



中国认可
国际互认
检测
TESTING
CNAS L9770

TEST REPORT

Report No.: CY2022C01B00921E

Entrusted by:

Guangzhou Goodsense Decorating Building
Materials Co., Ltd.

Sample Name:

Aluminum plastic composite panel for curtain wall

Test Type:

Sampling test

China Testing & Certification International Group Co.,Ltd.
National Center of Quality Supervision & Test for
Building Materials



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Sample(s) Name	Aluminum plastic composite panel for curtain wall	Test Type	Sampling test
Client	Guangzhou Goodsense Decorating Building Materials Co., Ltd.	Application No.	---
Applicant	Guangzhou Goodsense Decorating Building Materials Co., Ltd.	Brand	GoodSense
Manufacture	Guangzhou Goodsense Decorating Building Materials Co., Ltd.	Sample State	Meet the requirements of testing
Sampling Body	China Testing & Certification International Group Co.,Ltd.	Model/Size	1220mm×2440mm×4mm×0.5mm FC Two layers of coating
Production Date/ Batch No.	September 21, 2022 /---	Sampling Base	200 PCS.
Sampling Date	September 28, 2022	Quantity of sample(s)	7 PCS.
Receiving Date	October 27, 2022	Sampled by	Shibo Hu
Sampling Method	Random sampling	Sealed by	Xiao Wang
Sampling Site	GoodSense	Sample Description	Seal in good condition
Test Method(s)	The method for the test items are detailed in the data page(s).	Test Date	November 3, 2022- May 31, 2023
Judgment Standard(s)	GB/T 17748-2016 Aluminum plastic composite panel for curtain wall		
Test Item(s)	Test items are detailed in data pages.		
Test Result(s)	<p>*Upon testing, the test comply with the requirements for FC Two layers of coating aluminum-plastic composite panel for curtain wall in GB/T 17748-2016. Test result are detailed in data pages. *</p> <p style="text-align: right;">Date of Issue: 2023-06-07 (Seal) 检测专用章</p>		
Remarks:	(Blank)		

Approved by 宇建伟 刘顺利 Checked by 刘顺利 Compiled by 刘晓晨

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No.	Test Items	Requirements of Standard		Test Results	Individual Conclusion	Test methods		
1	Appearance	Appearance	Clean		Clean	Pass	GB/T 17748-2016 7.4	
		Non-decorative side	No defects affecting the product use		No defects	Pass		
		Decorative side	Press, Print, Unevenness	Not allowed		No		Pass
			Plastic exposure	Not allowed		No		Pass
			Uncoated	Not allowed		No		Pass
			Wave	Not allowed		No		Pass
			Bubble	Not allowed		No		Pass
			Spot	Maximum size $\leq 3\text{mm}$ and the count $\leq 3/\text{m}^2$		No		Pass
			Scratch	Not allowed		No		Pass
			Scuffing	Not allowed		No		Pass
			Color difference	Not obvious visually		Not obvious visually		Pass

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No.	Test Items	Requirements of Standard	Test Results		Individual Conclusion	Test methods
2	Dimensional tolerance	Length	$\pm 3\text{mm}$	0mm~+1mm	Pass	GB/T 17748-2016 7.5
		Width	$\pm 2\text{mm}$	0mm~+1mm	Pass	
		Thickness	$\pm 0.2\text{mm}$	0mm~+0.04mm	Pass	
		Diagonal differential	$\leq 5\text{mm}$	2mm	Pass	
		Straightness	$\leq 1\text{mm/m}$	0.2mm/m	Pass	
		Warp	$\leq 5\text{mm/m}$	2mm/m	Pass	
3	Aluminum sheet thickness	Avg. $\geq 0.50\text{mm}$ Min. $\geq 0.48\text{mm}$	Front	Avg.0.50mm Min.0.50mm	Pass	GB/T 17748-2016 7.3
			Back	Avg.0.50mm Min.0.50mm	Pass	
4	Coating thickness Coating thickness	Avg. $\geq 25\mu\text{m}$ Min. $\geq 23\mu\text{m}$	Avg.28 μm Min.27 μm	Pass	GB/T 17748-2016 7.6.1 GB/T 4957-2003	
				Pass		
5	Pencil hardness	$\geq \text{HB}$	2H (CHUNG HWA Pencil)		Pass	GB/T 17748-2016 7.6.2 GB/T 6739-2006
6	Gloss difference	≤ 10	0.7		Pass	GB/T 17748-2016 7.6.3 GB/T 9754-2007

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No.	Test Items	Requirements of Standard	Test Results	Individual Conclusion	Test methods
7	Flexibility	$\leq 2T$	2T	Pass	GB/T 17748-2016 7.6.4
8	Adhesion rating	Cross-cut rating 0 Circle-cut rating I	Cross-cut rating 0 Circle-cut rating I	Pass	GB/T 17748-2016 7.6.5 GB/T 9286-1998 (2004) GB/T 1720-2020
9	Impact resistance	$\geq 50\text{kg} \cdot \text{cm}$	50kg · cm	Pass	GB/T 17748-2016 7.6.6 GB/T 1732-2020
10	Abrasion resistance	$\geq 5\text{L}/\mu\text{m}$	6.3L/ μm	Pass	GB/T 17748-2016 7.6.7
11	Hydrochloric acid resistance	Unchanged	Unchanged	Pass	GB/T 17748-2016 7.6.8
12	Oil resistance	Unchanged	Unchanged	Pass	GB/T 17748-2016 7.6.9
13	Alkali resistance	No abnormal phenomena such as bubble, heave and chalking etc., color difference $\Delta E \leq 2$	No abnormal phenomena such as bubble, heave and chalking etc., color difference $\Delta E = 0.5$	Pass	GB/T 17748-2016 7.6.10 GB/T 11942-1989(2004)
14	Nitric acid resistance	No abnormal phenomena such as bubble, heave and chalking etc., color difference $\Delta E \leq 5$	No abnormal phenomena such as bubble, heave and chalking etc., color difference $\Delta E = 0.7$	Pass	GB/T 17748-2016 7.6.11 GB/T 11942-1989(2004)
15	Solvent resistance	No exposure of substrate	No exposure of substrate	Pass	GB/T 17748-2016 7.6.12
16	Contamination resistance	$\leq 5\%$	1.7%	Pass	GB/T 17748-2016 7.6.13 GB/T 9780-2013 5.4 A Method

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No.	Test Items	Requirements of Standard	Test Results	Individual Conclusion	Test methods	
17	Boiling water resistance	Unchanged	Unchanged	Pass	GB/T 17748-2016 7.7.7	
18	Penetrating resistance	$\geq 7.0\text{kN}$	9.1kN	Pass	GB/T 17748-2016 7.7.2	
19	Shearing strength	$\geq 22.0\text{MPa}$	29.3MPa	Pass		
20	Thermal expansion coefficient	$\leq 4.00 \times 10^{-5} \text{ } ^\circ\text{C}^{-1}$	$2.96 \times 10^{-5} \text{ } ^\circ\text{C}^{-1}$	Pass	GB/T 17748-2016 7.7.5	
21	Bending strength	$\geq 100\text{MPa}$	Front longitudinal	128MPa	Pass	GB/T 17748-2016 7.7.1
			Front horizontal	121MPa	Pass	
			Back longitudinal	134MPa	Pass	
			Back horizontal	124MPa	Pass	
22	Bending elastic modulus	$\geq 2.0 \times 10^4 \text{MPa}$	Front longitudinal	$3.9 \times 10^4 \text{MPa}$	Pass	
			Front horizontal	$3.9 \times 10^4 \text{MPa}$	Pass	
			Back longitudinal	$3.7 \times 10^4 \text{MPa}$	Pass	
			Back horizontal	$3.4 \times 10^4 \text{MPa}$	Pass	
23	Climbing drum peel	Avg. $\geq 110\text{N} \cdot \text{mm/mm}$ Min. $\geq 100\text{N} \cdot \text{mm/mm}$	Front longitudinal	Min.189 N · mm/mm Avg.210 N · mm/mm	Pass	GB/T 17748-2016 7.7.3 GB/T 1457-2005
			Front horizontal	Min.164 N · mm/mm Avg.210 N · mm/mm	Pass	
			Back longitudinal	Min.193 N · mm/mm Avg.218 N · mm/mm	Pass	
			Back horizontal	Min.202 N · mm/mm Avg.217 N · mm/mm	Pass	

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No.	Test Items		Requirements of Standard	Test Results	Individual Conclusion	Test methods
24	Temperature -change resistance	Loss of climbing drum peel	$\leq 10\%$	8%	Pass	GB/T 17748-2016 7.7.4 GB/T 9286-1998 (2004) GB/T 1720-2020 GB/T 1457-2005
		Adhesion rating	Cross-cut rating 0 Circle-cut rating 1	Cross-cut rating 0 Circle-cut rating 1	Pass	
		Appearance	Unchanged	Unchanged	Pass	
25	Thermal distortion temperature	Front longitudinal	$\geq 95^{\circ}\text{C}$	99 $^{\circ}\text{C}$	Pass	GB/T 17748-2016 7.7.6 GB/T 1634.2-2019
		Front horizontal		99 $^{\circ}\text{C}$	Pass	
		Back longitudinal		96 $^{\circ}\text{C}$	Pass	
		Back horizontal		96 $^{\circ}\text{C}$	Pass	
26	Artificial Weathering (4000h)	Appearance	No delamination	No delamination	Pass	GB/T 17748-2016 7.6.14 GB/T 16259-2008 A Method GB/T 11942-1989 GB/T 9754-2007 GB/T 1766-2008
		Color difference	≤ 4.0	1.08	Pass	
		Gloss loss rating	\leq Rating 2	Rating 2	Pass	
		Other aging resistances rating	Rating 0	Rating 0	Pass	
27	Salt spray resistance (4000h)	Appearance	No delamination	No delamination	Pass	GB/T 17748-2016 7.6.15 GB/T 1771-2007 GB/T 1740-2007
		Salt spray resistance rating	\leq Rating 1	Rating 1	Pass	

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No.	Test Items	Requirements of Standard	Test Results	Individual Conclusion	Test methods	
28	Burning behavior B ₁ (B-s1, d0, t0)	Flame tip height	F _s ≤ 150mm	F _s < 150mm	Pass	GB/T 8626-2007
		Flaming droplets/particles	No ignited filter paper	No ignited filter paper	Pass	
		FIGRA _{0.2MJ}	≤ 120 W/s	14W/s	Pass	GB/T 20284-2006
		THR _{600s}	≤ 7.5 MJ	1.7MJ	Pass	
		Lateral spread of flame	Does not reach the edge of the wing	Does not reach the edge of the wing	Pass	
		TSP _{600s}	≤ 50m ²	4m ²	Pass	
		SMOGRA	≤ 30m ² /s ²	0m ² /s ²	Pass	
		Flaming droplets/particles	No flaming droplets/particles in 600s	No flaming droplets/particles in 600s	Pass	
		Smoke toxicity	Reach Quasi Security level-one ZA ₁	Reach Quasi Security level-one ZA ₁	Pass	
29	Calorific Value for Material (FR)	≤ 15MJ/kg	13.3 MJ/kg	Pass	GB/T 14402-2007	
Combustion sample Installation instructions		1、 The sample shall be installed according to Article 5.2.2 b) of GB / T 20284-2006. 2、 The sample back plate is a 12mm thick calcium silicate plate with a density of 800 kg / m ³ . 3、 The fire receiving surface of the sample is the decorative surface.				
<p>Annotations: 1. Test location: calorific value and smoke toxicity test location in item 28: Guanzhuang; Monomer combustion test location: Miyun; Other test items are tested at Guanzhuang.</p> <p>2. The results of combustion performance test are only related to the performance of the sample of the product under specific test conditions, and can not be used as the only basis for evaluating the potential fire risk of the product in actual use.</p>						

End of the Report