# Strengthening Solutions

# V-Wrap™ Carbon Fiber Anchors



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Typical Data for V-Wrap Carbon Fiber Anchors

**Storage Conditions:** Store dry at  $40^{\circ}F - 90^{\circ}F$  ( $4^{\circ}C$  to  $32^{\circ}C$ )

Color: Black
Shelf life: 10 years

Fiber Properties (Dry)

**Tensile Strength:** 550,000 psi (3,790 MPa) **Tensile Modulus**: 33.4 x 106 psi (230,000 MPa)

Elongation: 1.7%

Cured Laminate Properties Design Value

**Tensile Strength:** 121,000 psi (834 MPa) **Modulus of Elasticity:** 11.9 x 10<sup>6</sup> psi (82 GPa)

Elongation at Break: 0.85%

**Typical Anchor Sizes** 

 Anchor Diameter:
 0.5" (12 mm)
 0.75" (18 mm)
 1.0" (25 mm)

 Design Area:
 0.2 in² (129 mm²)
 0.44 in² (284 mm²)
 0.79 in² (509 mm²)



The V-Wrap Carbon Fiber Anchor is comprised of carbon fiber roving and V-Wrap 770 epoxy. V-Wrap Fiber Anchor is made with high strength unidirectional carbon roving and is used to anchor V-Wrap carbon and glass fabric for improved force transfer.

# WHERE TO USE:

The V-Wrap Carbon Fiber Anchor is combined with V-Wrap epoxy adhesive and can be used as standalone reinforcement or to improve end details and anchorage of various V-Wrap designs.

# **ADVANTAGES:**

- Durability
- Good high & low temperature properties
- Long working time
- High tensile modulus and strength
- Ambient cure
- 100% solvent-free
- 0% VOC

# PACKAGING:

Lot sizes will vary based on job requirement. Weight will vary based on anchor design requirements.

## **EPOXY:**

V-Wrap Fiber Anchors can be installed using V-Wrap 770 Epoxy.

# SHELF LIFE:

Epoxy - two years in original, unopened and properly stored containers. Fabric - ten years in proper storage conditions.

## STORAGE:

Store material in a cool, dark space. Low humidity is recommended. Store at 40°F to 90°F (4°C to 32°C). Avoid freezing. Avoid moisture and water contamination.

# **HOW TO USE:**

# **DESIGN:**

The V-Wrap Carbon Fiber Anchors shall be designed to meet specific design criteria. The criteria for each project is dictated by the engineer of record and any relevant building codes and/or guidelines. The design should be based on the allowable strain for each type of application and the design modulus of the material.

# **INSTALLATION:**

The V-Wrap Composite Strengthening System to be installed by V-Wrap Composite Strengthening trained and certified applicators. Installation shall be in strict compliance with the V-Wrap Composite Strengthening system Quality Control Manual.

## LIMITATIONS:

Minimum application temperature of the epoxy is 40°F (4°C). DO NOT THIN, solvents will prevent proper cure.

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#### ADVANTAGES:

- Excellent adhesive properties
- Good high temperature properties
- Good low temperature properties
- Long working time (3-6 hours)
- High elongation
- Ambient cure

### STORAGE:

Store in a cool place. Temporary storage of these components should not be in high temperatures, particularly the "A" part. The lids of both parts should be kept tightly sealed. Avoid freezing.

# SAFETY:

Avoid breathing vapors. Avoid contact with eyes and skin. Use of an approved respirator with an organic absorption cartridge is recommended for possible vapors. Rubber gloves, rubber boots, and protective suits are recommended for handling and application of this material. Safety glasses or a face shield are recommended to prevent eye contact.

Part A - Irritant: Prolonged contact to the skin may cause irritation. Avoid eye contact.

Part B - Irritant: Corrosive. Contact with skin may cause severe burns. Avoid eye contact. Product is a strong sensitizer. Use of safety goggles and chemical resistant gloves recommended. Remove contaminated clothing. Avoid breathing vapors. Use adequate ventilation. Use of an organic vapor respirator recommended.

### FIRST AID:

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water; contact physician immediately. For respiratory problems, remove to fresh air. Wash clothing before reuse.

#### HANDLING:

Use of approved personal protection equipment should be worn at all times. Particles mask is recommended when handling airborne particles. Gloves are recommended when handling fabrics and resins to avoid skin irritation. Safety glasses are recommended to prevent eye irritation. Wear chemical resistant clothing /gloves/goggles. Ventilate area. In absence of adequate ventilation, use properly fitted NIOSH respirator. Product Safety Data Sheets (SDS) are available and should be consulted and on hand whenever handling these products.

These products are for professional and industrial use only and are on installed by trained and qualified applicators. Trained applicators must follow installation instructions.

## **MAINTENANCE:**

Periodically inspect the applied material and repair localized areas as needed.

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