

PRODUCT DESCRIPTION

Stonchem CIP is a dense, liquid-rich, self-priming, textured, four-component, notch-trowel-applied, polyurethane mortar system sealed with a highly chemically resistant vinyl ester coating. Stonchem CIP consists of a unique blend of urethane-urea binder, pigments and graded quartz aggregates and is available as a smooth finish or textured anti slip system. Stonchem CIP has been specifically designed to meet the demanding requirements of modern Clean In Place operations found in the pharmaceutical, cosmetics, dairy, beverage, and food processing industries, as well as any other applications requiring these properties. Stonchem CIP may be applied over green concrete providing it is sufficiently hardened to receive mechanical preparation, typically after 5 days. Stonchem CIP is designed for fast application and can be installed as quickly as a single day utilizing additional Stonhard Urethane Accelerator if required.

SYSTEM OPTIONS

Texture

To ensure maximum impact, abrasion and slip resistance, Stonchem CIP utilizes high durability quartz aggregates.

Waterproofing

Where the total system must be waterproofed, the use of Stonhard's Stonproof ME7 membrane system with Texture #3 broadcast to refusal is required with a strict adherence to application instructions.

Crack Treatment

When crack treatment is needed due to cracks in the substrate, the use of Stonhard's Stonproof CT5 or RH7 with Texture #3 broadcast to refusal is required with a strict adherence to application instructions.

PACKAGING

Stonchem CIP is packaged in units for easy handling. Each unit consists of:

Mortar

- 2 cartons, each containing:
 - 4 foil bags of Isocyanate
 - 4 poly bags of Polyol
 - 8 individual bags of Part C-1 aggregate

Pigment

- 0.67 cartons containing:
 - 12 bags of Part C-2 pigment packs powder

Broadcast

- 4 individual bags of Stonhard Texture 8 broadcast medium

CIP Vinyl Ester Topcoat Smooth & (Textured)

- 2 ((1) for textured system) cartons of Stonchem 800 Series Topcoat

A carton contains:

- 2 jars of Peroxide
- 2 cans of Resin

COVERAGE

Each unit of Stonchem CIP will cover approximately 175 sq. ft/ 14 sq. m at a nominal thickness of 1/4 in./6 mm.

STORAGE CONDITIONS

Store all components of Stonchem CIP between 60 to 85°F/16 to 30°C in a dry area. Avoid excessive heat and do not freeze. The shelf life of the liquids is one year while the C-1 has a 6-month shelf life in the original, unopened container.

COLOUR

Stonchem CIP is available in Stonchem Gray and Red. Contact your local Stonhard Representative or Technical Service with any questions.

PHYSICAL CHARACTERISTICS

Compressive Strength	7,700 psi
(ASTM C-579)	after 7 days
Tensile Strength	2,400 psi
(ASTM C-307)	
Flexural Strength	6,100 psi
(ASTM C-580)	
Flexural Modulus of Elasticity.....	1.1 x 10 ⁶ psi
(ASTM C-580)	
Hardness	85 to 90
(ASTM D-2240, Shore D)	
Impact Resistance	>160 in./lbs.
(ASTM D-2794)	
Abrasion Resistance.....	0.10 gm *
(ASTM D-4060, CS-17 10,000 cycles)	
Flammability	Class 1
(ASTM E-648)	
Thermal Coefficient	
of Linear Expansion	1.1 x 10 ⁻⁵ in./in. °F
(ASTM C-531)	
Water Absorption.....	< 1%
(ASTM C-413)	
VOC Content.....	CIP Mortar - 7 g/l
(ASTM D-2369, Method E).....	CIP Topcoat - 30 g/l
Cure Rate	6 hours for tack free surface
(@ 77°F/25°C)	24 hours for normal operations

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual floor system, including binder and filler, were used as test specimens. All sample preparation and testing is conducted in a laboratory environment. Values obtained on field-applied materials may vary and certain test methods can only be conducted on lab-made test coupons.

Stonchem CIP is designed to resist chemicals typically associated with the Clean in Place process found in the pharmaceutical, cosmetics, dairy, beverage, and food processing industries, including caustic & acidic washes, sanitizers, and sterilizers.

For specific information on your cleaning chemicals, please contact your local Stonhard Representative or Stonhard's Technical Service.

SUBSTRATE

Stonchem CIP, with the appropriate primer, is suitable for application over concrete, wood, brick, quarry tile, metal or Stonset TG6 compatible bulk filling grout. For questions regarding other possible substrates, contact your local Stonhard Representative or Technical Service.

Note: Stonchem CIP is suitable for application over new/green concrete. The concrete must be in place for a minimum of 5 days, be dry and have sufficient strength to handle mechanical preparation.

SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared utilizing mechanical methods. Questions regarding substrate preparation should be directed to your local Stonhard representative or Technical Service.

PRIMING

For applications direct to most concrete surfaces, Stonchem CIP is a self-priming mortar. No additional primer is necessary.

MIXING

- Proper mixing is critical for the product to exhibit the proper application properties, cure properties and ultimate physical properties.
- Mechanical mixing using a JB Blender (or equivalent 5 gal. pail mixer) or a larger mortar mixer (e.g., a Baugh 3 Batch Mixer) is required.
- See Stonchem CIP Directions for further details.

APPLYING

- Material must be used immediately after mixing.
- A Screed Applicator is used to distribute the mixed Stonchem CIP onto the floor.
- Notched finishing trowels and spiked rollers are used to smooth the surface of the material to the required thickness.
- Stonhard Texture 8 aggregate is then broadcast into the wet mortar and troweled into the surface.
- After mortar cures, remove any excess broadcast aggregate.
- Stonchem CIP Vinyl Ester Topcoat is mixed and applied at 12-15 mils to achieve a sealed textured surface and at 25-30 mils for a smooth surface.
- Joints in the substrate should be reinforced prior to the application of Stonchem CIP with Stonproof CT5 to prevent any weak points or pathways through the protective overlay.
- Detailed instructions on application and installation can be found in the Stonchem CIP Directions.

PRECAUTIONS

- Use these materials only in strict accordance with the manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body-covering apparel, safety goggles or safety glasses and impermeable gloves are required.
- In case of contact, flush area with water for 15 minutes and seek medical attention. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. DO NOT INDUCE VOMITING.

NOTES

- Use only with adequate ventilation.
- Procedures for maintenance of the flooring system during operations are described in the Floor Cleaning Procedures Brochure.
- Specific information regarding chemical resistance is available in the Stonchem Chemical Resistance Guide. Please ensure that you consult the Product Data Sheet for the Stonchem CIP Vinyl Ester (800 Series) for specific details regarding chemical resistance of the coating.
- Stonchem CIP Part C-1 contains Portland Cement and silica fines. A NIOSH-approved dust/mist respirator is required during mixing. Use only with adequate ventilation.
- Use only with adequate ventilation. Inhalation of vapours may cause severe headaches, nausea and possibly unconsciousness.
- Safety Data Sheets for Stonchem CIP are available online at www.stonhard.com under Products or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related to Stonhard products.
- Requests for literature can be made through local sales representatives and offices, or corporate offices located worldwide.
- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high-gloss coatings are subject to a reduction in gloss, while matte-finish coatings can increase in gloss level under normal operating conditions.
- Surface texture of resinous flooring surfaces can change over time as a result of wear and surface contaminants. Surfaces should be cleaned regularly and deep cleaned periodically to ensure no contaminant buildup occurs. Surfaces should be periodically inspected to ensure they are performing as expected and may require traction-enhancing maintenance to ensure they continue to meet expectations for the particular area and conditions of use.

IMPORTANT:

Stonhard believes the information contained here to be true and accurate as of the date of publication. Stonhard makes no warranty, expressed or implied, based on this literature and assumes no responsibility for consequential or incidental damages in the use of the systems described, including any warranty of merchantability or fitness. Information contained here is for evaluation only. We further reserve the right to modify and change products or literature at any time and without prior notice.

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