

Parameter	Details
Material Composition	Resin: Vinyl ester/Isophthalic polyester Reinforcement: E-glass fiber layers with unidirectional roving Surface Treatment: UV-resistant gel coat
Channel Height	50–200 mm (standard) Customizable up to 300 mm for heavy loads
Flange Width	30–100 mm (adjustable based on structural requirements)
Web Thickness	4–12 mm (optimized for rigidity and load distribution)
Tensile Strength	700–1,100 MPa (varies with fiber orientation and resin grade)
Flexural Strength	550–950 MPa
Compressive Strength	380–650 MPa
Chemical Resistance	Resistant to acids (H ₂ SO ₄ , HCl), alkalis (NaOH), solvents, and saltwater
Temperature Range	Continuous: -40°C to +120°C Short-term peak: +150°C
Fire Retardancy	ASTM E-84 Class A (flame spread ≤25) UL94 V-0 compliant
Weight	1.7–2.5 g/cm ³ (65–75% lighter than steel)
Certifications	ISO 9001, ASTM D3918, DNV/ABS marine standards, RoHS compliance
Color Options	Standard: Gray, Black, Green Customizable: RAL/Pantone-matched
UV Stability	UV-inhibited resin for outdoor applications (10+ years without degradation)

Key Technical Advantages:

- **Corrosion Resistance:** Ideal for chemical plants, marine environments, and wastewater facilities.
- **High Strength-to-Weight Ratio:** Suitable for lightweight structural frameworks in bridges, platforms, and cable trays.
- **Non-Conductive & EMI-Neutral:** Safe for electrical infrastructure and telecommunication installations.
- **Modular Compatibility:** Pre-drilled holes and standardized profiles for seamless integration with FRP grating systems.