °C 质量损失率 $\Delta m \leq 50$ % 持续燃烧时间 $t_f = 0$
		GB/T 14402		总热值 PCS ≤ 2.0 MJ/kg [a, b, c, e] 总热值 PCS ≤ 1.4 MJ/m² [d]
	A2	GB/T 5464 [a] 或	且	炉内温升 $\Delta T \leq 50$ °C 质量损失率 $\Delta m \leq 50$ % 持续燃烧时间 $t_f \leq 20$ s
		GB/T 14402		总热值 PCS ≤ 3.0 MJ/kg [a, e] 总热值 PCS ≤ 4.0 MJ/m² [b, d]
		GB/T 20284		燃烧增长速率指数 $FIGRA_{0.2MJ} \leq 120$ W/s 火焰横向蔓延未到达试样长翼边缘 600s 的总放热量 $THR_{600S} \leq 7.5$ MJ
B_1	B	GB/T 20284 且		燃烧增长速率指数 $FIGRA_{0.2MJ} \leq 120$ W/s 火焰横向蔓延未到达试样长翼边缘 600s 的总放热量 $THR_{600S} \leq 7.5$ MJ
		GB/T 8626 点火时间 30s		60s 内焰尖高度 Fs ≤ 150 mm 60s 内无燃烧滴落物引燃滤纸现象
	C	GB/T 20284 且		燃烧增长速率指数 $FIGRA_{0.4MJ} \leq 250$ W/s 火焰横向蔓延未到达试样长翼边缘 600s 的总放热量 $THR_{600S} \leq 15$ MJ
		GB/T 8626 点火时间 30s		60s 内焰尖高度 Fs ≤ 150 mm 60s 内无燃烧滴落物引燃滤纸现象
B_2	D	GB/T 20284 且		燃烧增长速率指数 $FIGRA_{0.4MJ} \leq 750$ W/s
		GB/T 8626 点火时间 30s		60s 内焰尖高度 Fs ≤ 150 mm 60s 内无燃烧滴落物引燃滤纸现象
	E	GB/T 8626		20s 内焰尖高度 Fs ≤ 150 mm

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燃烧性能等级		试验方法	分级判据
		点火时间 15s	20s 内无燃烧滴落物引燃滤纸现象
B_3	F	无性能要求	

[a] 匀质制品或非匀质制品的主要组分。
[b] 非匀质制品的外部次要组分。
[c] 当外部次要组分的 PCS ≤ 2.0 MJ/m² 时，若整体制品的 $FIGRA_{0.2MJ}$ ≤ 20 W/s, LFS < 试样边缘, THR_{600S} ≤ 4.0 MJ 并达到 s1 和 d0 级，则达到 A1 级。
[d] 非匀质制品的任一内部次要组分。
[e] 整体制品。

对墙面保温泡沫塑料，除符合表 2 规定外应同时满足以下要求：B_1 级氧指数 OI≥30%；B_2 级氧指数 OI≥26%。试验依据标准为 GB/T2406.2。

GB8624 表 B.1 产烟特性等级和分级判据

产烟特性等级	试验方法	分级判据
s1	GB/T 20284	烟气生成速率指数 SMOGRA ≤ 30 m²/s² 试验 600s 总烟气生成量 TSP_{600S} ≤ 50 m²
s2	GB/T 20284	烟气生成速率指数 SMOGRA ≤ 180 m²/s² 试验 600s 总烟气生成量 TSP_{600S} ≤ 200 m²
s3	GB/T 20284	未达到 s2

GB8624 表 B.2 燃烧滴落物/微粒等级和分级判据

燃烧滴落物/微粒等级	试验方法	分级判据
d0	GB/T 20284	600s 内无燃烧滴落物/微粒
d1	GB/T 20284	600s 内燃烧滴落物/微粒，持续时间不超过 10s
d2	GB/T 20284	未达到 d1

声明：

在特定的试验条件下，试验结果与试样的性能有关；试验结果不能作为评估制品在实际使用条件下潜在火灾危险性的唯一依据。

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