



**Note:** Custom width is available between 914mm and 1575mm except N-7 Aluminum Hairline P and Timber finishes (W-1, W-2, and W-3). For N-7 Aluminum Hairline P, custom width is available between 914mm and 1220mm. For Timber finishes of W-1 Maple, W-2 Walnut, and W-3 Mahogany custom width is available between 914mm and 1270mm. Custom length less than 5000mm can be accepted. Please contact our sales office or distributors for the minimum quantity and the lead-time of the custom size products.

(3) Product tolerance

Width: ±2.0mm  
 Length: ±4.0mm  
 Thickness: ±0.2mm  
 Bow: Maximum 0.5% of the length and/or width  
 Squareness: Maximum 5.0mm (diagonal difference)  
 Surface defect: The surface shall not have irregularities such as roughness, buckling and other imperfections in accordance with our visual inspection rules.  
 Panel edge: ALPOLIC/fr LT is supplied with a cut edge out of aluminum sheet displacement and core protrusion.

**4. Principal properties**

- (1) Panel weight: 5.5 kg/m<sup>2</sup>
- (2) Thermal expansion: 24×10<sup>-6</sup> m/m/°C
- (3) Mechanical properties as a composite material, ALPOLIC®/fr LT

Tensile strength (ASTM E8)	30 MPa or N/mm <sup>2</sup>
Yield strength (ASTM E8)	27 MPa or N/mm <sup>2</sup>
Elongation (ASTM E8)	4 %
Flexural Elasticity (ASTM C393)	33 GPa or kN/mm <sup>2</sup>

(4) Mechanical properties of skin aluminum:

	1100-H14	5205-H19 (for N-7)
Yield strength (ASTM E8)	115 MPa or N/mm <sup>2</sup>	210 MPa or N/mm <sup>2</sup>
Modules of elasticity (ASTM C393)	70 GPa or kN/mm <sup>2</sup>	70 GPa or kN/mm <sup>2</sup>

**5. Summary of fire tests**

ALPOLIC®/fr LT comprising of 0.3 mm thick skin has passed the following fire tests:

Country	Test Standard	Specimen Thickness	Results & Classification
United Kingdom	BS476 Part 6	3 mm	Class 0
	BS476 Part 7		Class 1
USA	Tunnel Test (ASTM E-84)	3 mm	Class A / Class 1
	Interior Room Corner Test (UBC 26-3 and ISO 9705)	3 mm	Passed

Japan	Heat Release Test for Non-combustible Material (ISO5660-1) and Toxicity Gas Test	2 - 4 mm	Passed Certificate No. NM-1972
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## 6. Paint finish

### (1) Finish type

The finishes can be classified into the following coating types:

Coating type	Finishes
Solid Color	Pure White P (G90), White P (G30), Light Beige P (G30), Black P (G30), Polished Beige P (G90), Off White P (Matte), Piano Black P (G90)
Metallic Color	Silver P (G80), Champagne Metallic P (G30), Silver Metallic P (G30), Gray Metallic P (Matte)
Clear	Aluminum Hairline P (G90)
Stone	White Marble (G90), Venetian Marble (G90)
Timber	Maple (Matte), Walnut (Matte), Mahogany (Matte)

Custom colors and custom gloss are available, subject to minimum quantities and color match. Please contact distributors or our office for custom color request.

### (2) Coating system

Each finish type has the following coating system of polyester paint:

- Solid and Metallic: 2-coat / 2-bake system consisting of primer and top coating.
- Clear: 2-coat / 2-bake system consisting of transparent primer and top clear coating.
- Stone and Timber: Coated with a unique image transfer process. The coating consists of primer, image transfer layer and top coating.

Matte finish is produced with a unique coating in which microscopic wrinkles emerge over the entire coated surface during baking of the paint. Thus, Matte finishes have uniform and fine wrinkles over the surface.

All these coatings are produced in the manufacturer's continuous coil coating line.

### (3) Paint performance

The coating meets the following performance:

<b>Test item</b>	<b>Test method</b>	<b>Performance</b>
Paint thickness		17 microns min.
Gloss:	60° specular gloss (ASTM D523-89)	Matte to 90%
Pencil hardness:	(ASTM D522-88)	>= H
Adhesion (Cross-cut)	Adhesion (Cross-cut)	100/100 (Cross-cut)
Impact resistance:	Du-pont method, 0.5kg, 1/2 inch, 50cm, Backside impact test	No picking off
Water resistance:	50 °C, tap water, 24 hrs.	100/100 (Cross-cut)
Boiling water resistance	98-100°C, pure water, 4 hrs.	100/100 (Cross-cut)
Humidity resistance:	240 hrs, 98% RH, 50°C (ASTM D2247-87)	No blister, no pick off
Alkali resistance:	1% NaOH, 20°C, 24hrs.	No blister, no pick off
Acid resistance:	5% H <sub>2</sub> SO <sub>4</sub> , 20°C, 24hrs.	No blister, no pick off
Salt spray resistance:	1000 hrs, salt fog, 35°C	No blister, no pick off
Solvent resistance:	MEK, 20°C, 24hrs.	No blister, no pick off
Detergent resistance:	Detergent "Surf", 25g/30L, 20°C, 24hrs.	No blister, no pick off
Pollution resistance:	Lip stick, eye shadow, 24 hrs. After wiping off with IPA.	No blister, no pick off
Accelerated weathering test:	QUV, 500 hrs.	No blister, no pick off

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