

ALUMINUM
COMPOSITE PANEL

رؤية
VISION 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA



SAUDI UNIBOND
سعودي يوني بوند

LDPE-NFR TECHNICAL DATA SHEET

صنع في المملكة العربية السعودية

www.unibond-egy.com



شركة الحديثة للصناعة
Modern industrial co,LTD

SAUDI UNIBOND Technical Data sheet -LDPE (NFR)

Prepared in accordance with SASO 2752:2019

Laboratory Tested by Wimpey Laboratories L.L.C. (IAS Accredited TL - 564)

CONTENT

1. Composition, Dimensions & Tolerance
2. Mechanical Properties of Alloy & ACP, Thermal Properties & Factory Certificates
3. Coating Properties

I. COMPOSITION

- Exterior grade panel: exact 4 mm thickness , composed of low-density polyethylene core sandwiched between two aluminum sheets.
- Exterior panel: aluminum sheet coated with PVDF .
- Aluminum skin thickness: 0.30 mm (front) / 0.30 mm (back) .

DIMENSIONS / WEIGHT / TOLERANCES

- Length: 1000 mm sample size (Requirement: 2000 – 6000 mm, ± 2 mm)
- Width: 1000 mm sample size (Requirement: 1220 – 1650 mm, ± 2 mm)
- Thickness: 4.12 mm ± 0.2 mm
- Weight: 5 kg/m²
- Diagonal: max 5 mm
- Bow: 0.8% of any 1828 mm panel dimension



2. MECHANICAL PROPERTIES OF ALUMINUM ALLOY (3003 SERIES)

ASTM STANDARDS

MECHANICAL PROPERTIES OF ACP (ASTM STANDARDS)

Property	Standard Method	Unit	Result
Density	Calculated	kg/m ³	1.45
Elongation	ASTM B209M	%	9.1

THERMAL PROPERTIES

Property	Unit	Result
0.2% Proof Stress	MPa	38
Flexural Elasticity	GPa	40.1
Punch Shear Strength	N/mm ²	21.3
Peel Strength	N/mm	9.4

ADDITIONAL THERMAL PROPERTIES

Property	Standard Method	Unit	Result
Linear Thermal Expansion	ASTM D696 -16	µm/m ·°C	119.5
Thermal Conductivity	ASTM C518 -21	W/m ·K	0.45
Thermal Resistance	ASTM C518 -15	m ² K/W	0.0103



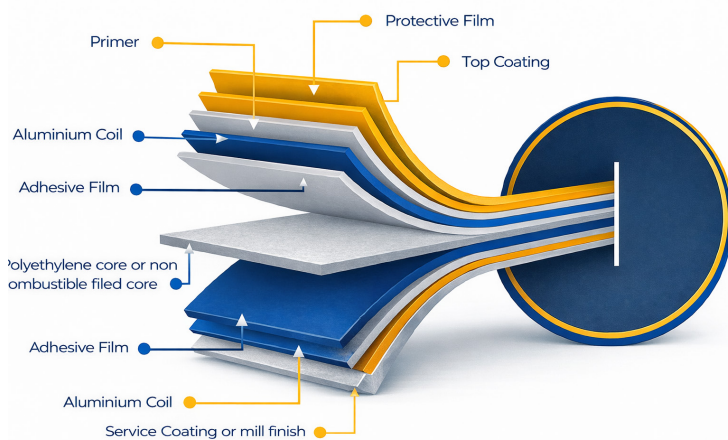
3. FACTORY CERTIFICATES

- ISO 9001:2015
- ISO 14001:2015
- ISO 45001:2018
- LEED Certificate
- IAS Accredited Testing Laboratory (TL-564)



4. PHYSICAL PROPERTIES (SASO 2752:2019 REQUIREMENTS)

Property	Standard Method	Unit	SASO Requirement	Result
Density	ASTM D792:2013	g/cm ³	–	1.37
Thermal Conductivity	ASTM C518:2021	W/m·K	–	0.4 – 0.5
Thermal Resistance	ASTM C518:2021	m ² K/W	–	0.0103
Dimensional Stability	ISO 23999:2018	% change	≤ 0.1	Pass
Sound Insulation	ISO 140-3:1995	dB	≥ 25	25 – 28
Water Absorption	ISO 62:2008	%	≤ 0.5	Pass



Weather Resistance



Custom Colors



Fire Resistance



Impact Resistance



Corrosion Resistance



Easy Maintenance



Easy Maintenance



Lightweight



5. COATING PROPERTIES

Property	Standard Method	Unit	SASO Requirement	Result
Gloss Deviation	ISO 2813:2014	–	≤10	8.1
Coating Thickness (Front)	ISO 2360:2012	μm	≥30	32.1
Coating Thickness (Back)	ISO 2360:2012	μm	≥23	25.6
Pencil Hardness	ISO 15184:2012	–	≥HB	4H
Coating Flexibility (Front)	ISO 17132:2010	–	≤2, no cracks or damage	Pass – No cracks
Coating Flexibility (Back)	ISO 17132:2010	–	≤3, no cracks or damage	Pass – No cracks
Adhesion	ISO 2409:2014	Grade	Grade 1	Grade 1
Impact Resistance	ISO 6272-2:2011	–	≥1 kg, 100 cm, no cracks	Pass
Abrasion Resistance	ASTM D968 -17	L/μm	≥2	8
Brush Resistance	ISO 11998:2006	–	No change	No change
Acid Resistance	SASO ISO 2812-1:2014	–	No change	No change
Alkaline Resistance	SASO ISO 2812-1:2014	–	No change	No change
Oil Resistance	SASO ISO 2812-1:2014	–	No change	No change
Hot Water Resistance	SASO ISO 2812-1:2014	–	No change	No change
Salt Fog Resistance (500h)	SASO ISO 11997-1:2007	Grade	Grade 2	Grade 2
Accelerated Weathering	ISO 16474-2:2015	ΔColor ≤3 / ΔGloss ≤10	ΔColor 0.99 / ΔGloss 4	
Stain Resistance	SASO ISO 11998:2007	%	≤5	1.2

✓ SASO Compliance Statement

The SAUDI UNIBOND LDBE ACP has been tested at Wimpey Laboratories L.L.C. (IAS Accredited TL -564) and found to be in compliance with SASO 2752:2019 requirements







SAUDI UNIBOND

سعودي يوني بوند

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