

BhorBond® CSA

An Epoxy Saturant

BhorBond® CSA is a specialty system for structural purpose. The Resin is a Bisphenol-A based epoxy resin and the Hardener is a moderate viscosity, modified amine hardener. BhorBond® CSA system is recommended for room temperature curing. This system is recommended for wrapping and bonding of unidirectional fabrics to concrete structural elements for strengthening and retrofitting applications.

Special Features

The following advantages make it ideal for structural strengthening use.

- Simple and tolerant mixing ratio.
- Solvent less System.
- Moderate viscosity resin/hardener mix, ensures proper flow.
- Excellent water resistance.
- Excellent covering of substrate surface.

Technical Specifications: Resin

Characteristic	Test Method	Unit	Specification
Appearance	Visual	-	Grey Colour, viscous liquid
Viscosity at 25°C	ASTM D2196	mPas	15000 – 23000
Density at 25°C	ASTM-D 4052	g/cc	1.1 - 1.3
Storage life at 25°C		Years	1

Technical Specifications: Hardener

Characteristic	Test Method	Unit	Specification
Appearance	Visual	-	Amber colour, moderate viscosity liquid
Viscosity at 25°C	ASTM D2196	mPas	500 – 1200
Density at 25°C	ASTM-D 4052	g/cc	0.92-1.0

Storage life at 25°C		Years	1
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CAST EPOXY PROPERTIES		
Description	Test Method	Value
Tensile Strength	ASTMD 638 Type-1	50 MPa minimum
Tensile Modulus	ASTMD 638 Type-1	2.9 GPa minimum
Ultimate Elongation	ASTMD 638 Type-1	2.5 – 3.5 %
Flexural Strength	ASTMD 790	90 MPa minimum
Flexural Modulus	ASTMD 790	2.5 GPa minimum

Properties of the System

Mix Ratio	BhorBond CSA Resin: BhorBond CSA Hardener 100 : 35 (w/w)
Pot Life 25-28°C	30 – 40 minutes
Gel time at 25-28°C	55 minutes
Tack free time at 25-28°C	1 – 2 hours
Full Cure Time	24 Hrs
Adhesive strength to concrete (ASTM D4541)	1.8 - 2.2 MPa (BhorBond CPR and BhorBondCSA)

Epoxy system neither contains nor emits any volatile organic compounds (VOC). It possesses 0% VOC

Packaging

Pack sizes available : 5 Kg, 20 Kg

Surface Preparation

The surfaces should be made free from dust, loose particles, moisture and oil residues. Any protrusions should be removed and should be made flat and smooth. It is preferable that surface level difference should not be greater than 1 mm. **For major variation in surface, concrete substrate must be repaired using compatible range of repair mortar. The surface**

Epoxy Resin Systems

shall be free from moisture Prime the surface with 'BhorBond CPR' before applying BhorBond CSA

Batch preparation

The batches should be prepared in clean containers, Avoid any type of contamination. Prepare batches in small quantities. Add the resin and hardener in prescribed ratio and mix thoroughly for 5-7 minutes. Allow to stand the mix for 5-10 minutes before application. Use the batch within 30-35 minutes

APPLICATION

Apply one coat of BhorBond CPR system by roller or brush and wait until dry to apply the second coat. If necessary, apply a coat of BhorBond CPT using a putty knife, to fill any blow holes or imperfections to the concrete or timber surfaces. Apply BhorBond CSA by brush or Applicator roller on surface. Ensure the entire surface to be treated is wet by Saturant. Apply one more coat if necessary. Apply BhorBond CSA on Hinfab to saturate it; remove out excess resin by pressing roller on to it. Apply saturated Hinfab on surface. In case of application of more than one layer, ensure the dryness of previous layer and the process is carried out in one layer per day.

Storage, Handling and Disposal

Storage Store in a cool, dry place

Shelf life As given in the product specifications

Handling Use hand gloves and protective glasses

Disposal Dispose by incineration or as per local regulations

Safety Information

Flash point	>150°C
Precautions	In case of skin contact, wash with soap and water. In case of eye irritation, bathe the affected eye with running water for at least 15 minutes, and get immediate medical attention
Special Care	The reaction is exothermic and mixture will be heated up, hence should be applied quickly after mixing (please prepare small batches of mixes)

All the data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and Hindoostan Mills Limited has no assurance of how its customers will use the material, the corporation cannot guarantee these properties