RENEWWRAP®

ESR GF875

STRUCTURAL STRENGTHENING OIL/GAS/INDUSTRIAL

Unidirectional E-Glass Fiber Reinforcing Fabric

RenewWrap® ESR GF875 is a dry, unidirectional reinforcing fabric, made with high strength E-glass fibers. RenewWrap ESR GF875 fabric, along with LPL Saturant are used to strengthen or retrofit existing concrete and masonry structures.

TYPICAL USES

Recommended for:

- Seismic retrofit and strengthening of masonry elements
- Additional protection from environmental conditions
- Confinement of repaired elements
- Insulation barrier between exposed steel and carbon fiber

RELEVANT INFORMATION

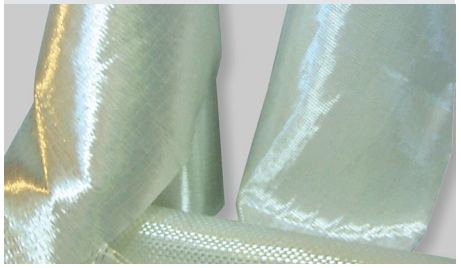
Design calculations shall be made and sealed by a licensed, independent engineer knowledgeable with the design of FRP strengthening systems.

PACKAGING

WIDTH	LENGTH	YIELD
25in. (635mm)	256ft (45.7m)	533 ft^2/roll (49.5m^2)

BENEFITS

- Lightweight, flexible, high-strength fabric can be wrapped around and externally bonded to structural elements
- Easy to impregnate using wet or dry lay-up methods
- Non-corrosive



CAUTION

RenewWrap E-glass fabrics are non-reactive Wear appropriate PPE. SDS are available and should be consulted for additional information.

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Typical fabric and fiber properties[1]

PROPERTY	VALUE
Fiber Type	E-Glass
Color	White
Fabric Construction	Unidirectional
Fiber Tensile Strength	500 ksi (3450 MPa)
Fiber Tensile Modulus	11,700 ksi (80 GPa)
Fiber Rupture Strain	4.0%
Fabric Areal Weight	26 oz./yd^2 (875 gsm)

Notes:

1. Fiber properties are typical values of the fibers used in the manufacture of the reinforcing fabrics. They are based on proprietary test methods employed by the supplier of the carbon fibers. Fiber properties shall not be used for design. They are reported here to provide the designer with a general understanding of the grade of fibers used in the reinforcing fabrics.

Physical properties

PROPERTY	VALUE	TEST METHOD
Nominal Thickness[2]	0.051 inch (1.3mm)	

Mechanical properties

PROPERTY	VALUE	METHOD
Tensile Strength	80 ksi (550 MPa)	ASTM D3039
Tensile Modulus of Elasticity[3]	4 Msi (27.6 GPa)	ASTM D3039
Elongation at Break	2.2%	ASTM D3039
Tensile Strength/Unit Width[4]	3.44 kip/in./ply (0.60 kN/mm/ply)	ASTM D7565
Tensile Modulus/Unit Width	172 kip/in./ply (30.2 kN/mm/ply)	ASTM D7565

Notes:

2. Actual thicknesses measured in the field may vary slightly. As with any FRP strengthening system, the strength/unit width and modulus/unit width should be used for design and for field QC purposes.
3. Modulus of elasticity and unit stiffness are reported as average values in accordance with ACI 440.2R and shall be used for design. They shall not be used for accepting/rejecting results of field QC test results.
4. AC 125 instructs to test using ASTM D3039. (ASTM D7565 uses Max Force/Width, whereas 3039 uses Max Force/Area). ASTM D3039 and ASTM D7565 are essentially the same, except D7565 provides the calculation to report the unit strength and unit stiffness values. We test per ASTM D3039 and then calculate properties per ASTM D7565. Strain values are unitless and based on D3039.

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