

Aluminum Composite Panel

Introduction:

The panel consists of two sheets of corrosion resistant aluminum permanently bonded to polyethylene core material. Both sides or one side aluminum panel coated with PVDF and PE paint. Because of its excellent weather proof and other features, the panel becomes a very popular Cladding material in the world.



Features:

- Light weight, high strength, extreme rigidity and flatness.
- Good weatherproofness, acid-resistance, alkali-resistance.
- Outstanding color and gloss retention in a virtually limitless range of hues.
- Excellent in heat insulation, sound insulation.
- Easily processed and fabricated, quickly installed.
- Good flexibility fits various designs.
- Easily maintenance, simply cleaning.

Applications:

Widely used in galleries, exhibitions, saloons, stores, offices, banks, hotels, restaurants and apartments.

- External Wall Cladding Building Fascia and Façade Finishes
- Advertising Display Sign Boards
- Balconies and Patio Wall Claddings
- Rooftop Edges, Parapet Walls and Wall Canopies
- Curtain Walls and Internal Wall Finishes
- Partition and Ceiling Panels
- Stairways, Elevators and Kiosk Panels
- Shop Sign Boards and Showroom Finishes
- Public and Commercial Display Walls
- Poster Hoardings and Exhibition Rooms
- Spandrel, Column covers and Beam Wraps
- Machine Casings and Furniture Accessories

Specifications:

Panel Thickness: 2mm, 3mm, 4mm, 5mm, 6mm

Aluminium Skin Thickness: 0.10mm, 0.12mm, 0.21mm, 0.30mm, 0.40mm, 0.50mm

Standard Panel size: 1220 x 2440mm

Non-Standard Width: 1000mm, 1250mm, 1500mm, 1550mm

Non-Standard Length: 3200mm, 5500mm, 5800mm

Color: white glossy, black glossy, Red glossy, silver brushed, bronze, and other 43 colors.



Technical Specification:

Test Term	Test Standard	Test Value
Outdoor temperature resistance	ASTM D1654a GB/T17748-2008	No abnormality
Thermal expansion	ASTM D696a GB/T17748-2008	$1.98 \times 10^{-5} \text{ }^{\circ}\text{C}^{-1}$
Deflection temperature under heat	ASTM D648-01 GB/T17748-2008	117 $^{\circ}\text{C}$
Thermal conduction	ASTM D976a GB/17748-2008	0.102Kcal/m.hr
Flexural Rigidity	ASTM C393a GB/T17748-2008	14.0X105KG/mm2
Impact resistance	ASTM D732a GB/T17748-2008	1.650kgf
Adhesive strength	ASTM D903a GB/T17748-2008	0.78kg/mm
Sound-insulating rate	ASTM E413a GB/T17748-2008	25 db
Flexural Elasticity	ASTM D790a GB/T17748-2008	4055kg/mm2
Shear resistance	ASTM D732a GB/T17748-2008	2.6kgf/mm2
Minimum bending radius	ASTM D790a GB/T17748-2008	(LO)45mm,(PO)70mm
Tensile strength	ASTM D638-02 GB/T17748-2008	49.6 Mpa
Flexural Strength	ASTM D790-02 GB/T17748-2008	108 Mpa
180°peel strength	ASTM D903 GB/T17748-2008	10.7N/mm
Fire propagation	ASTM E84a GB/T17748-2008	Class B1
Smoke developed	ASTM E84a GB/T17748-2008	< 45
Wind-pressure resistance	ASTM E330a GB/T17748-2008	Passed
Properties against water	ASTM E331a GB/T17748-2008	surface color no changed after 1000 times clean.(passed)
Properties against air	ASTM E283a GB/T17748-2008	Passed
Finish coat thickness	ISO 2360(CNS84)GB/T17748-2008	29 um
Gloss	ASTM D532-89 GB/T17748-2008	20-85%
Pencil hardness	ASTM D3363-74 GB/T17748-2008	3H
Toughness of coating	ASTM D4145-83 GB/T17748-2008	2T no rift
Adhesive force	ASTM D3359-87a GB/T17748-2008	4B
Impact resistance	ASTM D2794 GB/T17748-2008	No crack after 60kg.cm.
Abrasion Resistance	ASTM D968-81 GB/T17748-2008	64.5L/mil
Mortar resistance	ASTM 2605-90 GB/T17748-2008	24Hrs pat test exceed
Humidity Resistance	ASTM D2247-87 GB/T17748-2008	3000Hrs No blister
Resistance to change of temperature	GB/T17748-2008	surface no change 20 cycle in -40 $^{\circ}\text{C}$ ~80 $^{\circ}\text{C}$
Boil-water resistance	ASTM D3359-B GB/T17748-2008	surface color unchanged boiling for 2hrs.(passed)
Salt-spray resistance	ASTM D117-94 GB/T17748-2008 5% NaCL,35oC	3000Hrs No blister
Acid resistance	AAMA 2605-91,TEST#7,7.31 D3359-87a GB/T17748-2008	surface color unchanged with 5% HCL(V/V) for 48 hrs.(passed)
Solvent resistance	ASTM D2248-73 GB/T17748-1999, ECCA T5 &NCCA NO.11-18 GB/T17748-2008	bottom unrevealed after clean 100 times with butanone.(passed)
Alkali resistance	ASTM D1308-87 GB/T17748-2008	surface color unchanged with 5% NoOH(mpm) for 48hrs.(passed)
Color retention	ASTM D2244-87,(85) GB/T17748-2008	E=0.34
Chalk resistance	ASTM D4214-89 GB/T17748-2008	No chalk
Gloss retention	ASTM D2244-85 GB/T17748-2008	0.85