SHANDONG XIANGYING NEW MATERIALS TECHNOLOGY CO., LTD
850 METERS WEST OF THE ROAD SOUTHEAST OF WANYAO VILLAGE, TANYI INDUSTRIAL PARK, TANYI TOWN, FEI COUNTY, LINYI CITY, SHANDONG PROVINCE

Sample Description	:	WOOD-PLASTIC COMPOSITES

As above test item and its relevant information regarding to the submission are provided and confirmed by the applicant. SGS is not liable to either the test item or its relevant information, in terms of the accuracy, suitability, reliability or/and integrity accordingly.

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SGS Ref No.	:	GZIN2404000471CM01_EN
Sample Receiving Date	:	Apr 03, 2024
Test Performing Date	:	Apr 03, 2024 to Apr 16, 2024
Test Performed	:	Selected test(s) as requested by applicant
Test Result(s)	:	For further details, please refer to the following page(s)

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

Peter Zhao
Authorized Signatory

Scan to see the report
SDHL2404005112HI
Verification:
check.sgsonline.com.cn

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Summary of Results:

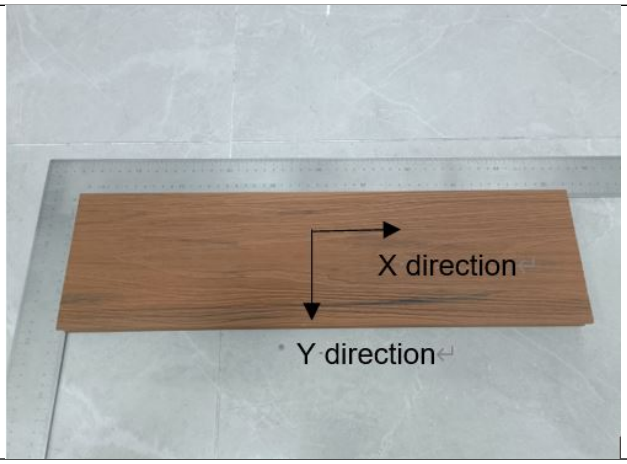
No.	Test Item	Test Method	Result	Conclusion
1	Modulus of Rupture	ASTM D7031-11(2019) Section 5.5 & ASTM D6109-19 Method A	8208 N	N/A
2	Flexural Strength	ASTM D7031-11(2019) Section 5.5 & ASTM D6109-19 Method A	40.5 MPa	N/A
3	Modulus of Elasticity	ASTM D7031-11(2019) Section 5.5 & ASTM D6109-19 Method A	3738 MPa	N/A
4	Impact Resistance	ASTM D7031-11(2019) Section 5.12 & ASTM D4495-21	＞133 J	N/A
5	Specific Gravity	ASTM D7031-11(2019) Section 5.14 & ASTM D792-20 Method A	1.25	N/A
6	Moisture Content	ASTM D7031-11(2019) Section 5.15 & ASTM D4442-20 Method A	0.08 %	N/A
7	Coefficient of Friction	ASTM D7031-11(2019) Section 5.16 & ASTM D2394-17(2022) Section 33-37	See Result	N/A
8	Abrasion Resistance	ASTM D7031-11(2019) Section 5.17 & ASTM D4060-19	See Result	N/A
9	Thermal Expansion	ASTM D7031-11(2019) Section 5.18 & ASTM D1037-12(2020) Section 24	See Result	N/A
10	Moisture Absorption and Thickness Swell	ASTM D7031-11(2019) Section 5.19 & ASTM D1037-12(2020) Section 23 Method B	Water Absorption: 0.08 % Thickness Swelling: 0.11 %	N/A

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
N/A : Not Apply to the judgment.

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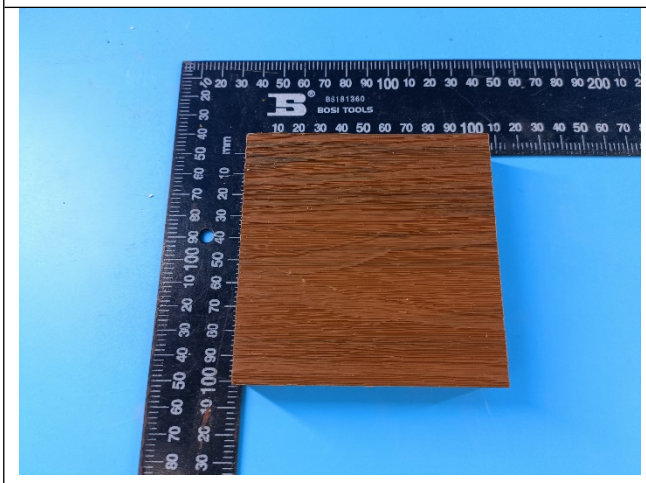
Original Sample Photo:



Test Item 1,2,3,7



Test Item 4,10



Test Item 5,6



Test Item 8



Test Item 9

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Test Item 1: Modulus of Rupture

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.5 & ASTM D6109-19 Method A

Test Condition:

Specimen: 500 mm×140.57 mm×23.52 mm

Testing speed: 11 mm/min

Span: 384 mm

Test Result:

Test Item	Test Result
Modulus of Rupture	8208 N

Test Item 2: Flexural Strength

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.5 & ASTM D6109-19 Method A

Test Condition:

Specimen: 500 mm×140.57 mm×23.52 mm

Testing speed: 11 mm/min

Span: 384 mm

Test Result:

Test Item	Test Result
Flexural Strength	40.5 MPa

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Test Item 3: Modulus of Elasticity

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.5 & ASTM D6109-19 Method A

Test Condition:

Specimen: 500 mm×140.57 mm×23.52 mm

Testing speed: 11 mm/min

Span: 384 mm

Test Result:

Test Item	Test Result
Modulus of Elasticity	3738 MPa

Test Item 4: Impact Resistance

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.12 & ASTM D4495-21

Test Condition:

Specimen: 150 mm×140 mm×23.44 mm

Falling wight: 4.54 kg

Test Result:

Test Item	Test Result
Impact Resistance	Mean falling height: ＞3000 mm Mean failure energy: ＞133 J

Note: Falling height exceed the upper limit of the machine.

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Test Item 5: Specific Gravity

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.14 & ASTM D792-20 Method A

Test Condition:

Specimen: 100mm×100mm×23.40mm

Lab Environment Condition: (23±2)℃，(50±5)%RH

Test Result:

Test Item	Test Result
Specific Gravity	1.25

Test Item 6: Moisture Content

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.15 & ASTM D4442-20 Method A

Test Condition:

Specimen: 100mm×100mm×23.40mm

Condition: 103℃ to constant mass

Test Result:

Test Item	Test Result
Moisture Content	0.08 %

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Test Item 7: Coefficient of Friction

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.16 & ASTM D2394-17(2022) Section 33-37

Test Condition:

Specimen: 500mm×140mm×23.5mm

Testing speed for static coefficient of friction: 1.27mm/min

Testing speed for sliding coefficient of friction: 51mm/min

Test direction: see photo

Test Result:

Test Item	Test Result
Static coefficient of friction	X direction: 0.32
	Y direction: 0.48
Sliding coefficient of friction	X direction: 0.37
	Y direction: 0.43

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Test Item 8: Abrasion Resistance

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.17 & ASTM D4060-19

Test Condition:

Specimen: 100mm×100mm×9.30 mm

Type of abrasive wheel: CS-10

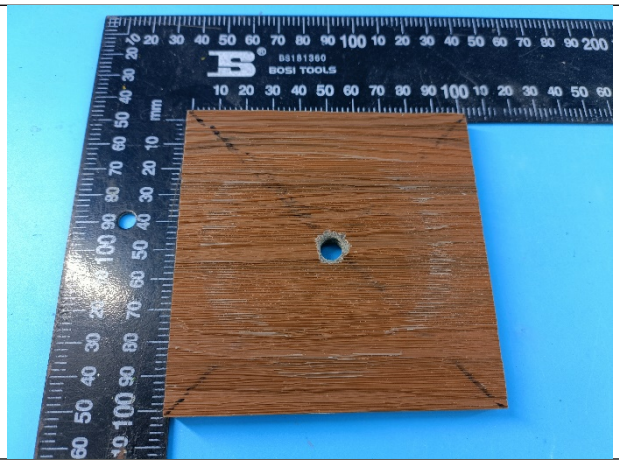
Load: 250g/wheel (total 500g)

Cycles: 500

Test Result:

Test Item	Test Result
Wear loss	6.1 (mg)
Wear index	12.3 (1000mg/revolution)
Appearance	Slight change on surface

Test Photo:



After test

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Test Item 9: Thermal Expansion

Sample Description: See photo

Test Method: With reference to ASTM D7031-11(2019) Section 5.18 & ASTM D1037-12(2020) Section 24 and client's requirement

Test Condition:

Specimen: 300 mm×140 mm×23.5 mm

Conditioning: -20 ℃, 48h→80℃, 48h

Test Result:

Test Item	Test Results
Change rate in Length	0.16 %
Change rate in Width	0.48 %
Change rate in Thickness	0.37 %

Note: Change rate ,%=(Value after condition – Value before condition)/Value before condition×100.

Test Item 10: Moisture Absorption and Thickness Swelling

Sample Description: See photo

Test Method: ASTM D7031-11(2019) Section 5.19 & ASTM D1037-12(2020) Section 23 Method B

Test Condition:

Specimen: 152 mm×140 mm×23.20 mm

Conditioning: Immersed in 20℃ distilled water, 24h

Test Result:

Test Item	Test Result
Water Absorption	0.08 %
Thickness Swelling	0.11 %

Remark: This test was subcontracted to SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch.

End of Report

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