Carbon Fiber Strips - Product Manual (English)

General Description

Our carbon fiber strips are pultruded from 12K carbon fiber yarns and epoxy resin, delivering exceptional strength. With an elongation rate exceeding 1.6% and superior performance metrics, they surpass national standards for high-strength Grade I carbon fiber boards. High straightness (camber <1) ensures efficient load transmission and optimal reinforcement results.

Applications

- Structural strengthening and reinforcement of concrete, timber, and masonry structures.
- Ideal for beams, columns, slabs, and walls in buildings, bridges, and infrastructure projects requiring enhanced load-bearing capacity.

Key Features

1. **High-Strength Grade I Compliance:** All performance indexes meet or exceed requirements for Grade I carbon fiber boards, ensuring reliability in demanding applications.
2. **Superior Straightness:** Post-forming straightness with curvature <1/1000, maximizing carbon fiber strength utilization and reinforcement efficiency.
3. **Diverse Specifications:** Over 20 sizes available to address varied reinforcement needs, from narrow strips to wide plates.
4. **Wide Plate Design:** Low substrate leveling requirements; high strength allows full-beam-width application for effective reinforcement and faster construction.
5. **Quality Assurance:** Passed rigorous safety, environmental, and non-toxicity tests; supports random and type inspections for compliance verification.

Product Details

Conventional Specifications: Width: 50mm, 100mm; Thickness: 1.2mm, 1.4mm (custom options available). Supporting Products: Carbon board adhesive, repair/leveling

adhesive, sealant. Manufacturing: Dry-jet wet-spinning carbon yarn with automated pultrusion.

Performance Specifications

Compliant with GB 50728-2011, GB 50550-2010, and GB 50367-2013.

Performance Item	Grade I	Grade II
Tensile Strength (MPa)	≥2400	≥2000
Elastic Modulus (GPa)	≥160	≥140
Elongation (%)	≥1.6	≥1.4
Fiber Volume Content (%)	≥65	≥55
Interlayer Shear Strength (MPa)	≥50	≥40
Bonding Strength (MPa)	Concrete/Masonry: ≥2.5 (cohesive failure); Steel: ≥3.5 (no adhesion failure)	

Additional: Passes damp-heat aging and long-term stress tests.

Construction Process

1. Positioning and marking: Locate and mark reinforcement areas.
2. Surface preparation: Clean, grind, remove loose material.
3. Repair uneven surfaces: Apply leveling adhesive.
4. Adhesive preparation: Mix carbon board adhesive.
5. Apply adhesive: Coat the strip evenly.
6. Bonding: Press strip onto surface.
7. Temporary support: Hold in place during cure.
8. Surface protection: Apply sealant.

Contact Information

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