

FORTIS TECHNICAL INFORMATION

**FORTIS SOLID ALUMINIUM
PANELS 2019**

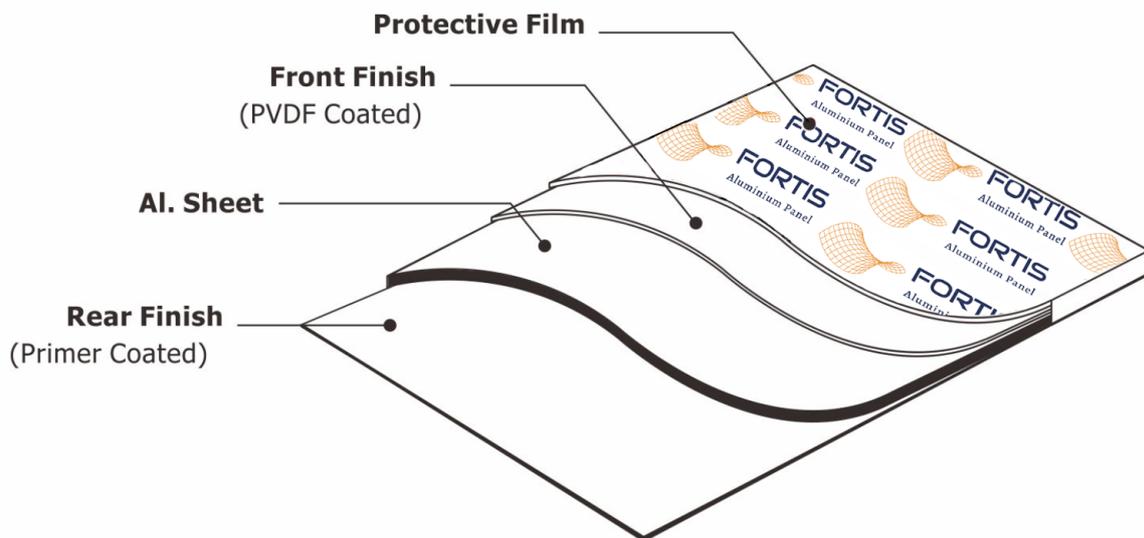


FORTIS

Main Features

Fortis Aluminium Panels present strong, quality aluminium sheets for both exterior facades and interior use, with highly durable and aesthetic requirements. Pre-painted finishes offer extreme durability in outdoor exposure as well as indoors because of our high-quality paint system. Pre-painted aluminium sheet finishes are uniquely designed in that they offer a hard, abrasive resistant coating, yet allow the flexibility for extensive forming and fabricating. Our coil coated aluminium sheets are manufactured of 3003 H-24 Aluminium, this is essentially a 98% pure aluminium alloy with minor additions for strength. It is not able to harden by heat treatment. Corrosion resistance, formability and welding characteristics are excellent. These sheets can be punched, guillotined and bent using standard machinery to provide a finished product. All sheets have a UV resistant film with directional arrows applied to the painted surface to protect the finish during fabrication and installation.

Structure



Specification Details

Coil Coated/Pre-Painted Aluminium Plate	
Alloy	1100, 3003, 3105, 5005, 5052 ect
Temper	H14, H16, H18, H24, H48, T6 ect
Thickness	3mm
Width	1500mm
Length	500 - 6000mm
Coating	PE/PCDF Coating
Produced Method	Coil Coated/Sheet Coated
Color	Solid & Metallic
Gloss	10-90%
Coating Thickness	PE > 18 micron PVDF > 25 micron
Coating Hardness	More than 2h
Hardness & Adhesion	2H, 5B
Impact Resistance	No peeling or cracking (50kg/cm)
Tolerance	Width: + 2mm Length: + 4mm Thickness: + 0.02mm
Flexibility (T-Bend)	< 2T

Features

1. High Productivity: Roller production is automatic, the slowest speed is 20 meters per minute and the maximum speed can be 60 meters to 100 meters per meters.

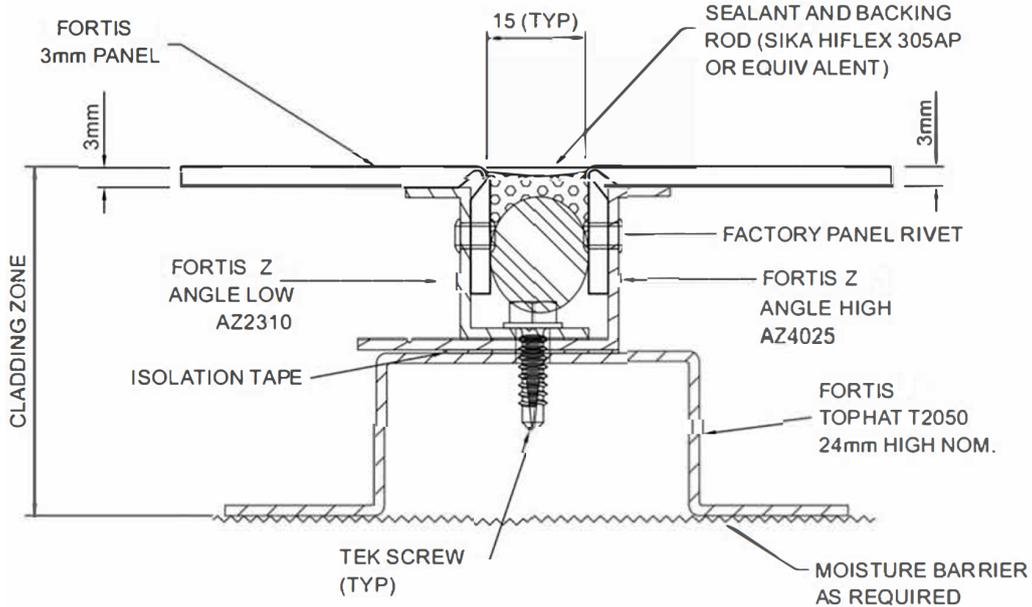
2. Environmental Protection: Its not easy to turn yellow, using chromium-free treatment liquid to make up for the defects of easy discolouration of the laminating board. Active chemical molecules are stable and easy to recycle, meeting environmental requirements.

3. Corrosion Resistance: Because of its tight surface oxide film, it has strong adhesion, oxidation resistance, acid resistance, alkali resistance, corrosion resistance, decay resistance and UV resistance.

4. Safety: Lighter weight and safer installation system enables to avoid the risk of cracking and falling. It also complies with ISO 5660.1. AWTA

5. Colour Uniformity: Long-lasting and its colours are delicate. Soft and colourful, avoiding the individual chromatic aberration of traditional spraying.

Installation



TYPICAL PANEL JOINT DETAIL

Technical Data

Property (Alloy 3003 H24)		Test Standard	Unit	Result
Physical Properties	Specific Gravity	-	g/cc	2.72
	Weight	-	lbs/ft ²	1.68
Mechanical Properties	Tensile Strength	ASTM E8	psi	20,300
	Yield Strength	ASTM E8	psi	17,400
	Elongation	ASTM E8	%	28
Property (Alloy 5052 H32)		Test Standard	Unit	Result
Physical Properties	Specific Gravity	-	g/cc	2.72
	Weight	-	lbs/ft ²	1.68
Mechanical Properties	Tensile Strength	ASTM E8	psi	21,800
	Yield Strength	ASTM E8	psi	20,300
	Elongation	ASTM E8	%	10

Performance Comparison

Coil Coated/Pre-Painted

Spray Painted

Color Difference Factors	<p>No color difference</p> <ol style="list-style-type: none"> 1.The oven height is around 30cm, so the temperature difference in the oven is very small. 2.The temperature is fixed, its painting surface always keeps at a point on the temperature curve. 3.Coating in parallel. 	<p>Have color difference</p> <ol style="list-style-type: none"> 1.The oven height is around 150cm, so the temperature difference in the oven is big. 2.The temperature is not fixed but change slightly when baking in vertical. 3.Spray painting in vertical and the side panel should be manual painted.
Flatness Factor	<p>Very flat</p> <ol style="list-style-type: none"> 1.The flat plate is highly baked and the inner stress of the plate will be released. 2.Deformed plate can be mechanically agitated and processed. 	<p>Deformation and not flat</p> <ol style="list-style-type: none"> 1.High temperature baking after forming and the inner stress cannot be released. 2. Plate cannot be flattened.
Smooth Factor	<p>Very smooth</p> <p>Coil coating is a pressure printed coating, the entire coating film layer and surface are without particle and micropore.</p>	<p>Not smooth</p> <p>Spraying is an electrostatic floating coating. The entire coating film and surface are composed of particle and micropore.</p>
Pollution Factor	<p>No pollution</p> <p>Pollutants cannot penetrate the surface, because there is no grain and small hole on the surface.</p>	<p>Easy pollution</p> <p>Pollutants can penetrate the surface, because there are grains and small holes on the surface.</p>
Cleaning Factor	<p>Easy to be cleaned</p> <p>The coated plate can be easily cleaned by rain because there is no pollution and surface is smooth.</p>	<p>Hard to be cleaned</p> <p>Pollutants are hardly cleaned because there are grains and holes on the surface.</p>
Thickness of Coating Factor	<p>Coating thickness is average</p> <p>Because the plate is pressed and coated, the surface is evenly stressed and the tolerance for coating is less than $0.5\mu\text{m}$.</p>	<p>Coating thickness is not average</p> <p>Because of electrostatic floating coating, the coating thickness of the surrounding and intermediate is not uniform and the tolerance is about $7\mu\text{m}$.</p>

