

CCS™ GROUT, SLUMP PUMPING

EPOXY ADHESIVE FOR PRESSURE INJECTION GROUTING

CCS Grout, Slump Pumping is a two - component, liquid, epoxy adhesive designed for application with automatic meter, mix and dispense pressure injection equipment. CCS Grout, Slump Pumping is an economical adhesive with physical properties sufficient for most general repairs. The relatively short working life and comparatively high viscosity make this adhesive ideally suited for use in on-grade (slab) and vertical applications requiring "slump pumping" pressure injection grouting procedures. In most instances, "slump pumped" cracks can be re-injected after 40 - 50 minutes of cure time. Primary uses include the repair of cracks and delaminations up to ¼" width in concrete, masonry, stone and sealed wood and greater than ¼" width "slump pumped" repairs of on-grade and vertical substrates where sealing of the opposite side (for containment of the adhesive) is not possible.

Features

- Convenient 2:1, by vol. mix ratio
- Short potlife reduces "waiting" time for re-injection
- High viscosity for use in cracks greater than 1/4" width
- Bonds to dry and damp substrates
- Does not embrittle; stays tough and resilient
- Contrasting A and B component colors
- Environmentally safe - No VOC solvents

Limitations: The recommended minimum substrate temperature during installation and for cure is 40 deg. F. The maximum in-service temperature should not exceed 20 deg. F below the HDT in bonding applications subjected to substantial and sustained shear stresses that may cause creep. CCS Grout, Slump Pumping is generally not recommended for pressure injection repair of fine cracks and delaminations where a lower viscosity grout is better suited. Low substrate temperatures will result in a viscosity increase, which may hinder effective penetration. Consider using CCS Grout Low Viscosity. Do not add solvents or otherwise thin this material.

Packaging & Colors: Standard package sizes of Part A + Part B are 3 and 15 gallons. Standard color is Dark purple. Clear amber by special order.

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

Chemical Resistance: CCS Grout, Slump Pumping has excellent resistance to a wide range of commonly encountered chemicals including acids and bases, aircraft and automotive fluids, petroleum fuels, cutting oils, etc. It has limited resistance to hydrocarbon solvents. 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: Substrate surfaces may be dry or damp, sound and free of all bond-inhibiting substances. Prepare cracks by blowing clean with oil-free compressed air or by flushing clean with an appropriate cleansing solution as required to remove foreign substances and contaminants. Prepare exposed surfaces for bonding in accordance with *ASTM D 4259* or *ACI 503R* and ChemCo Systems, Inc.'s 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.

Mixing: CCS Grout, Slump Pumping is a two-component system designed specifically for use with automatic meter, mix and dispense application equipment. The resin to hardener (Part A: Part B) mix ratio is 2:1, by volume. Job specifications should include provisions for routine periodic testing of the grouting equipment to determine that it is metering the components accurately and delivering thoroughly mixed material. Read all material safety data (MSDS) information before handling the product. Wear safety glasses and clean neoprene rubber gloves when handling the materials. Premix the individual components before drawing from bulk packaging.

Installing: Install material in accordance with established industry procedures and guidelines. Use only trained workmen with experience in pressure injection repair. For additional information on repair by pressure injection grouting, see *ACI 503R, Chapter 7, "Applying Epoxy Compounds."* Allow for adequate cure of the epoxy adhesive before the structure is returned to service.

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.

TYPICAL PROPERTIES ⁽¹⁾

Property ⁽²⁾		Test Method	Value
Mix Ratio, A:B,	by vol by wt		2:1 100:45
Color:	Part A Part B Mixed	VISUAL	Clear amber Dark purple Dark purple
Weight per Gallon, lb:	Part A Part B Mixed	ASTM D 1475	9.5 8.4 9.1
Viscosity, cp:	Part A Part B Mixed	ASTM D 2393	725 150 525
Viscosity @ 40° F, cp:	Part A Part B Mixed	ASTM D 2393	5200 575 2000
Gel Time, 100 g, minutes:	@ 40° F @ 73° F	ASTM D 2471	30 8
Tensile Strength, psi		ASTM D 638	6200
Elongation at Break, %		ASTM D 638	2
Compressive Yield Strength, psi		ASTM D 695	15,500
Compressive Modulus, psi		ASTM D 695	480,000
Flexural Strength, psi		ASTM D 790	10,800
Flexural Modulus, psi		ASTM D 790	425,000
Heat Deflection Temperature, deg. F		ASTM D 648	108
Wet Slant Shear Strength, psi (Cure schedule, 7 days @ 40° F)		AASHTO T-237	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.

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 - 2 (Moderate Hazard). Contains alkaline amines. Warning! Causes eye and skin irritation. 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.

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