

## CCS™ BONDER PASTE, LOW MODULUS

### Toughened Epoxy Paste Adhesive For Spall Repair and Bonding

CCS Bonder Paste, Low Modulus is a two - component, low modulus, toughened epoxy paste adhesive designed for application on horizontal, vertical and overhead surfaces. The low modulus and stress relaxation properties of the product allow its use in applications requiring resistance to freeze/thaw and thermal cycling and large changes in ambient temperature. Unlike other rigid epoxies, the product will withstand high levels of thermal and mechanical shock. Primary uses include the filling of spalls, cracks, gaps and voids in and bonding of flexible materials including plastics and other elastomers to concrete, masonry, stone and steel. The product is ideally suited for bonding preformed polymer materials, e.g., polyurethane and rubber mats, neoprene pads and PVC sheets to rigid construction materials. It is non-sag up to 1/4 inch in thickness on vertical and overhead surfaces. The product bonds to dry, damp and wet substrates. **Meets ASTM C881, Type III, Grade 3.**

#### Features

- Convenient 2:1, by vol. mix ratio
- Low modulus properties for freeze/thaw resistance
- Bonds to dry, damp and wet
- Non sag at applied thickness of 1/4 inch
- High thermal and mechanical shock resistance
- Recommended for bonding flexible materials to rigid
- Environmentally safe - No VOC solvents

**Limitations:** The recommended minimum substrate temperature during installation and cure is 40 °F. Not recommended for use as a rigid materials bonding agent in applications subjected to substantial and sustained shear stresses that may cause creep. Do not add solvents or otherwise thin this material.

**Packaging & Color:** Standard package sizes of Part A + Part B are 3 and 15 gallons. Color is Opaque amber (unpigmented)

**Shelf Life:** Three years minimum in unopened, original containers when stored between 60 and 90 °F in a dry place away from sunlight. Remixing of components may be required upon prolonged storage.

**Chemical Resistance:** CCS Bonder Paste, Low Modulus has excellent resistance to a wide range of commonly encountered chemicals and bases, aircraft and automotive fluids, cutting oils, etc. Performance is a function of the specific chemical and concentration, exposure times and housekeeping procedures. For information on specific chemicals and exposure conditions, contact a ChemCo Systems, Inc., technical representative.

**Surface Preparation:** Concrete surfaces may be dry or damp (not wet) but must be sound and free of all bond-inhibiting substances. Prepare surfaces in accordance with *ASTM D 4259* or *ACI 503R* and ChemCo Systems' specific recommendations. Cleaned concrete surfaces should have a minimum strength of 250 psi in direct tension; Steel surfaces should be cleaned to white metal according to SSPC SP 5. Successful bonding of flexible to rigid materials, particularly preformed polymer materials may require special surface preparation procedures to remove mold release agents and surface skins. Contact ChemCo Systems, Inc., for recommended procedures for bonding dissimilar materials.

**Mixing:** CCS Bonder Paste, Low Modulus is a two-component system. The resin to hardener (Part A:Part B) mix ratio is 2:1, by volume. Read material safety data (MSDS) information before handling the product. Wear safety glasses and rubber gloves when handling the materials. Premix the individual components before drawing from bulk packaging. Transfer the appropriate quantities of Part A and Part B into a mixing container. Use quantities that can be applied before the pot life of the material expires. Blend thoroughly using a Jiffy mixer blade attached to a low speed (350 - 750 rpm) electric or pneumatic drill. Proper mixing will take 2 - 3 minutes. Do not add solvents or otherwise thin this material.

**Installing:** For spall repair, fairing and leveling applications, apply mixed material on the prepared substrate using a margin or finishing trowel. Fill cracks, gaps and voids by pumping or caulking the material into place. When bonding two solid surfaces, apply mixed material with a trowel and spread to the specified bond line thickness on both surfaces to be mated. Establish contact between the surfaces using positive contact pressure. Maintain contact pressure until the adhesive has set. Remove excess material (squeeze-out) before the material sets.

TYPICAL PROPERTIES <sup>(1)</sup>

Property <sup>(2)</sup>	Test Method	Value
Mix Ratio, A:B,	by vol	2:1
	by wt	100:43
Color:	Part A	VISUAL
	Part B	Opaque amber
	Mixed	Opaque amber
Weight per Gallon, lb:	Part A	ASTM D 1475
	Part B	9.4
	Mixed	8.2
		9.1
Viscosity, p:	Part A	ASTM D 2393
	Part B	220
	Mixed	80
		100
Non-Sag Thickness, inches	ASTM D 2730	1/4
Gel Time, 200 g, minutes	ASTM D 2471	30
Bond Strength to ASTM C 109 Cement Mortar, psi:	ASTM D 4541	
	dry substrate	Cement mortar failure (3)
	damp substrate	Cement mortar failure (3)

(1) The properties listed are typical and descriptive of the product and should not be used for specification purposes. For specification preparation, reference the ChemCo Systems, Inc., product guideline specification.

(2) Cure schedule, 7 days at 73° ± 4 F and test temperature, 73° ± 4 F unless otherwise indicated.

(3) Compressive strength of cement mortar, 4500 psi.

**Clean up:** Excess mixed product is best removed from the work area and tools before it hardens. Use of rags and solvents, such as acetone or heavy-duty detergents facilitate cleaning. Cured product may be removed from tools by soaking in an epoxy stripper.

**Handling and Toxicity:** This bulletin does not accompany the product when sold. For hazard warnings, safe handling and first aid instructions, READ CAREFULLY THE MATERIAL SAFETY DATA SHEETS AND CONTAINER WARNING LABELS.

**Part A:** Liquid epoxy resin, HMIS Health Hazard Rating - 2 (Moderate Hazard). Warning! Causes eye and skin irritation. May cause allergic skin reaction. Harmful if swallowed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid prolonged or repeated contact with skin.

**Part B:** Liquid epoxy hardener, HMIS Health Hazard Rating - 3 (Serious Hazard). Contains alkaline amines. Danger! Causes severe eye and skin burns. May cause allergic skin and respiratory reaction. Combustible, corrosive. Do not get in eyes or skin or on clothing. Avoid breathing vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from heat and open flame.

**DISCLAIMER:** NO EXPRESS WARRANTY IS MADE WITH RESPECT TO THE RESULTS OF ANY USE OF THIS PRODUCT. NO IMPLIED WARRANTIES, INCLUDING AND NOT LIMITED TO AN IMPLIED WARRANTY OF MERCHANTABILITY OR AN IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ARE MADE WITH RESPECT TO THIS PRODUCT. NO LIABILITIES FOR PERSONAL INJURY, LOSS OR DAMAGE RESULTING FROM THE USE OF THIS PRODUCT IS ASSUMED. CHEMCO SYSTEMS, INC., RESERVES THE RIGHT TO ALTER OR DISCONTINUE THE PRODUCT DESCRIBED HEREIN AT ANY TIME AND WITHOUT PRIOR NOTICE.

CCS™ is a trade name of ChemCo Systems, Inc.