ALUSTRA LDPE (NON-FIRE)

ALUSTRA LDPE is a thermoplastic made from petroleum. It is non-reactive at room temperatures, except by strong oxidizing agents. It can withstand temperatures of 800C continuously and 950C for a short time. Made in translucent or opaque variations, it is quite flexible and tough but breakable.

Physical and Mechanical Properties

Panel Weight :	3 mm	4.10 + 0.5 kg / m2
	4 mm	5.00 ± 0.5 kg / m2
	5 mm	5.90 ± 0.5 kg / m2

Mechanical Properties

Test Item	Standard	ALUSTRA Actual and Test Value
Bending Strength	≥100 Mpa	122 MPa
Bend Elastic Module	≥20,000 MPa	30, 200 MPa
Through Resistance, ASTM D732	≥9.0 kN	10.9 kN
Shear Strength, ASTM D732	≥28.0 MPa	≥35.2 Mpa
180 Degree Peeling Strength	≥7.0 N/mm	≥12.0 N/mm
Temperature Change Resistance	No change	No change
Coefficient of Thermal Expansion, ASTM D696	≤0.00004 C_{-1}	≤0.00002464 C_{-1}
Heat Deflection Temperature, ASTM D648	≥105 °C	≥110 °C

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COATING PERFORMANCE

Test Item	Standard Index	ALUSTRA Actual and Test Value
Coating Thickness	≥25 μm	≥28 μm
Gloss Deviation	gloss ≥70, max permissible deviation ≤5	deviation = 1.0
	gloss <70, max permissible deviation ≤10	
Color Deviation, ASTM D2244	≤ 2.0 units	≤ 2.0 units
Pencil Hardness	≥ HB	3H
Coating Flexibility, ASTM D4145	≤2T	1T
Adhesion Grade	in grid way: Grade 0 in circle way: Grade 1	in grid way: Grade 0 in circle way: Grade 1
Impact Resistance	No peel-off, no crack at 50 kg.cm	No peel-off, no crack
Abrasion Resistance, ASTM D968	≥ 5 L/um	≥ 7.7 L/um
Hot Water Resistance	No color change, crack & peel-off at 98～100C in 120 min	No color change, no crack & no peel-off
Stain Resistance	≤ 15%	1.03%
Acid Resistance, ASTM D1308	No change	No change
Alkali Resistance, ASTM D1308	No change	No change
Oil Resistance, ASTM D1308	No change	No change
Solvent Resistance, ASTM D2248	No change	No change
Brush Resistance	≥10000 times of no charge	No change
Salt Fog Resistance, ASTM B117	≥ Grade 2	Grade 1
Aging and Weather Resistance Color Deviation Gloss Retention Grad.	 ≤ 3.0 ≥ Grade 2	 1.9 Grade 1