

FRCM PBO MESH 18/70

High-Performance FRCM Strengthening System



FIDSTRONG FRCM PBO MESH 18/70 is a bidirectional woven PBO mesh designed for structural strengthening applications. It perfectly combines the **high strength** and **high ductility** of PBO fibers, providing excellent strengthening performance for your structures while significantly enhancing component ductility.

| Characteristics: FRCM vs. FRP

This system differs significantly in principle and application from traditional FRP system, offering a more flexible and efficient solution for engineering projects.

Feature	FRP Fabric (FRP) Strengthening System	PBO MESH (FRCM) Strengthening System
Working Principle	Fabric bonded with epoxy resin. Primarily increases strength .	Mesh embedded in an inorganic mortar matrix. Simultaneously enhances strength and ductility .
Typical Applications	Flexural/shear strengthening of beams/slabs, column confinement.	Masonry reinforcement, seismic retrofitting, large wall/slab strengthening, concrete repair.
Ease of Installation	More tolerant of minor surface imperfections. Can be used on damp substrates . Uses conventional plastering skills, making installation simpler and faster.	Requires meticulous surface prep (smooth). Skilled labor is needed for resin application. Sensitive to conditions.
Fire Resistance	using organic resin adhesive , which loses strength at temperatures above 60°C and fails in fire.	using inorganic mortar , offering fire resistance comparable to concrete and excellent safety in high temperatures.

| Key Product Advantages



High Strength, Low Weight

Provides excellent load-bearing capacity without adding significant dead weight.



High Ductility

Significantly increases component ductility, improving seismic resistance.



Corrosion & Alkali Resistant

Unaffected by the alkaline environment of concrete and corrosion, ensuring long-term durability.



Good Heat Resistance

PBO fibers have a decomposition temperature of up to 650 °C.



Low Visual Impact

Allows for subsequent finishing treatments, maintaining aesthetics.



Strong Malleability

Flexible material that can easily wrap around complex-shaped components.

| Applications



- **Structural Strengthening:** For reinforced concrete and masonry elements.
- **Increased Load-Bearing Capacity:** Effectively increases the flexural, shear, and axial load-bearing capacity of beams, slabs, walls, and columns.
- **Seismic Retrofitting:** For existing structures.
- **Repair of Aging Structures:** Repair and strengthen aging structures to extend their service life.
- **Defect Correction:** Correcting structural design and construction defects.

Technical Information & Parameters

Product Information

Color	Gold Yellow
Fiber Orientation	Bidirectional 0°/90°
Width	100 cm or customized
Packaging	20m/Roll or customized length
Storage Conditions	Store in a dry place without direct sunlight at a temperature between -5°C and +35°C

Properties of PBO Fiber

Tensile Strength	5800 MPa
Tensile Elastic Modulus	270 GPa
Elongation at Break	2.5%
Density	1.56 g/cm ³
Decomposition Temperature	650 °C

Properties of PBO MESH 18/70

Areal Weight in Warp	70g/m ²
Areal Weight in Weft	18g/m ²
Nominal Thickness in Warp	0.046mm
Nominal Thickness in Weft	0.011mm
Tensile Elastic Modulus of Dry Mesh	240 GPa