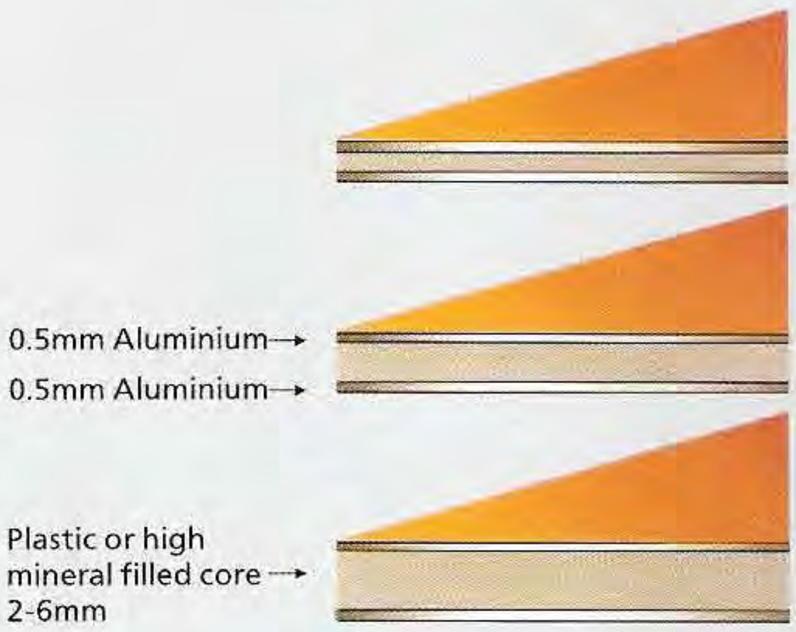
ALUMINUM COMPOSITE PANEL

The best in quality & service

HAIDA

Product information



Constitution

HAIDA brand aluminum composite panel is a new type of building material presenting the tendency of the future. With fluoro-carbon resin (PVDF) roasting painting of rolling type on the front layer, its weather resistance is over 20 years without change of color.

Panel Dimensions

Product range	Specification	
	Standard	Upon request
HAIDA One side stove-lacquered finish	Thickness 4mm	2mm, 3mm, 5mm, 6mm
	width 1220mm	1000mm 1250mm 1500mm 1550mm
	length 2440mm	any length up to 5500mm

Product Range

Product Range	HAIDA ACP Available Thickness					Coating / Finish	Aluminium
	2mm	3mm	4mm	5mm	6mm		
HAIDA-Exterior	Yes	Yes	Yes	Yes	Yes	Kynar 500PVDF	HAIDA
HAIDA-Interior	Yes	Yes	Yes	Yes	Yes	Polyester	HAIDA
HAIDA-Granite-Ext	Yes	Yes	Yes	Yes	Yes	Kynar PVDF Films	HAIDA
HAIDA-Granite-Int	Yes	Yes	Yes	Yes	Yes	IT-Polyester	HAIDA
HAIDA-Veneers-Ext	Yes	Yes	Yes	Yes	Yes	Kynar PVDF Films	HAIDA
HAIDA-Veneers_Int	Yes	Yes	Yes	Yes	Yes	IT-Polyester	HAIDA
HAIDA-Arctic Ice-Ext	Yes	Yes	Yes	Yes	Yes	Kynar PVDF Films	HAIDA
HAIDA-Arctic Ice-Int	Yes	Yes	Yes	Yes	Yes	IT-Polyester	HAIDA
HAIDA-Chameleon-Ext	Yes	Yes	Yes	Yes	Yes	Kynar PVDF Films	HAIDA
HAIDA-Chameleon-Int	Yes	Yes	Yes	Yes	Yes	IT-Polyester	HAIDA

Temperature behaviour

Temperature Resistance	From -40℃ to + 80℃
Temperature Expansion	2.5mm per linear meter for temperature difference of 100℃

Sound Insulation

The table shows the considerable sound reduction for a concrete wall covered with HAIDA

HAIDA thickness	Sound reduction
3mm	23dB
4mm	24dB
6mm	25dB

Compared wth solid aluminium

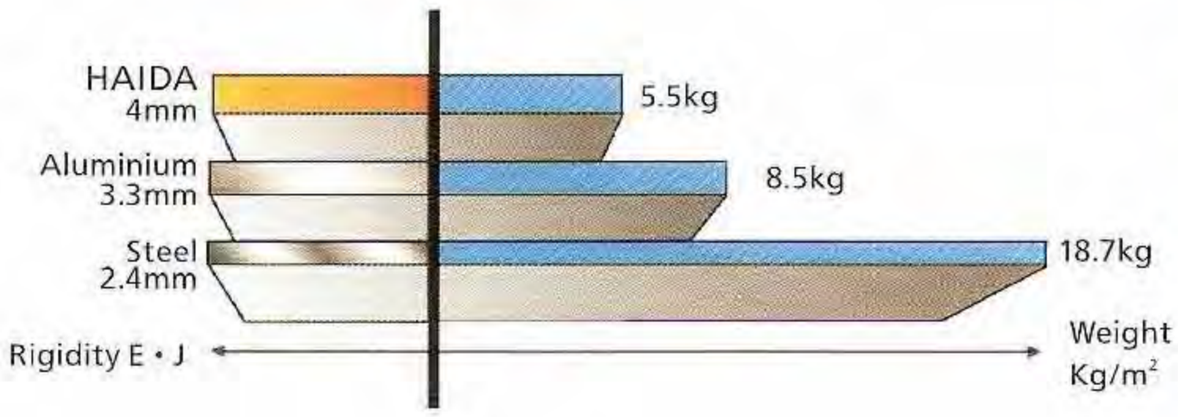
Required thickness and actual weights of panels with same rigidity

Rigidity E • J	HAIDA			Aluminium	
	Section modulus W	Thickness	Weight	Thickness	Weight
0.125 kN m^2/m	1.25 cm^3/m	3mm	4.5 kg/m^2	2.7mm	7.3 kg/m^2
0.240 kN m^2/m	1.75 cm^3/m	4mm	5.5 kg/m^2	3.3mm	8.9 kg/m^2
0.590 kN m^2/m	2.75 cm^3/m	6mm	7.3 kg/m^2	4.5mm	12.2 kg/m^2

Comparison Chart between HAIDA, Solid Aluminlum and steel

Item	HAIDA	Solid Aluminum	Steel
Weight	4mm: 5.48 kg/m^2	3mm: 8.0 kg/m^2	1.5mm: 11.47 kg/m^2
Flatness	Very Flat	Uneven	Uneven
Heat Insulation	Best	Poor	Poor
Sound Insulation	25db	15db	15db
Echo Response	Low	Medium	High
Paint consistency	Best	Inconsistent	Inconsistent
Paint Microns	Even	Uneven	Uneven
Weather Proof	Good	Good	Good
Fire Proof	Good	Good	Good
Fabrication	Easy	Difficult	Very Tough
Delivery	Quick	Slow	Slow
Total Cost	Economical	Medium Cost	Expensive
Maintenance	Easy	Easy	Easy
Installation	Quick	Slow	Very Slow

Comparison of thickness and weight on equivalent rigidity



Certifications

Registration Number: CNAB014-Q
ISO9001:2000
ISO9002:1994

Advice

Protective film

It is recommended to install the panels in the same direction and please remove this protective film within six months.

Dimensional tolerances

Thickness mill finish resp.

Stove lacquered

0.2mm

andodised -0.4/0.2mm

Width -0/+4mm

Length 1000-4000mm -0/+6mm

4001-8000mm -0/+10mm

Due to the production process, a displacement of the cover sheets of max. 2mm to one side may occur along the longer sides of the panels if not specially trimmed.

Cleaning and Maintenance

Cleaning with a piece of soft cloth by mild detergent or water. Strong acid, alkali or solvent is prohibited so as not to impair the surface. Please use high -pressure sprayers when cleaning heavy curtain wall.

Storage

Protect pallets during storage against rain, penetration of moisture, condensation. Pile pallets in stacks one on top of the other (do not place the panels in upright position), stacks must not comprise more than 6 pallets of indentical size. Avoid storage for a period of more than 6 months.

Recycling

HAIDA is fully recyclable, i.e. both the core material and the aluminium cover sheets can be remelted and used for the production of new material.

Test Reports

Test report of State Test Center of Building Materials

Outside wall:

Items	Standard index of quality product	Result	Conclusion
Appearance	Clean surfact without swell, flaws, scratch and aberration	Pass	Qualified
	Length: ±3mm	0mm - +2mm	
	Width: ±2mm	0mm - +2mm	
	Thickness: 0.2mm	0mm	
Deviation of dimension	Deviation of diagonal: ≤5mm	1mm	Qualified
	Out of straight at sides: ≤1mm/m	0.2mm/m	
	Warp: ≤5mm	1mm/m	
Thickness of coating	≥25 μ m	29 μ (av30)	Qualified
Deviation of luster	≤10	2.1(av 28.0)	Qualified
Hardness of pencil	≥HB	3H	Qualified
Toughness of coating	≤2T	2T	Qualified
Adhesive	Not less than Grade 1	Squaring of method of Grade 0, Grade 1 marking method of rolling line	Qualified
Impact strength	50kg.cm Without paint off and crack	Pass	Qualified
Boiling water resistance	Boiling for 2h without change Unchanged	Unchanged	Qualified
Acid resistance	Immerse surface with 5% HC 1(w/w) for 48h without change Unchanged	Unchanged	Qualified
Alkali resistance	Immerse surface with 5% NaOH 1(m/m) for 48h without change Unchanged	Unchanged	Qualified
Oil resistance	Immerse surface with 20# engine oil for 48h without change change	Unchanged	Qualified
Solvent resistance	Clean 100 lines with butanone without change	Bottom unrevealed	Qualified
Cleaning resistance	≥10000 times without change	Unchanged	Qualified
Abrasion resistance	≥5L/ μ m	5.33L/ μ m	Qualified
Contamination resistance	≤15%	7.8%	Qualified
Density of surface	Specified value: ±0.5kg/m^2	5.32kg/m^2	Qualified
Bend strength	≥100MPa	121MPa	Qualified
Flexuous modulus of elasticity	≥2.0 ×10^2MPa	3.12×10^3MPa	Qualified
Through resistance	9.0kN	9.94kN	Qualified
Cutting strength	≥28.0MPa	32.0MPa	Qualified
180° peel strength	≥7.0N/mm	11.2M/mm	Qualified
Resistance to change of temperature	-40℃ - 80℃, 20 cycles without changes	Unchanged	Qualified
Heat deformation temperature	≥95℃	120℃	Qualified
Coefficient of heat expansion	≤4.00×10^3℃	1.98×10^3℃	Qualified
Salt haze resistance aberration	Not less than Grade 2	Grade 1	Qualified
Artinficial resistance aberration	≤3.0	1.24	Qualified
Aging resistance out of light	Not less than Grade 2	Grade 1	Qualified
2000h other aging characteristic	Grade 0	Grade0	Qualified

Test report of Safety of State Quality Supervision & Inspection Center of Fireproof Building Materials

Fireproof Panel

Items	Test method	Technicl index	Result	Conclusion
Minium value of remaining length after burning	GB/T8625-88	≥0	410	Qualified
Average value of remaining length after burning	GB/T8625-88	≥150	486	Qualified
Temperature of smoke, ℃	GB/T8625-88	≤200	116	Qualified
Height of the top of the flame	GB/T8626-88	<150	15	Qualified
Grade of smoke density	GB/T8627-88	≤75	34	Qualified

Note: The technical index based on the regulation of non-flammable materials (Grade B1) of Gb8624 - 1997

Conclusion of test: Test proved that all indices of the material meet the standard requirements of regulation on non-flammable materials. Its judged in accordance with GB8624-1997 that the inflammability of this material has reached standard of GB8624, Grade 1.

Test report of State Test Center of Building Materials

Inside wall:

Items	Standard index of quality product	Result	Conclusion
Appearance	Clean surfact without swell, flaws, scratch and aberration	Pass	Qualified
Deviation of dimension	Length: ±3mm	0mm - +1mm	Qualified
	Width: ±2mm	0mm - +1mm	
	Thickness: 0.2mm	0mm - +0.14mm	
	Deviation of diagonal: ≤5mm	0mm	
	Out of straight at sides: ≤1mm/m	0.2mm/m	
	Warp: ≤5mm	1mm/m	
Thickness of coating	≥16μm	17μ (av18)	Qualified
Deviation of luster	≤10	2.6(av 20)	Qualified
Hardness of pencil	≥HB	2H	Qualified
Toughness of coating	≤3T	1T	Qualified
Adhesive	Not less than Grade 1	Squaring of method of Grade 0, Grade 1 marking method of rolling line	Qualified
Impact strength	50kg.cm Without paint off and crack	Pass	Qualified
Boiling water resistance	Boiling for 2h without change Unchanged	Unchanged	Qualified
Acid resistance	Immerse surface with 2% HC 1(w/w) for 24h without change	Unchanged	Qualified
Alkali resistance	Immerse surface with 2% NaOH 1(m/m) for 24h without change	Unchanged	Qualified
Oil resistance	Immerse surface with 20# engine oil for 24h without change change	Unchanged	Qualified
Solvent resistance	Clean 100 lines with dimenthy 1benzenne without change	Bottom unrevealed	Qualified
Cleaning resistance	≥10000 times without change	Unchanged	Qualified
Abrasion resistance Density of surface	Specified value: ±0.5kg/m^2	3.63kg/m^2	Qualified
Bend strength	≥60MPa	79.6MPa	Qualified
Flexuous modulus of elasticity	≥1.5×10^4MPa	2.16×10^3MPa	Qualified
Through resistance	≥5.0kN	0.25kN	Qualified
Cutting strength	≥20.0MPa	25.7MPa	Qualified
180° peel strength	≥5.0N/mm	6.2N/mm	Qualified
Resistance to change of temperature	-40℃ - 80℃, 20 cycles without changes	Unchanged	Qualified
Heat deformation temperature	≥95℃	116℃	Qualified
Coefficient of heat expansion	≤4.00×10^3℃$^{-1}$	2.47×10^3℃$^{-1}$	Qualified

Test report of Physical Characteristics of State Test Center of Building Materials Fireproof panel

Fireproof panel

Items	Standard index	Test value	Individual judgment
Density of surface	Rating:±0.5kg/m^2	6.8kg/m^2	Qualified
Impact strength	Without paint off and crack	Without paint off and crack	Qualified
Bend strength	≥100MPa	≥104MPa	Qualified
Flexuous modulus of elasticity	≥2.00×10^2MPa	3.04×10MPa	Qualified
Through resistance	≥9.0kN	9.5kN	Qualified
Cutting strength	≥28.0MPa	29.6	Qualified
180° peel strength	≥7.0N/mm	7.1N/mm	Qualified
Resistance to change of temperature	-40℃ - 80℃, 20cycles without change	Unchange	Qualified
Boiling water resistance	Unchanged	Unchanged	Qualified
Coefficient of heat expansion	≤4.00℃×10^{-1}×$^{-1}$	29.3×10^{-3}×$^{-1}$	Qualified
Heat deformation temperature	≥105℃	112℃	Qualified

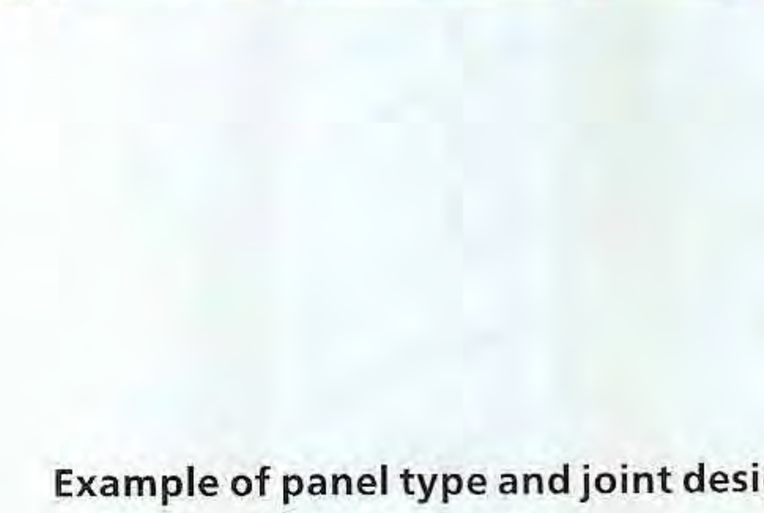
The test result meets the index requirement of quality product of GB/T17748-1999

Scheme of installation

Example of panel type and joint design (A)

1. HAIDA Panel
2. Aluminum rivet
3. Angle aluminum
4. Angle aluminum
5. Sealing material
6. Bach spacer
7. Spacer
8. Angle bar
9. Bullen screw

Angle aluminum and seal joint (1)



Angle aluminum and seal joint (2)