



No. SDHL1811025739HI-01

Date: Dec.21, 2018

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GUANGZHOU JIXIN XIANG DECORATION BUILDING MATERIALS CO., LTD. NO. 2, YANJIANG ROAD, HUADU DISTRICT, GUANGZHOU, GUANGDONG PROVINCE

The following sample(s) was / were submitted and identified on behalf of the client as:

: CEP BOARD Sample Description Sample Receiving Date : Nov.08, 2018

Test Performing Date : Nov.12, 2018 to Dec.06, 2018

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

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

Peter Zhao

Approved signatory



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Test Result Summary

No.		Test item	Test(s) Method	Result(s)	Conclusion
263	1	Appearance Quality	GB/T 22412-2016 Section 6.4	No visible defect	Pass
عي الأ	2	Tickness	GB/T 22412-2016 Section 6.5.2	10.0mm	G 150
Spo	3	Length	GB/T 22412-2016 Section 6.5.1	500.10mm	CG1 6
9	4	Width	GB/1 22412-2010 Section 0.3.1	500.17mm	169
3	5	Diagonal Difference	GB/T 22412-2016 Section 6.5.3	0.2mm	Pass
CAS	6	Edge Straightness	GB/T 22412-2016 Section 6.5.4	0.36mm	Pass
5	7	Flatness	GB/T 22412-2016 Section 6.5.5	0.3mm	Pass
162 c	8	Impact Resistance	GB/T 22412-2016 Section 6.6.6 & GB/T 1732-1993	No cracking or peeling	Pass
Part 1	gs G	Hydrochloric Acid Resistance of Coating	GB/T 22412-2016 Section 6.6.7	No visible change	Pass
36.5	9	Oil resistance of coating	GB/T 22412-2016 Section 6.6.8 & Section 6.6.7	No visible change	Pass
365	36	Alkali resistance of coating	GB/T 22412-2016 Section 6.6.9 & GB/T 8076-2008	No visible change	Pass
	10	Chemical Solvent Resistance of Coating	GB/T 22412-2016 Section 6.6.11	No visual substrate	Pass



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300	,C,	265 560 C	50 65 665 60	5 25	Average	CGS C
5 9	3"_C	3 65 56	6 2 CS CGS S	c5 d	value: 6.65	3 65
-G5	30	6 5 6 c	50 50 65 665	CD	N/mm	CS
3 69	6	50 50	all	(Front)	Minimum	BC - 5
5	5	Sep Se C	CG5 550 CG	5 56	value: 6.24	SCP S
2 6	CA	Cap Sp	S CGS Strage	-C5 4	N/mm	SGS C
SGS	30	es cos e	5 CS SU'S	205	Average	cs cs
265	- 6	5 65	56 5 55 560	c 5 c	value: 2.84	5° c5 c
5 0	35	Sp. 2 C.	SG. 6 5 CE S	CD	N/mm	50 6
· 65	2G	3 500 5	65 560 C 5 CS	(Reverse)	Minimum	6 2p
30	7	GS 565 G	Refer to GB/T 22412-2016	CG2	value: 2.52	Be do
200	11	Peel Strength of	Section 6.7.2 & GB/T 2790-	5 45	N/mm	-CG5 6
5 6	9"	180°(Front)	1995	c5 ¢	Average	5 65
CG5	30	5 65 9	5 65 65	500	value: 8.63	-G -GG
Part 1	6	30° 6 5° 65	565 SU CS 565	MD	N/mm	56- 5
5	S	360 6 50 66	265 SV CS CS	(Front)	Minimum	50° c .
5	6	565 50	es ess stres	cos e	value: 7.76	5 550
550° C	5	G5 565 9	es als space	- CS	N/mm	GS GG
SG	6	5 265	Such alis ali	G 6	Average	25 C
5 9	SP /	S GS GG	Sur Succes S	3 5	value: 3.88	5005
-C5	S	50 65	GS 565 5 7 GS	MD	N/mm	P 50 CC
5 00		35 SD S	CGS 56 5 5 65	(Reverse)	Minimum	CES CO
50	cS.	CC2 Clare	3 CGS SG- C ST	\$ 50	value: 3.80	CCP C
50 6	30	s cas do	- G - G - G - G	C5 6	N/mm	5 265
565	12	Hot Water	GB/T 22412-2016 Section 6.7.5	Noviell	olo obones	cSpecial G
c G	12	Resistance	GB/1 22412-2010 Section 6.7.5	NO VISIK	ole change	Pass
5	S	55 5 6	95° 6 5 65 6	Average	0.39mm	5000
25	13	Thickness of	GB/T 22412-2016 Section 6.3	value	0.3911111	3 5000
500 C	13	Aluminium Panel	GB/1 22412-2010 Section 6.3	Minimum	0.38mm	CS 50
20.	_C	GS 560	3 CB CB CB	value	0.3011111	- GS 9
	5	200	5 5	32 30	5 6	- CV - 3



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20.	14	Adhesion of Coating	GB/T 22412-2016 Section 6.6.5 & GB/T 9286-1998	Adhesion testing: Rating 0 (See note 2)	Pass
35	15	Flexibility of Coating	GB/T 22412-2016 Section 6.6.4	Flexibility of coating: 0T	Pass
3	16	Glossiness GB/T 22412-2016 Section 6.6.3 & GB/T 9754-2007		Glossiness: 1.8	Pass
35	17	Surface Pencil Hardness	GB/T 22412-2016 Section 6.6.2 & GB/T 6739-2006	4H 6	Pass
e	G ⁵	Sur Sur Sur	GB/T 22412-2016 Section	Average value: 23.0 µ m	5000
çs °	18	Coating Thickness	6.6.1 & GB/T 4957-2003	Minimum value: 17.0 μ m	Pass
Part 2	3	Combustion performance	EN 13501-1:2007+A1:2009	Classification: B-s1, d0	367



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Test Information:

Sample description: See photos

Part 1:

No.	Test item	Test(s) Method	Test(s) Condition	Result(s)	Require of GB/T 22412	Conclusion
1	Appearance Quality	GB/T 22412-2016 Section 6.4	Size: 500×500×10.0mm	No visible defect	See Table 1	Pass
2	Tickness	GB/T 22412-2016 Section 6.5.2	Size: 500×500×10.0mm	10.0mm	GS 1 305	5 56
3	Length	GB/T 22412-2016	Size:	500.10mm	CGP S	9
4	Width	Section 6.5.1	500×500×10.0mm	500.17mm	3 100	50/5
5	Diagonal Difference	GB/T 22412-2016 Section 6.5.3	Size: 500×500×10.0mm	0.2mm	≤5mm	Pass
6	Edge Straightness	GB/T 22412-2016 Section 6.5.4	Size: 500×500×10.0mm	0.36mm	≤1mm/m	Pass
7.5	Flatness	GB/T 22412-2016 Section 6.5.5	Size: 500×500×10.0mm	0.3mm	≤5mm/m	Pass
8	Impact Resistance	GB/T 22412-2016 Section 6.6.6 & GB/T 1732-1993	Size: 75×50×10.0mm Drop diameter: 12.7mm Drop weight: 1kg Height: 20cm	No cracking or peeling	≥20kg·cm	Pass



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No.	Test item	Test(s) Method	Test(s) Condition	Result(s)	Require of GB/T 22412	Conclusion
Hydrochloric Acid Resistance of Coating		GB/T 22412-2016 Section 6.6.7	Size: 100×100×10.0mm Contact time: 24h Chemical reagent:	No visible change	365 GG	Pass
9	Oil resistance of coating	GB/T 22412-2016 Section 6.6.8 & Section 6.6.7	①2%(v/v)HCl(AR) ②20# Engine oil ③Cement: calcium hydroxide; water=1:1:1	No visible change	No change	Pass
	Alkali resistance of coating	GB/T 22412-2016 Section 6.6.9 & GB/T 8076-2008		No visible change		Pass
10	Chemical Solvent Resistance of Coating	GB/T 22412-2016 Section 6.6.11	Size: 430×100×10.0mm Solvent: Butanone Load: 1000g	No visual substrate	No visual substrate	Pass



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No.	Test item	Test(s) Method	Test(s) Method Test(s) Condition		Result(s)		Conclusion
36.2 36.2 36.2	SES SES	SGS GGS GGS	GS GGS GGS	CD (Front)	Average value: 6.65 N/mm Minimum value: 6.24 N/mm	65 66 65 1 66	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	Peel	Refer to GB/T	Specimen	CD (Reverse)	Average value: 2.84 N/mm Minimum value: 2.52	55 55 55	S SUS SUS
11:50	Strength of 180°(Front)	22412-2016 Section 6.7.2 & GB/T 2790-1995	width:25mm Test Speed: 100mm/min	MD (Front)	N/mm Average value: 8.63 N/mm Minimum		SUS SUS
	Sis Sis	Sis sis sis	See See See	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	value: 7.76 N/mm Average value: 3.88	SEP SE	362 1 S
	Sec. Sec. Sec. Sec. Sec. Sec. Sec. Sec.	See See See	GS GGS GGS	MD (Reverse)	N/mm Minimum value: 3.80 N/mm	565 / 58 65 / 58	S GES



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No.	Test item	Test(s) Method	Test(s) Condition	Result(s	5) 5) 5)	Require of GB/T 22412	Conclusion
12	Hot Water Resistance	GB/T 22412-2016 Section 6.7.5	Size: 200×200×10.0mm Soak conditions: (98±2)℃, 2h→natural cooling to room temperature in the distilled water	No visible change		No change	Pass
13	Thickness of	GB/T 22412-2016	Measurement by digital display micrometer and eddy current method	Average value	0.3 90 mm	569 569	565 S
SES SES	Aluminium Panel	Section 6.3	Laboratory environment: 23±2℃, 50±5%RH	Minimum value	0.3 77 mm	569 56	365 56
14	Adhesion of Coating	GB/T 22412-2016 Section 6.6.5 & GB/T 9286-1998	Spacing: 1mm Tape: 3M® 600 Laboratory environment: 23±2°C, 50±5%RH	Adhesion testing: Rating 0 (See note 2)		Rating 0	Pass



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No.	Test item	Test(s) Method	Test(s) Condition	Result(s)	Require of GB/T 22412	Conclusion	
15	Flexibility of Coating	GB/T 22412-2016 Section 6.6.4	Laboratory environment: 23±2℃, 50±5%RH T - bending	Flexibility of coating: 0T	≤3T	Pass	
16	Glossiness	GB/T 22412-2016 Section 6.6.3 & GB/T 9754-2007	Laboratory environment: 23±2℃, 50±5%RH Light source: standard C light source	Glossiness: 1.8	≤10	Pass	
17	Surface Pencil Hardness	GB/T 22412-2016 Section 6.6.2 & GB/T 6739-2006	Laboratory environment: 23±2℃, 50±5%RH Pencil: Mitsubishi® Load: (750±10) g	4H (See note 3)	≽HB	Pass	
Coating	100 G	GB/T 22412-2016 Section 6.6.1 &	Eddy current method Laboratory	Average value:	≥16 µ m	Pass	
565	Thickness	GB/T 4957-2003	environment: $23\pm2^{\circ}$ C, $50\pm5\%$ RH	Minimum value: 17.0 μ m	≥14 µ m	3 55	

Note: 1. All samples were tested after film removal

2. In the GB/T 9286, classification 0 is the best and classification 5 is the worst.

3. According to GB/T 6739-2006, 9H is the hardest, 9B is the softest.

9B-8B-7B-6B-5B-4B-3B-2B-B-HB-F-H-2H-3H-4H-5H-6H-7H-8H-9H

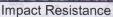


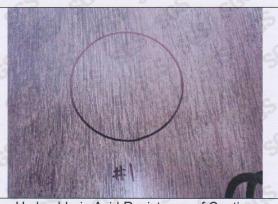
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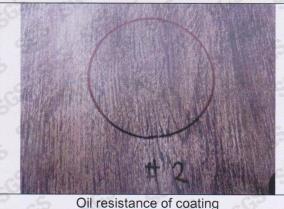








Hydrochloric Acid Resistance of Coating







Alkali resistance of coating



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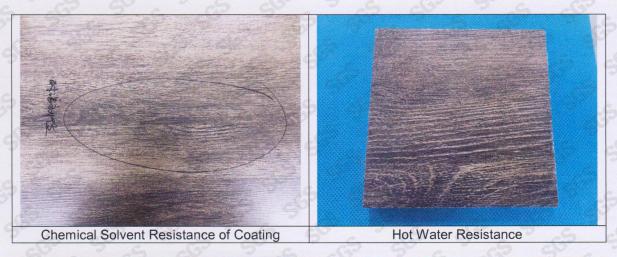
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Part 2:

TESTS AND RESULTS

Test Conducted:

This test is conducted as per EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements-Part 1: Classification using data from reaction to fire tests. And the test methods as following:

- 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.
- 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):

The specimen was tested free standing at a distance of at least 80 mm from the backing board. Both wings were clamped at the top and the bottom.

Test Results:

Test method	<u>Parameter</u>	Number of tests	Results
CG2 2 CG2	FIGRA _{0.2MJ} (W/s)	, S CS CN	95.7
3 65 66 3	FIGRA _{0.4MJ} (W/s)	37 90 6	95.7
5 5 65 5	THR _{600s} (MJ)	65 GG	21.2
EN 13823:2010+A1:2014	SMOGRA (m²/s²)	3	8.9
S 65 56 6	TSP _{600s} (m ²)	CC 20	14.6
CG 5 CG CG	LFS < edge of specimen	6 65 6	Yes
25 ch 2	Flaming particles or droplets	3 5 6	No
EN ISO 11925-2:2010+AC:2011	<i>F</i> s ≤ 150 mm	12	Yes
Exposure = 30 s	Ignition of the filter paper	50 120 5	No

Remark:

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

For the classes A2 and B, FIGRA_{0.2}MJ

For the classes C and D, FIGRA_{0.4}MJ

LFS-Lateral flame spread [m]

THR600s-Total heat release within 600 s [MJ]

SMOGRA-Smoke growth rate [m²/s²]

TSP_{600s}-Total smoke production within 600 s [m²]



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Classification and direct field of application:

This classification has been carried out in accordance with EN 13501-1:2007+A1:2009.

Classification:

Fire behaviour		Smoke	Smoke production		Flaming droplets	
6 B 60°	2 ,0	S	5 1	3 , S	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.

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.



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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
305	EN ISO 1182 a and	△ T≤30°C, and △ m≤50%, and t _r =0(i.e. no sustained flaming)	SES SES SES SES
A1.	EN ISO 1716	PCS≤2.0MJ/kg ^a and PCS≤2.0MJ/kg ^{b c} and PCS≤1.4MJ/m ^{2 d} and PCS≤2.0MJ/kg ^e	5 565 565 565 565
	EN ISO 1182 a or	<i>Δ T</i> ≤50°C, and <i>Δ m</i> ≤50%, and t _f ≤20 s	Sep Spece Sep
A2	EN ISO 1716	PCS≤3.0MJ/kg ^a and PCS≤4.0MJ/m ^{2 b} and PCS≤4.0MJ/m ^{2 d} and PCS≤3.0MJ/kg ^e	See See See See See
	EN 13823	FIGRA≤120W/s and LFS <edge and<br="" of="" specimen="">THR_{600s}≤7.5MJ</edge>	Smoke production f and Flaming droplets/particles g
SC.	EN 13823 and	FIGRA≤120W/s and LFS <edge and<br="" of="" specimen="">THR600s≤7.5MJ</edge>	Smoke production f and Flaming droplets/particles g
55° .	EN ISO 11925-2 i Exposure =30s	Fs≤150mm within 60 s	is suis suis suis su
- GG	EN 13823 and	FIGRA≤250W/s and LFS <edge and<br="" of="" specimen="">THR600s≤15MJ</edge>	Smoke production f and Flaming droplets/particles g
565 6	EN ISO 11925-2 Exposure=30s	Fs≤150mm within 60 s	See Sugar Sugar
55 DS	EN 13823 and	FIGRA≤750W/s	Smoke production f and Flaming droplets/particles g
563	EN ISO 11925-2 i Exposure=30s	Fs≤150mm within 60 s	SGS SGS SGS
SE	EN ISO 11925-2 Exposure =15s	Fs≤150mm within 20 s	flaming droplets/particles h
F	No performance determined	See See See	SUS SCES SUS



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- ^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 ≤ 2,0 MJ/m², provided that the product satisfies the following criteria of EN 13823: FIGRA ≤ 20 W/s, and LFS < edge of specimen, and THR_{600s} ≤ 4.0 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.
- $s1 = SMOGRA \le 30m^2/s^2$ and $TSP_{600s} \le 50m^2$; $s2 = SMOGRA \le 180m^2/s^2$ and $TSP_{600s} \le 200m^2$; s3 = not s1 or
- g d0 = No flaming droplets/ particles in EN 13823 within 600 s;
- d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s;
- d2 = not d0 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).
- Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.

SAMPLE INFORMATION AND PICTURES

Thickness: About 10mm Mass per unit area: About 6.2kg/m²



Before Test (EN 13823)



After Test (EN 13823)

Remark: This test report is to supersede No. SDHL1811025739HI test report which was issued on Dec.07, 2018. And the original test reports (paper and electronic) are invalid.

End of Report



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