



RS-PVDF Coated Thermal Composite Panel

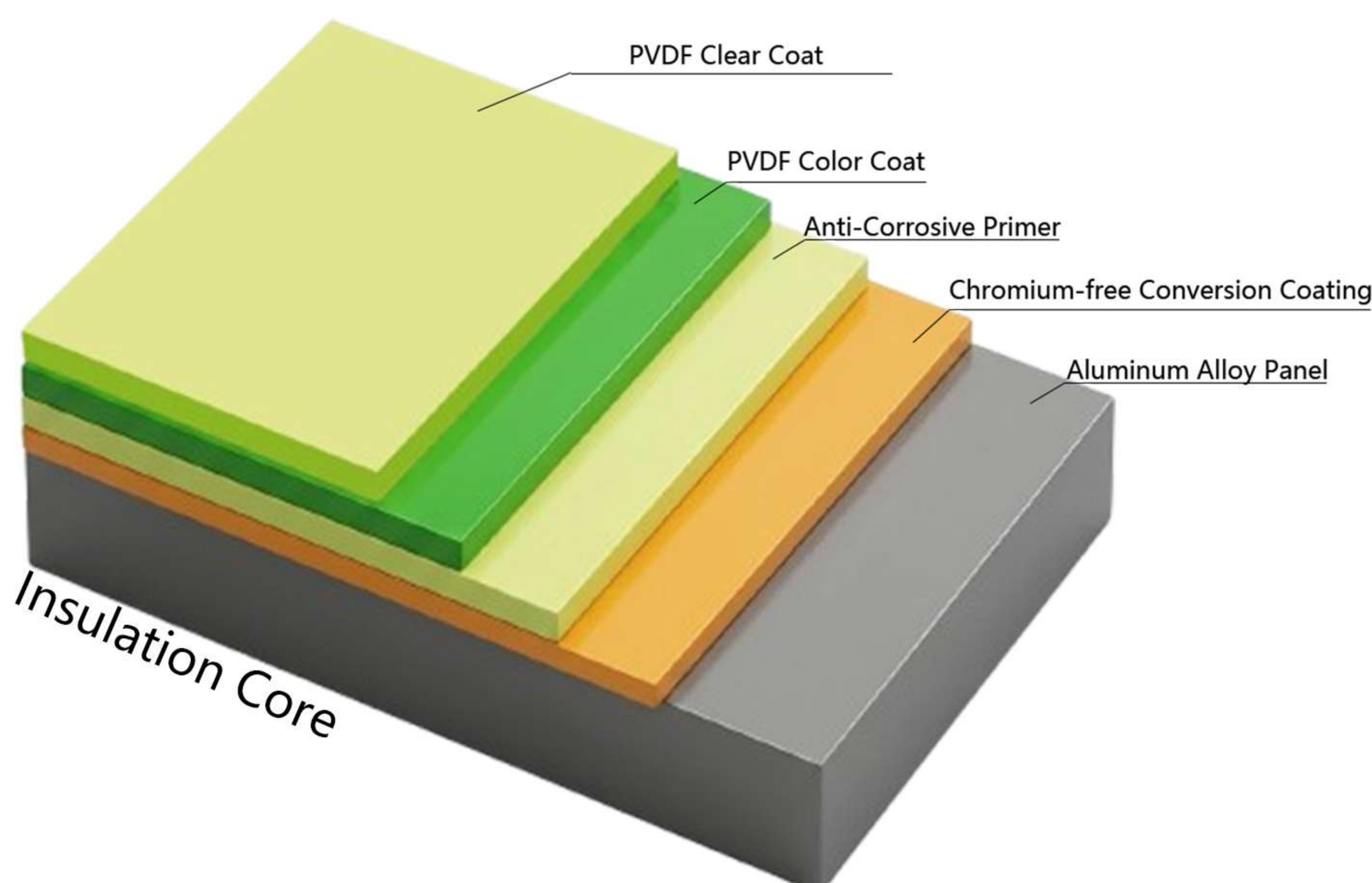
RS-PVDF Coated Thermal Composite Panel is a high-performance architectural cladding material designed for extreme weather conditions. Consisting of two aluminum sheets bonded to a thermal insulation core (such as polyethylene or fire-resistant minerals), it features a premium Polyvinylidene Fluoride (PVDF) surface coating. This panel combines a lightweight structure with superior thermal insulation and exceptional durability, offering a weather resistance of over 20 years.



Custom products available upon request.

Property	EPS	SEPS	XPS	Rock Wool	Test standard
Thermal conductivity	≤0.041 W/m.K	≤0.032 W/m.K	≤0.030 W/m.K	≤0.038 W/m.K	ASTM C518
Density	18-25kg/m ³	20-30kg/m ³	30-45kg/m ³	100-160kg/m ³	ISO 29470
Sag resistance	Excellent / No sagging				ASTM C411
Linear shrinkage	≤1.0 %	≤1.0 %	≤1.0 %	Negligible	ASTM D2126
Reaction to Fire	B1 / B2	B1	B1 / B2	A1	GB 8624 EN 13501
Compressive Strength	≥100kPa	≥150kPa	≥250kPa	≥40kPa	ASTM D1621
Water Vapor Permeability	2.0-5.0	2.0-4.5	0.5-2.0	High	ASTM E96
Water Repellency	≥98%	≥98%	≥99%	≥98%	ASTM C272
Water Absorption	≤4%	≤3%	≤1%	≤1%(Hydrophobic)	ISO 2896

All values are nominal values for standard industrial production. Standard industrial production tolerances applicable.



"Six Layers of Protection, Redefining Durability Standards"

Exceptional chemical stability: Utilising high-content fluorocarbon resin (PVDF) to form a dense molecular protective film. Exhibits outstanding resistance to acids, alkalis, and salt spray, effectively preventing coating blistering and flaking even in industrial pollution or coastal high-salt-mist environments.

Kynar 500® Standard Grade Colour Retention: This coating effectively filters ultraviolet radiation, shielding the colour layer from photochemical degradation. Laboratory testing confirms its colour difference change (ΔE) remains significantly below industry standards over 20 years, ensuring buildings retain their original appearance.

Two carrier layers available

Aluminium Panel Carrier Layer

It constitutes the metal cladding layer of the composite insulation panel. Typically manufactured from high-grade aluminium alloy, it is bonded to rock wool, XPS or EPS insulation cores via automated production lines, serving as the building's outermost protective and decorative layer.



HDFC Carrier Layer

The HDFC carrier layer is an enhanced structural substrate. Within composite insulation panels, it functions as the 'skeleton' or 'shell' laminated onto the surface of the core material (such as rock wool, XPS or EPS), serving to support decorative coatings and protect the internal insulation material.

Feature	High-Density Fiber Cement (HDFC)	Aluminum Panel (Single Layer/PVDF Coating)
Substrate Material	Cement + Organic Fiber	Non-ferrous Metal
Weight	Heavy (≈ 15-20 kg/m ²)	Light (≈ 5-8 kg/m ²)
Fire Rating	Class A1 (Inherent property)	Class A1/A2 (Depends on coating/core)
Impact Resistance	Very High (Brittle under extreme force)	Medium (Prone to dents rather than cracks)
Workability	High rigidity requires professional cutting	Good flexibility bendable/CNC milling
Visual Texture	Natural, Matte, Mineral feel	Refined, Metallic, Glossy/Satin
Thermal Expansion Coeff	Extremely Low	High (Requires expansion joints during installation)

Colour customisation



Disclaimer

RS Insulation Board is responsible for product manufacturing quality only. Since we have no direct control over project design, onsite installation techniques, or the quality of accessory materials (such as adhesives, mechanical fixings, and sealants), RS does not guarantee the long-term performance of the fully installed system.

For PVDF Coated Thermal Composite Panels, please note that slight color variations may occur between different production batches; it is recommended to order the total required quantity in a single batch to ensure color consistency. Liability is strictly limited to our standard Terms and Conditions of Sale. We reserve the right to modify technical specifications and product designs at any time without prior notice.

