# SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

An ISO - 9001:2008 Certified Institute

# TEST CERTIFICATE

000374306

**Issued to :**
WONDER ALU BOARD OVERSEAS
275, IIIRD FLOOR,
RAJDHANI ENCLAVE
PITAMPURA
**NEW DELHI - 110034**
**Kind Attn: MR SACHIN SINGHAL , MANAGER H R**

**J.O.No.** 503-141-2486
**Reg.No.** 1371484
**Date** 13-08-2015
GC-01 (REV-04)
**Your Ref.No.** -
**Date**

**Sample Particulars:**
One sample described as Aluminum Composite Panel thickness 4 mm, Coil Thickness 0.50 mm, was received
"The sampling was not carried out by Shriram Institute for Industrial Research. The sample details provided in the test certificate are based on declaration by the party".

## TEST RESULTS

| S.No. | Tests | Results | Protocol / Technique adopted |
|---|---|---|---|
| A | **Physical Properties of Wonder Composite Panel** | | |
| 1. | Weight, kg/m² | 5.9 | Using Weighing Balance |
| 2. | Panel Width, mm | 990 | Using Measuring Scale |
| 3. | Panel Length, mm | 990 | Using Measuring Scale |
| 4 | Panel Thickness,mm | 4 | Using Vernier Caliper |
| 5 | Density at 27°C, g//cm$^3$ (Polyethylene Core) | 0.94 | As per ASTM D 792-08 |
| 6 | Bond Integrity, N/mm (Peeling Strength) | 10.7 | As per ASTM D 903-08 |
| 7 | Tensile Strength, kg/mm² | 5.1 | As per ASTM E 8-10 |
| 8 | Yield Strength, kg/mm² | 4.5 | As per ASTM E 8-10 |
| 9 | Elongation, % | 5 | As per ASTM E 8-10 |
| 10 | Flexural Strength, kg/mm² | 12.1 | As per ASTM D 790-08 |
| 11 | Ultimate Compressive Strength, MPa | 55.6 | As per ASTM C 365-10 |
| 12 | Water absorption, % | Nil | As per ASTM D 570-10 |
| 13 | Deflection Temperatyure, °C (under 1.8 MPa) | 82 | As pe ASTM MD 648-10 |
| B | **Properties of Aluminium skin** | | |
| 1 | Skin thickness, mm | 0.5 | Using Thickness gauge |
| 2 | Tensile Strength, N/mm² | 146 | As per ASTM E 8-10 |
| 3 | Yield Strength, N/mm² | 131 | As per ASTM E 8-10 |
| 4 | Elongation, % | 2 | As per ASTM E 8-10 |
| 5 | Modulus of Elasticity, kg/mm² | 3387 | As per ASTM E 8-10 |

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**C Paint Finish and Test Properties**

| | | | |
|---|---|---|---|
| 1 | Lacquering | Lacquering is observed. | By Visual |
| 2 | Coating Thickness, micron | 26 | Using Alcometer |
| 3 | Gloss at 60° angle | 29 | As per ASTM D 523-10 |
| 4 | Formability (T-Bend) | No cracks in the Coating by tape Observed at 0T. | As per ASTM D 4145-10 |
| 5 | Cross Hatch | No lifting of the Paint by tape was observed. | As per ASTM D 3359-10 |
| 6 | Hardness-Pencil | | As per ASTM D 3363-10 |
| | a) Gauge Hardness | No cut on the surface of the film is observed. | |
| | b) Scratch Hardness | No rupture or scratch of the coating is observed up to 6H. | |
| 7 | Abrasion Resistance (Falling sand) | Substrate not exposed after 80 Liter of sand. | As per ASTM D 968-10 |
| 8 | Immersion Test | | |
| | (i) 10% HCl | No visual Change as decomposition, discoloration swelling, clouding,bubbling, is observed. | By Visual Observation |
| | (ii) 10 % $H_2SO_4$ | No visual Change as decomposition, discoloration swelling, clouding,bubbling, is observed. | By Visual Observation |
| | (iii) 10% NaOH | No visual Change as decomposition, discoloration swelling, clouding,bubbling, is observed. | By Visual Observation |
| | (iv) Detergent | No visual Change as decomposition, discoloration swelling, clouding,bubbling, is observed. | By Visual Observation |

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D.O.R.: 13.03.2015
D.O.C.: 12.08.2015

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