RENEWABLE ENERGY · ROOFTOP PV · MOUNTING & RETROFIT

IN SERIAL PRODUCTION

Pultruded FRP for Rooftop Solar Mounting & Retrofit

Rooftop PV adds permanent dead load to a structure rarely designed for it — and on retrofits the roof's reserve capacity is often undocumented. Galvanised-steel and aluminium racking adds that weight, plus grounding scope and galvanic corrosion at the roof interface. F1 Composite pultruded FRP rails and clamp systems cut racking dead load by roughly 70 % versus steel, are non-conductive and corrosion-immune, and bolt onto metal-tile, trapezoidal and standing-seam roofs.

Rooftop PV on metal-tile roof — FRP rail with bolt-on clamps, no

Corrosion-free, low-dead-load racking for load-sensitive rooftop

CORE PERFORMANCE REQUIREMENTS

Low Roof Dead Load
~70 % lighter than steel; guards retrofit load margin

Non-Conductive Interface
No grounding / bonding; no galvanic corrosion at clamp

Corrosion-Free Outdoors
No galvanizing or paint; metal-tile & coastal roofs

Wind & Snow Uplift
Rail + clamp sized to ASCE 7 / AS-NZS 1170 uplift load

UV & Weathering
UV-stable veil; low strength loss over decades

Fast Manual Install
Light bolt-on sections; crane-free, lower BOS labour

STANDARDS & CODES

EN 13706 Structural pultruded profiles (E23)

ASTM D3917 Pultruded profile dimensional tolerance

ASCE 7 Wind & snow structural load basis (US)

AS/NZS 1170 Wind & snow load basis (AU/NZ)

ASTM D790 Flexural strength & modulus

ASTM E84 Flame spread — Class 1 rooftop

-70 %	Nil	25+ yr	0
Racking Weight vs. Steel	Grounding / Bonding Required	Outdoor Service Life	Repaint · Re-Galvanize Cycles

RELATED F1 PRODUCTS · SPEC EXCERPT

Product	Form / Size	Key Spec	Standard
Roof Mounting Rail	SHS / channel	~70 % lighter than steel	EN 13706 · D3917
Module Clamps	Mid & end, M8	FRP body; non-conductive	EN 13706
Seam / Tile Clamp	Seam / trapezoidal	No-penetration; seam roofs	EN 13706
Walkway Grating	Molded / pultruded	Anti-slip; non-conductive	EN ISO 14122

F1 COMPOSITES
Doris Li · Sales & BD · Doris.li@f1composite.com · +86 138 8333 8993

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Global FRP Pultrusion Partner · f1composite.com