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检测  
TESTING  
CNAS L0690

# TEST REPORT

No: WT2017B01B01211G1



**Entrusted by** Guangzhou Willstrong New Material Holding Co.,ltd.

**Sample Name** B1 grade FR Aluminum Composite Panel for curtain wall

**Test Type** Entrustment test

**National Research Center of Testing Techniques  
for Building Materials**



WT2017B01B01211



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<b>Sample Name</b>	B1 grade FR Aluminum Composite Panel for curtain wall	<b>Test Type</b>	Entrustment test
<b>Entrusted by</b>	Guangzhou Willstrong New Material Holding Co.,ltd.	<b>Brand</b>	WILLSTRONG
<b>Manufacturer</b>	Guangzhou Willstrong New Material Holding Co.,ltd.	<b>Sample Description</b>	Good condition
<b>Sample Received Date</b>	July 21,2017	<b>Quantity</b>	25 Pcs
<b>Production Date/ Batch No.</b>	July 10,2017 17071001626205	<b>Model/Size</b>	Production thickness 4mm FC two coating
<b>Test Standard</b>	GB/T 17748-2016 Aluminium-plastic composite panel for curtain wall		
<b>Test Items</b>	Detailed conclusions are listed in page 2~6.		
<b>Conclusion</b>	<p>*Upon testing, the tested items comply with the requirements of GB/T 17748-2016 for two-coating system. See page 2 to 6.*</p> <p align="right"><b>Date of issued: September 11, 2017</b></p>		
<b>Remarks:</b>	( Provided by entrusted unit ) 1、 Grade: B1. 2、 The report is supplemented with changes to the number WT2017B01B01211 interim-1 inspection report.		

**Approved by:**

**Verified by:**

**Compiled by:**

检验单位地址: 北京市朝阳区管庄中国建材院南楼电话: 65728538 邮编: 100024

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No.	Test Item	Requirements of Standard		Test Results	Individual Conclusion		
1	Appearance quality	Appearance	Clean and tidy		Clean and tidy	Pass	
		Non exposed surface	No damages affecting the product use		No damages	Pass	
		Exposed surface	Impress	Not allowed		No	Pass
			Imprint	Not allowed		No	Pass
			Unevenness	Not allowed		No	Pass
			Exposure of pros and cons plastic	Not allowed		No	Pass
			Holiday	Not allowed		No	Pass
			Wave	Not allowed		No	Pass
			Bubble	Not allowed		No	Pass
			Spot	Maximum size is no more than 3mm, number is less than 3 per square meter.		No	Pass
			Abrasion	Not allowed		No	Pass
			Scratch	Not allowed		No	Pass
		Colour uniformity	Indistinct $\Delta E \leq 2$		Indistinct	Pass	

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No.	Test Item		Requirements of Standard	Test Results	Individual Conclusion	
2	Aluminium thickness	Front	Avg.	$\geq 0.50\text{mm}$	0.50mm	Pass
			Min.	$\geq 0.48\text{mm}$	0.50mm	Pass
		Front	Avg.	$\geq 0.50\text{mm}$	0.50mm	Pass
			Min.	$\geq 0.48\text{mm}$	0.50mm	Pass
3	Film thickness		Avg.	$\geq 25\mu\text{m}$	25 $\mu\text{m}$	Pass
			Min.	$\geq 23\mu\text{m}$	24 $\mu\text{m}$	Pass
4	Surface pencil hardness		$\geq \text{HB}$	2H	Pass	
5	Gloss tolerance		$\leq 10$	0.9	Pass	
6	Flexibility		$\leq 2\text{T}$	2T	Pass	
7	Coating adhesion	Grid Drawing Method	Class 0	Class 0	Pass	
		Circle Drawing Method	Class 1	Class 1	Pass	
8	Impact resistance		$\geq 50\text{kg}\cdot\text{cm}$	50 $\text{kg}\cdot\text{cm}$	Pass	
9	Abrasion resistance		$\geq 5\text{L}/\mu\text{m}$	6.4 $\text{L}/\mu\text{m}$	Pass	
10	Hydrochloric acid resistance		No change	No change	Pass	
11	Alkali resistance		No abnormality $\Delta E \leq 2$	No abnormality $\triangleleft$ $\Delta E = 0.63$	Pass	
12	Nitric acid resistance		No abnormality $\Delta E \leq 5$	No abnormality $\Delta E = 0.92$	Pass	

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No.	Test Item	Requirements of Standard	Test Results		Individual Conclusion
13	Solvent resistance	No base exposed	No base exposed		Pass
14	Pollute resistance	≤ 5%	2.1%		Pass
15	Thermal expansion coefficient	≤ 4.00×10 <sup>-5</sup> °C <sup>-1</sup>	1.79 × 10 <sup>-5</sup> °C <sup>-1</sup>		Pass
16	Oil resistance	No change	No change		Pass
17	Heat distortion temperature	≥ 95 °C	112 °C		Pass
18	Penetrating resistance	≥ 7.0kN	8.3kN		Pass
19	Shearing strength	≥ 22.0MPa	26.0MPa		Pass
20	Boiling water resistance	No change	No change		Pass
21	Bending strength	≥ 100MPa	Front longitudinal	110MPa	Pass
			Front lateral	108MPa	Pass
			Back longitudinal	111MPa	Pass
			Back lateral	105MPa	Pass
22	Bending elastic modulus	≥ 2.0×10 <sup>4</sup> MPa	Front longitudinal	3.4×10 <sup>4</sup> MPa	Pass
			Front lateral	3.5×10 <sup>4</sup> MPa	Pass
			Back longitudinal	3.4×10 <sup>4</sup> MPa	Pass
			Back lateral	3.3×10 <sup>4</sup> MPa	Pass

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No.	Test Item	Requirements of Standard	Test Results	Individual Conclusion		
<b>23</b>	Temperature cycle resistance	Appearance	No change	No change	Pass	
		Decrease rate of peel strength	$\leq 10\%$	4%	Pass	
		Coating adhesion	Grid Drawing Method	class 0	class 0	Pass
			Circle Drawing Method	class 1	class 1	Pass
<b>24</b>	Roll peel strength	Avg. $\geq 110\text{N}\cdot\text{mm}/\text{mm}$ Min. $\geq 100\text{N}\cdot\text{mm}/\text{mm}$	Front longitudinal	Avg.168 N/mm	Pass	
			Front longitudinal	Min.160 N/mm	Pass	
			Front lateral	Avg.162 N/mm	Pass	
				Min.156 N/mm	Pass	
			Back longitudinal	Avg.156 N/mm	Pass	
				Min.144 N/mm	Pass	
			Back lateral	Avg.162 N/mm	Pass	
				Min.154 N/mm	Pass	

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No.	Test Item		Requirements of Standard	Test Results	Individual Conclusion		
25	burning behavior	Calorific Value for Materialg*	HFR	$\leq 12\text{MJ/kg}$	10.8MJ/kg	Pass	
		B1	B	FIGRA <sub>0.2MJ</sub> , W/s	$\leq 120$	0	Pass
				THR <sub>600S</sub> , MJ	$\leq 7.5$	1.3	Pass
				Lateral spread of flame	Does not reach the edge of the wing	Does not reach the edge of the wing	Pass
				Flame tip height	Fs $\leq 150\text{mm}$	Fs $\leq 150\text{mm}$	Pass
				Flaming droplets/particles	No ignited filter paper	No ignited filter paper	Pass
	Additional information	s1	TSP <sub>600S</sub> , m <sup>2</sup>	$\leq 50$	19	Pass	
			SMOGRA, m <sup>2</sup> /s <sup>2</sup>	$\leq 30$	0	Pass	
		d0	Flaming droplets/particles	No flaming droplets/particles in 600s	No flaming droplets/particles in 600s	Pass	
		t0	Toxicity, grade	ZA1	ZA1	Pass	
	Remarks: (Blank)						

————— 本报告结束 —————

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