

# CSS V-Wrap™ 770

Epoxy Saturant

**SIMPSON**  
**Strong-Tie**

**structural**  
TECHNOLOGIES

## DESCRIPTION

CSS V-Wrap 770 is a two-part, 100% solids epoxy for high-strength composite bonding applications. CSS V-Wrap 770 matrix material is combined with CSS V-Wrap carbon and glass fabrics to provide a wet-layup composite for strengthening of structural members. It is formulated to provide high elongation to optimize properties of the CSS V-Wrap composite systems. It provides a long working time for application, with no offensive odor. CSS V-Wrap 770 may be thickened with fumed silica to produce a tack coat/putty or a finishing coat, depending upon the project requirements. CSS V-Wrap 770 contains no Volatile Organic Compounds (VOC) or solvents.

## CODE REPORTS AND COMPLIANCE

ICC-ES ESR-4930



## MATERIAL PROPERTIES\*

### Part A & B Properties

Approximate Pot Life	3 to 6 hours at 68°F (20°C)
Color	<b>Part A:</b> Clear <b>Part B:</b> Clear <b>Mixed:</b> Clear
Density	<b>Part A:</b> 9.7 lb./gal (1.16 kg/L) <b>Part B:</b> 7.9 lb./gal (0.95 kg/L) <b>Mixed:</b> 9.17 lb./gal (1.11 kg/L)
Mixing Ratio	100A:41B by volume 100A:33B by weight
Shelf Life	24 months stored in unopened containers at 70°F (21°C)
Storage	Store material in a dry area between 40°F (4°C) and 100°F (38°C) with no exposure to moisture.

Cured Epoxy Properties	Average Values
Tensile Strength (ASTM D638)	8,800 psi (60.7 MPa)
Tensile Modulus (ASTM D638)	400,000 psi (2,760 MPa)
Elongation at Break (ASTM D638)	4.4%
Flexural Strength (ASTM D790)	16,000 psi (110.3 MPa)
Flexural Modulus (ASTM D790)	420,000 psi (2,896 MPa)
Compressive Strength (ASTM D695)	12,200 psi (84.1 MPa)
Compressive Modulus (ASTM D695)	440,000 psi (3,304 MPa)
T <sub>g</sub> (ASTM E1640)	187°F (86°C)
VOC Content (ASTM D2369)	0% VOC

\* Curing schedule: 72 hours post cure at 140°F (60°C)



## PERFORMANCE FEATURES

- ICC-ES ESR-4930 listed product
- UL listed (ul.com/database)
- 100% solvent-free
- Good high / low temperature properties
- High elongation
- NSF/ANSI Standard 61 listed product for drinking water systems

## APPLICATIONS

CSS V-Wrap 770 is a multi-use epoxy that performs as a primer, tack coat/putty, and saturating resin for the CSS V-Wrap carbon and glass fiber systems. Fumed silica may be added to thicken the resin. The maximum ratio by volume is 1.5 of fumed silica to 1 part of resin.

## PACKAGING

### Kit Size

4 US gallon (15.1 L)

### Model No.

CV-ES7704KT

## HOW TO USE

### Surface Preparation

CSS V-Wrap 770 should be applied to substrates that are free of protrusions, dust, oils, and other surface contaminants or bond-inhibiting materials. Substrates should be dry and exhibit an open pore structure.

### Application

Apply primer to repair surfaces with a medium nap roller or non-shedding brush. Ensure full saturation of fabric sheets is achieved before installation. Heavier fabrics typically require mechanical saturation. Apply thickened CSS V-Wrap epoxy using trowels.

### Basic Application Equipment

Application processes for CSS V-Wrap 770 will require mixing drill, mixing paddle, 1/4" nap rollers, steel rollers, paint brushes, trowels and saturator.

### Mixing

Combine the contents of CSS V-Wrap 770-A pail and CSS V-Wrap 770-B pail together making sure to scrape all material from the sides of the pail and mix for 3 minutes using a mixer at a speed of 400–600 RPM until uniformly blended. Transfer the mixed epoxy into the other pail and mix for an additional 2 minutes. Mix ratio: by volume 100A:41B, by weight 100A:33B.

### Observe Working Time Limitations

Mix no more material than can be applied within the working time. Available work time, temperature and complexity of the application will determine how much material should be mixed at one time. Keep material cool and in shaded area, away from direct sunlight in warm weather. During hot weather, work time can be extended by keeping the material cool before and after mixing or by immersing the pot in ice water.

### Maintenance

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

### Coverage Rates

#### As a Primer:

Concrete:	225 ft. <sup>2</sup> /gal (5.5 m <sup>2</sup> /L)
Masonry (Concrete):	125 ft. <sup>2</sup> /gal (3.0 m <sup>2</sup> /L)
Masonry (Clay):	200 ft. <sup>2</sup> /gal (4.9 m <sup>2</sup> /L)

#### As a Putty/Tack Coat:

Filler: 60 ft.<sup>2</sup>/gal (1.5 m<sup>2</sup>/L)  
(Depending on surface roughness)

#### As Saturant:

CSS V-Wrap C100H / C100HM	80 ft. <sup>2</sup> /gal (1.9 m <sup>2</sup> /L)
CSS V-Wrap C200H / C200HM	60 ft. <sup>2</sup> /gal (1.5 m <sup>2</sup> /L)
CSS V-Wrap C400H / C400HM	40 ft. <sup>2</sup> /gal (1 m <sup>2</sup> /L)
CSS V-Wrap C220B	60 ft. <sup>2</sup> /gal (1.5 m <sup>2</sup> /L)
CSS V-Wrap EG50 / EG50B	60 ft. <sup>2</sup> /gal (1.5 m <sup>2</sup> /L)

Coverage rates may vary based on installation procedure and fabric type. Contact STRUCTURAL TECHNOLOGIES at (410) 859-6502 for coverage rates.

### Limitations

Only apply CSS V-Wrap 770 when the ambient temperature is between 40°F and 100°F (4°C to 38°C). Topcoat selection should be based upon requirements for protection from environmental exposures, aesthetics and fire protection/burn characteristics.

### Storage

Store in a cool, dry area (40°F and 100°F [4°C to 38°C]) away from direct sunlight, flame or other hazards.

## CAUTION

**Component "A":** Causes skin and serious eye irritation. May cause an allergic skin reaction.

**Component "B": CORROSIVE!** Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction.

**Protective Measures:** The use of safety glasses and chemically-resistant gloves is recommended. Use appropriate clothing to minimize skin contact. The use of NIOSH-approved respirator is required to protect respiratory tract when ventilation is not adequate to limit exposure below the PEL. Refer to Safety Data Sheets (SDS) available at [strongtie.com/sds](http://strongtie.com/sds) for detailed information.

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

## FIRST AID

**Eye Contact:** Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. If redness, burning, blurred vision, or swelling persists, seek medical advice.

**Skin Contact:** In case of contact, remove product and immediately wash affected area with plenty of soap and water for at least 5 minutes. Do not apply greases or ointments. Remove contaminated clothing. Clean contaminated clothing with soap and water before re-use. If redness, burning or swelling persists, seek medical advice.

**Ingestion:** DO NOT INDUCE VOMITING. Never administer anything by mouth to an unconscious person. Rinse out mouth with water, then drink sips of water to remove taste from mouth. Seek medical advice. Do not leave victim unattended. If vomiting occurs spontaneously, lay victim on side and keep head lower than waist to prevent aspiration.

**Inhalation:** If respiratory irritation or distress occurs, remove victim to fresh air. If breathing is difficult, give oxygen. If breathing stops, apply artificial respiration. Seek medical advice.

## CLEAN-UP

**Environmental Precautions:** Construct a dike to prevent spreading. Keep out of sewers, storm drains, surface waters and soils.

**Equipment:** Use methyl ethyl ketone or acetone. Observe fire and health precautions when using solvents. Dispose of in accordance with local regulations.

**Small Spills:** Soak up with an absorbent material, such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal.

**Large Spills:** Approach suspected leaks with caution. Construct a dike or trench to contain material. Soak up with an absorbent material, such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal.

**Disposal:** Dispose of container and unused portions in accordance with local, state and federal regulations. Emptied container may contain product residue and should not be reused.

## LIMITED WARRANTY

This product is covered by the Simpson Strong-Tie RPS Product Limited Warranty, which is available at [strongtie.com/limited-warranties](http://strongtie.com/limited-warranties) or by calling Simpson Strong-Tie at (800) 999-5099.

## IMPORTANT INFORMATION

It is the responsibility of each purchaser and user of each Product to determine the suitability of the Product for its intended use. Prior to using any Product, consult a qualified design professional for advice regarding the suitability and use of the Product, including whether the capacity of any structural building element may be impacted by a repair. As jobsite conditions vary greatly, a small-scale test patch is required to verify product suitability prior to full-scale application. The installer must read, understand, and follow all written instructions and warnings contained on the product label(s), Product Data Sheet(s), Safety Data Sheet(s) and the [strongtie.com](http://strongtie.com) website prior to use. For industrial use only by qualified applicators. **KEEP OUT OF REACH OF CHILDREN!**

 **WARNING!** Cancer and reproductive harm — [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).