



*Concrete Services International, LLC*

## **CSI CONCRETE REPAIR**

### **Single Part Concrete Slab Repair Material**

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#### **PRODUCT DESCRIPTION**

CSI Concrete Repair is a low odor, one-part, gun grade, moisture curing, polyether-based adhesive/sealant. Developed specifically for sealing dynamically moving joints between materials of dissimilar porosity, coefficients of expansion and surface textures, it cures to a medium-modulus rubber with extraordinary adhesion capable of accommodating joint movement of  $\pm 25\%$  of the original joint width. In contrast to urethane sealants, CSI Concrete Repair will not foam or bubble when exposed to moist substrates or high humidity conditions during cure.

**Color:** Limestone.

**Packaging:** Packed in 10.3 fl. oz. (305 ml) cartridges, 12 cartridges per carton.

**Coverage:** One Tube Covers Approximately 25 feet in a 1/4" joint. Individual results will vary.

#### **BASIC USES**

CSI Concrete Repair can be used for exterior and interior perimeter caulking of frame openings; expansion control and isolation joints; coping and coping to facade joints; non-load bearing wall restoration projects; steps and risers; glazing; concrete and concrete block; brick, stone and masonry; sidewalks, driveways, aprons, curbs; foundations; crawl spaces, basements; patios and pool decks.

CSI Concrete Repair has been tested and found to have excellent adhesion to unprimed aluminum, acrylic-coated aluminum, brass, steel, stainless steel, tin, concrete, mortar, granite, slate, glass, ceramic tile, fiberglass, ABS, PVC, Nylon 66, polyester, lauan wood and plywood.

#### **BENEFITS**

- Superior UV resistance; does not yellow, crack, craze or chalk.
- Very low odor for interior or exterior use.
- No isocyanates; <1% VOC.
- Nil shrinkage.
- Minimal dirt pick-up.
- Non-gassing; will not bubble or revert.
- Non-corrosive.
- Paintable after cure.
- Exceptional adhesion to wet or dry surfaces.
- Good underwater adhesion to non-porous surfaces.
- Gunnable at cold temperatures.
- Long Life; CSI Warrants This Material For 5 Years From Date of Installation. Refer to Limited Warranty section for additional details.



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**APPLICATION LIMITATIONS**

- Should not be used for structural or butt glazing, nor in expansion joints less than 1/4" in width or depth.
- Not recommended for use in water immersion applications on porous substrates.
- Not for use on absorptive surfaces such as marble, limestone or granite without prior testing for discoloration or staining. Testing has shown that CSI Concrete Repair is less likely to cause staining than silicones or urethanes.
- Recommended paint is acrylic latex. Some solvent-based alkyd and acrylics may not adhere or cure properly. Any paint to be used should be tested on the sealant before using. Sealant must be fully cured before painting.
- Not for use in any application to be immersed in organic solvents.
- For applications on glass where the sealant is exposed to strong UV, a primer is required.

**APPLICABLE STANDARDS**

CSI Concrete Repair meets or exceeds the requirements of Federal Specification TT-S-00230C, Type II, Class A; ASTM C920, Type S, Grade NS, Class 25, Use NT, G, M, A and O.

**PERFORMANCE DATA**

<b>PROPERTIES</b>	<b>RESULTS</b>	<b>TEST METHOD</b>
<b><u>Uncured Properties</u></b>		
Skin-over time	<1.5 hours	ASTM C679
Cure time, 1/8" bead	<24 hours	
Sag	<0.05 inches	ASTM C2202
VOC content	0.4 lbs/gal	
Specific gravity	1.45	
Pounds/gallon	12.5	
Viscosity, #7 @ 10 rpm	12,000 cps	
Extrusion rate @ 30 psi, 1/8" orifice	200 gm/min	TT-S-000230C
<b><u>Cured Properties - 14 days at 70°F (21°C) &amp; 50% RH</u></b>		
Hardness, Shore A	30	ASTM D412
Tensile at break	250 psi	ASTM D412
Tensile @ 100% elongation	90 psi	ASTM D412
Elongation at break	400%	ASTM D412
Service temperature	40 to 195°F (-40 to 90°C)	
Peel to unprimed concrete, aluminum & glass	40 pli, 100% coh.	ASTM C794



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**Cured Construction Properties**

Durability (bond & cohesion)

joint movement on glass,

aluminum & concrete

±25%

ASTM C920

Sunshine weatherometer, 2000 hrs.

No appearance change

*\* Typical properties are for information only, not for purposes of specification.*

**INSTALLATION**

**Joint design:** The width of the joint should be a minimum of 4 times the calculated joint movement. The width or depth of the joint should not be less than 1/4". In joints up to 1/2" wide, the depth of the sealant should be equal to the width. In joints wider than 1/2", the depth should be maintained at 1/2". Lap shear joints should have a width of at least twice the anticipated movement.

**Surface preparation:** Joints to receive sealant must be sound, smooth, uniform in dimensions and free from defects and foreign materials. They must also be clean, dry, free of frost and all contaminants, such as curing compounds, coatings, sealers (waterproofing), etc. To test adhesion, apply a sealant bead and allow to cure thoroughly. Then pull one end of the bead to test adhesive strength. Protecting the top edges of the joint with masking tape will help make a nicer looking job.

**Priming:** CSI Concrete Repair has excellent adhesion to most common firm, uncontaminated materials. In some applications it may be prudent to use a primer, for example, concrete that is friable, frequently wet, or sandy. For porous surfaces, such as concrete, CSI-591 Primer is recommended. Because of variations in substrate condition and composition, any sealant/primer combination should be tested before use.

**Backup material:** The purpose of backup material is to regulate the depth of the joint; to provide a surface against which the sealant is compressed when tooled, thus promoting better adhesion to the side walls; and to provide a non-adhering back surface, precluding the possibility of a three-sided joint. Where backup material is not necessary or where a type is used that does not have release properties, a bond breaker tape should be used. Closed-cell polyethylene foam backup material is recommended. It should not be twisted, punctured or excessively stretched during installation, nor should it be compressed more than 50% of its original diameter. Open cell backer rod is compatible with CSI Concrete Repair as long as it remains dry.

**Cleaning:** Immediately remove all excess sealant and smears adjacent to joints with xylol or mineral spirits. For equipment cleanup, use solvent equivalent to xylol or mineral spirits. Consult manufacturer's MSDS for handling and safety precautions.

**Shelf life:** One year from date of shipment when stored in original, unopened container in a dry area at temperatures below 80 °F (27 °C).



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### **HEALTH PRECAUTIONS**

- USE ONLY WITH ADEQUATE VENTILATION.
- **KEEP AWAY FROM OPEN FLAME AND HEAT.**
- DO NOT TAKE INTERNALLY. CALL A PHYSICIAN IF SWALLOWED.
- AVOID EYE AND SKIN CONTACT.
- KEEP OUT OF REACH OF CHILDREN AND PETS.
- REFER TO THE MATERIAL SAFETY DATA SHEET; FOR ADDITIONAL HEALTH AND SAFETY INFORMATION.

### **MAINTENANCE**

If the sealant is damaged and the bond is intact, cut out the damaged area and re-caulk. No primer is required. If the bond has been affected, remove the old sealant, clean and prepare the joint in accordance with the instructions under "Surface Preparation" and re-caulk.

### **JOBSITE TESTING OF SUBSTRATES**

A field test can be performed by applying several feet of the sealant to a representative joint and letting it reach full cure.

### **TEST PROCEDURE**

- MAKE A CUT IN THE CURED SEALANT ACROSS THE JOINT THE ENTIRE DEPTH OF THE SEALANT.
- MAKE TWO VERTICAL CUTS SEVERAL INCHES LONG, PARALLELING THE SIDES OF THE JOINT AS CLOSELY AS POSSIBLE AND EXTENDING DOWN FROM THE CROSS CUT.
- GRASP THE FREE LENGTH OF SEALANT AND PULL AT A 90° ANGLE TO DETERMINE IF A GOOD BOND HAS DEVELOPED.

With good adhesion, the sealant will usually tear cohesively or be difficult to remove from the surface.