ARCHITECT SPECIFICATION SHEET

FIBER POLYMER COMPOSITE DECKING / MATERIAL SPECIFICATION

PART 1 : GENERAL

1. SECTION INCLUDES

A. Organic Fiber-Polymer Composite Extruded Profile (Resysta Standard 1.0)

1.2 RELATED SECTION

A. Rough Carpentry

Joist and structural framing.

2. REFERENCES

A. Mean Coefficient of Linear Thermal Expansion ASTM E831-19 Standard Test Method for Linear Thermal Expansion of Solid Materials by Thermomechanical Analysis (TMA).

B. Water Absorption Test ISO 62:2008 Plastics Method 1 - Determination of Water Absorption.

C. The 201 substances in the Candidate List of Substances of Very High Concern (SVHC) regarding the Regulation (EC) No. 1907/2006: Registration, Authorisation and Restriction of Chemicals (REACH).

D. Durability of Resysta Fiber Polymer Composite Samples Against Subterranean Termites based on ASTMD3345-17 and AWPA E1-17.

E. Deflection Temperature Under Load ISO75-1:2013 & ISO 75-2:2013 Method A Plastics - Determination of Temperature of Deflection Under Load - Part 1: General Test Methods & ISO75-2:2013 Plastics-Determination of Temperature of Deflection Under Load - Part 2: Plastics & Ebonite.

F. Flexural Test ISO 178:2019 Method A Plastics - Determination of Flexural Properties.

G. Flexural Strength ASTM D790-17 Procedure A Standard Test Methods for Flexural Properties of Unreinforced & Reinforced Plastics and Electrical Insulating Materials.

H. Mean Coefficient of Linear Thermal Expansion ISO 11359-1:2014 Plastics - Thermomechanical Analysis (TMA) Part 1: General Principles & ISO 11359-2:1999 Method A Plastics - Thermomechanical Analysis (TMA) Part 2: Determination of coefficient of linear thermal expansion and glass transition temperature.

I. Direct Screw Withdrawal ASTM D1037-12 Section 16 Standard Test Methods for Evaluating Properties of Wood-Base and Fiber and Particle Panel Materials.

J. Fire tests on Building Materials and Structures - Part 6: Method of test for fire propagation of products in BS 476 Part 6:1989 + A1:2009.

K. Fire tests on Building Materials and Structures - Part 7: Method of test to determine the classification of the surface spread of flame of products in BS 476 Part 7:1997.

L. Flame Spread Index (FSI) and smoke-developed index (SDI) of the sample's surface burning characteristics in ASTM E84-12a - Standard Test Method for Surface Burning Characteristics of Building Materials.

M. Artificial Weathering Test according to DIN EN 11341.
N. Shore D Hardness ASTM D2240:2000 Standard Test Method for Plastic Property Durometer Hardness.
O. Determination of the resistance of Resysta against mould and discolouring micro-fungi EN15534-1:2012: Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) - Part 1: Test methods for characterisation of compounds and products, chapter 8.5.4 Resistance against discolouring micro-fungi according to ASTM D3273.
P. Determination of Surface Frictional Properties using British Pendulum Skid Resistance Tester ASTM E303:1993(2008) Standard Test Method for Measuring Surface Frictional Properties using the British Pendulum Tester.
Q. Determination of the Durability Against Soft Rot Fungi CEN/TS 15083-2:2005 Durability of wood and wood-based products. Determination of the natural durability of solid wood against wood-destroying fungi , test methods. Soft Rotting Micro-Fungi.
R. Density ISO1183 - Methods for determining the density of non-cellular plastics.

3. DELIVERY , STORAGE AND HANDING

A. Store products off the ground, on a flat surface or on blocking spaced not more than 500mm apart.

4. WARRANTY

A. 15 years limited manufacturer's warranty against rot, decay and manufacturing defects.

PART 2 : PRODUCTS

1. MANUFACTURER

A. Waler Precision Manufacturing Sdn. Bhd.
No. 2 Jalan Canggih 1,
Taman Perindustrian Cemerlang,
81800 Ulu Tiram , Johor, Malaysia.
Tel : +60-7-861 7830
Fax : +60-7-861 7827
Website : http://www.resysta.com

1.2 HEAD OFFICE

A. TREE PAL WOOD IMPORT & SUPPLYING (G.C.C. Regional office)
Tamouh Tower, 8th Floor, Office 811
Marina Square, Al Reem Island
Abu Dhabi, U.A.E.
P.O. Box 130856
Email: info@tree-pal.com
Tel: +971-2-4170515
Fax: +971-2-4170599
Website : http://www.tree-pal.com

2. MATERIAL

Organic Fiber-Polymer Composite Profile shall be manufactured from a composition of organic fiber (rice husks) and high impact vinyl acrylic material (with a minimum of 60:40 ratio) absolutely without any wood content with High Density of 1.45 g/cm3. The materials are able to withstand abrasion, weather resistant and fire retardant.

1. Colour Concept : Refer to Manufacturer’s colour chart for details
   A. RESYSTA PS3783 COLOURED STAIN

- Transparent coloured stain for the colour design of surfaces.

B. TWO COMPONENT PROTECTIVE SEALER

- To increase the mechanical and chemical resistance and protection against staining, we recommend to seal the surface with 2-component protective sealer specially adopted for Resysta.

C. RESYSTA RCC 2K COMMERCIAL COAT FOR THE DIY SECTOR

- RCC is an aqueous, transparent 2-component acrylic sealant for indoor and outdoor use.

D. RESYSTA RFS 2K SEALER FOR PROFESSIONAL USERS

- Resysta RFS 2K sealer is an aqueous, transparent 2-component polyurethane sealant for indoor and outdoor use.

2. Mean Coefficient of Linear Thermal Expansion: 44.3 x 10^-6m/(m.°C) from (-30°C to 30°C) and 49.8 x 10^-6m/(m.°C) (30°C to 70°C) when tested in accordance with ASTM E831-19.
3. Water Absorption: 4.05% maximum, change in weight after 124 hours when tested in accordance with ISO 62:2008 Method 1 Determination of amount of water absorbed after immersion in water at 23°C.
4. The 201 substances in the Candidate List of Substances of Very High Concern (SVHC) regarding the Regulation (EC) No. 1907/2006: Registration, Authorisation and Restriction of Chemicals (REACH) - Not Detected.
5. Durability of Resysta Fiber Polymer Composite samples against subterranean termite compared to rubberwood resulting in 0.07% weight loss after 4 weeks of exposure to *C. curvignathus* termites based on ASTM D3345-17 and AWPA E1-17.
6. Deflection Temperature Under Load : 98.6°C in accordance with ISO 75-1:2013 & ISO 75-2:2013 Method A - using a flexural stress of 1.80 MPa.
7. Flexural Stress - Flexural Modulus : 4070 MPa, Flexural strain at break : 1.9% when tested in accordance with ISO 178:2019 Method A.
8. Flexural Strength : 41.4MPa when tested in accordance with ASTM D790-17 Procedure A.
9. Mean Coefficient of Linear Thermal Expansion: 50 x 10^-6 K-1 from (-20°C to 20°C) and 57 x 10^-6 K-1 (30°C to 60°C) when tested in accordance with ISO 11359-1:2014 & ISO 11359-2:1999 Method A.
10. Direct Screw Withdrawal : 5511N when tested in accordance with ASTM D1037-12 Section 16.
11. Fire tests on Building Materials and Structures BS 476 Part 6:1989 + A1:2009 and BS 476 Part 7:1997, test result shows the materials has a Class 1 Surface Spread of Flame.
12. Surface Burning Test for 10 mins : Class A according to ASTM E84-12a.
13. Artificial Weathering Test for selected materials after 2000 hours : minor change in colour, when stated in accordance with DIN EN 11341.
14. Shore D Hardness: 88 average, when tested in accordance with ASTM D2240:2000.
15. Resistance against discolouring micro-fungi according to ASTM D3273: Average rating 1 (resistant to mould infestation) after 28 days.
16. Skid Resistance: 47 units minimum (perpendicular to groove) when tested in accordance with ASTM E303:1993 (Model: DKG12522)
17. Determination of the durability against soft rot fungi: Very durable against soft rot fungi according to CEN/TS 15083-2.
18. Density : 1.46g/cm³ average, when tested in accordance with ISO1183.

For more information, please contact or email to : info@tree-pal.com
For Project Reference, please visit our website : http://www.tree-pal.com