

StructureWrap™ V2 140 UG

E-Glass unidirectional fiber fabric for structural strengthening

Product Description

StructureWrap V2 140 UG is a proprietary high tensile strength, stitch bonded, unidirectional E-Glass fiber fabric certified by ICC-ES as meeting building code requirements. The material is combined in the field utilizing StructureWrap V2 200 Epoxy to form a glass fiber reinforced polymer (GFRP) laminate used to strengthen and/or upgrade structural elements.

Applications

Structural capacity changes

- Increased live or dead loads in structures
- Increased traffic volumes on bridges and viaducts
- Dampen vibrating structures or change the natural frequency
- Accommodate changes of building utilization or industrial machinery layout
- Allow for the removal of walls, columns or sections of floor slabs

Seismic retrofitting

- Upgrade of reinforced concrete columns
- Retrofit of unreinforced masonry walls
- Increase lateral shear resistance in reinforced masonry walls

Blast resistant upgrades

- Column protection
- Masonry wall protection

Structural damage and repair

- Repair of large diameter pipes to achieve strengthening and water-proofing
- Repair of aging or corroded members
- Repair or upgrade of inferior materials
- Repair of inadequate construction techniques
- Repair of members due to fire or natural disaster

Advantages

- Certified by ICC-ES (ESR-3573)
- Meets ACI 440.2r-08 criteria
- May be utilized to enhance shear, confinement or flexural strength
- Can accommodate complex 3-D shapes
- High strength to weight ratio
- Light weight, adds negligible dead load to structure
- Non-corrosive, non-magnetic and nonconductive
- Acid resistant
- Finished application does not change the aesthetics of the structure

Composite Gross Laminate Properties

	Ultimate Value		Design Value	
	US Units (psi)	SI Units (Mpa)	US Units (psi)	SI Units (Mpa)
Ultimate Tensile Strength				
Primary Fiber Direction	100,075	690	84,250	580
Tensile Modulus	5,435,000	33,475	5,435,000	33,475
Elongation at Break	1.69%	1.69%	1.55%	1.55%
Flexural Strength	94,270	650	75,710	522
Compressive Strength	31,040	214	26,105	180
Short Beam Shear	6,200	43	5,900	40
Tensile Strength per Inch Width	2.0 kips/in		1.7 kips/in	
Coefficient of Thermal Expansion	.000033in/in/°F	60.05µm/m/°C	.000033in/in/°F	60.05µm/m/°C
Glass Transition Temperature	161.6°F	72°C	161.6°F	72°C
Laminate Thickness	.02in	.51mm	.02in	.51mm



770 Lee Rd. 191 • Auburn, AL 36830

(334) 502-3000

www.V2composites.com



Product Data Sheet

StructureWrap V2 140 UG

How to Use

Refer to StructureWrap design and installation manual for specific instructions on installation procedure.

Packaging

Rolls: 25 in. x 50 ft. (104 ft.²); 25 in. x 300 ft. (625 ft.²); Custom widths of 6"-50" are available

Kits: Pre-measured kits containing a 25 in. x 50 ft. (104 ft.²) roll of fabric and 3 gallons of StructureWrap V2 200 Epoxy

Limitations

- The installed system acts as a vapor barrier. Concrete should not be fully encapsulated in areas of freeze/thaw.

Caution

StructureWrap V2 140 UG is non-reactive and non-toxic. However, caution must be used when handling since stray fibers and dust may be present on the surface. Gloves and the use of an appropriate properly fitted NIOSH approved respirator is recommended to prevent skin and lung irritation when handling, cutting and applying StructureWrap V2 140 UG.

Consult the StructureWrap V2 140 UG SDS for further safety information.



770 Lee Rd. 191 • Auburn, AL 36830

(334) 502-3000

www.V2composites.com



V2 Composites, Inc. makes no warranties, expressed or implied, including merchantability or fitness for a particular purpose, except as expressly stated in writing.



Rev.0818