CCS™ CONTROL JOINT HB

GROUTS - CONTROL JOINT FILLER AND EMBEDDED WIRE AND CAN LIGHT SEALER

TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

DESCRIPTION

CCS™ Control Joint HB and Embedded Wire and Light Can Sealant is a 1:1 ratio, two- component, fast curing, semi-rigid, epoxy control joint filler, wire slot filler, and traffic loop sealant with high viscosity for controlled flow. It is designed to meet FAA P-606 for the embedment in concrete and asphalt of wires and steel light cans in runways and tarmacs exterior pavements. It reinforces properly prepared exterior and interior pavement control joint and saw cut edges because of its energy absorbing properties. It has excellent resistance to impact, deicing chemical, and most aircraft, automotive, and forklift vehicles' chemicals. No SiO2 (silica sand fillers are used as a low-cost filler or to control viscosity) is used in the manufacturing of CCS™ Control Joint HB . It contains no VOC's (volatile organic compounds).

- Meets FAA P-606-1.1 Suitable for sealing electrical embedded wires in saw cuts and for sealing light fixtures in concrete and asphalt pavement.
- Meets ACI 302.1R 3.2.1 Joints in floor areas subject to the hard wheels of material handling vehicle traffic should be filled with a semirigid filler to minimize wear.

FEATURES

CCS™ Control Joint HB and Embedded Wire and Light Can Sealant unlike many other control-joint and saw cut fillers, CCS™ Control Joint HB exhibits excellent resistance to water, aqueous salt solutions, most aircraft, automotive, and forklift fluids.

- Does not embrittle when exposed to sunlight for long periods of time.
- Is inert, environmentally safe, and contains no VOC's.

TYPICAL USES

- Used for stop light and robotic induction loop grouting.
- Controlled flow makes it ideally suited for use on sloping and uneven surfaces.
- Can be used for bonding of precast and extruded concrete curbs to existing properly prepared concrete and asphalt substrates.
- Has a convenient 1:1 (by vol.) mixing ratio and is formulated for single pour, high-build applications.
- Is designed to be placed with the proprietary KEMKO® Model C Slot Pump or equal.
- Can be placed with or without closed cell backer rods.

LIMITATIONS

- The recommended minimum substrate temperature during installation and for cure is 50°F (10°C).
- When bonding plastic (fresh) concrete containing resinous admixtures, establish the suitability of the concrete mix before actual use.

TECHNICAL DATA

7 days 73°F (23°C) unless otherwise indicated. Compressive strength of cement mortar 4,500 psi (13.0 MPa).

PHYSICAL PROPERTIES		TEST METHOD	VALUE
Mix Ratio by Volume			1:1
Mix Ratio by Weight			100:86
Color	**Part A** **Part B** **Mixed**	Visual	Blue Gray or Black Clear Amber Concrete Gray or Black
Weight per Gallon	**Part A** **Part B** **Mixed**	ASTM D1475	11.4 lbs. (5.2 kg) 9.8 lbs. (4.4 kg) 10.7 lbs. (4.9 kg)
Viscosity Poise	**Part A** **Part B** **Mixed**	ASTM D2393	210 180 190
Gel Time, 1 Quart		ASTM D2471	20 Minutes
Gel Time, 1 Gallon		ASTM D2471	15 Minutes
Thin Film Cure Time, Tack Free		ASTM D1640	4 Hours
Thin Film Cure Time, Hard Dry		ASTM D1640	6 Hours
Tensile Strength		ASTM D638	1,500 psi (10.3 MPa)
Elongation at Break		ASTM D638	60 %
Hardness, Shore D		ASTM D2240	62
Dielectric Strength		ASTM D149	400 v/mil
Arc Resistance		ASTM D495	130 SEC
Coefficient of Linear Exp.		ASTM D1168	0.000036
Coefficient of Cubic Exp.		ASTM D1168	0.00011
Adhesion to Steel		FAA Item P-606	1,500 psi
Adhesion to Concrete		FAA Item P-606	440 psi

ESTIMATOR – CONTROL JOINTS AND SAW CUT SLOTS					
APPROXIMATE YIELD per GALLON (No Wastage)					
Width Per Inch	Width Per Inch	Linear Feet per Gallon	Width Per Inch	Width Per Inch	Linear Feet per Gallon
1/8	1/8	1200	1/2	1/8	300
1/8	1/4	600	1/2	1/4	150
1/8	1/2	300	1/2	1/2	75
1/8	3/4	200	1/2	3/4	50
1/8	1	150	1/2	1	37
1/4	1/8	600	1	1/8	150
1/4	1/4	300	1	1/4	75
1/4	1/2	150	1	1/2	37
1/4	3/4	100	1	3/4	25
1/4	1	75	1	1	19

PACKAGING & COLORS

Standard package sizes of Part A + Part B: 2, 10, and 100 gallon (7.6, 37.9 and 378.5 l.) kits. Cartridges available (1,500 ml).

The standard color of the mixed components is concrete blue-gray or black. Custom colors are available and may require minimum quantities and/or slightly higher cost.

CHEMICAL RESISTANCE

CCS™ Control Joint HB 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, ambient and solution temperatures, exposure times, and housekeeping procedures. For information on specific chemicals and exposure conditions, contact a ChemCo Systems Technical Representative.

SURFACE PREPARATION

Substrate surfaces must be dry or damp, sound and free of all bond- inhibiting substances. Prepare surfaces in accordance with International Concrete Repair Institute, ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair, Concrete Surface Profile, CSP 2 to CSP 4. The concrete surfaces should have a minimum strength of 250 psi (1.72 MPa) in direct tension per ASTM C1583 Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method). Steel surfaces should be cleaned to "white metal" according to SSPC-SP 5/NACE No. 1 White Metal Blast Cleaning is a standard used for white metal blast cleaning put forth by the SSPC Society for Protective Coatings and NACE (National Association of Chemical Engineers) international standard.

MIXING

CCS™ Control Joint HB is a two-component adhesive. The resin to hardener (Part A : Part B) mix ratio is 1:1, by volume. Premix the individual components before drawing from bulk packaging. Wear safety glasses and clean neoprene rubber gloves when handling the material. 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.

INSTALLING

Transfer mixed material to a pour can with a spout sized for the joint or slot to be filled. Fill the joint in a single application. For a filled surface flush with the surrounding substrate, overfill slightly the joint until a crown of material is formed. Following cure, excess material (high spots) can be removed using a hot air stream (heat gun recommended) and cutting with a sharp blade. For additional application information, see ACI 503R, Chapter 7, Applying Epoxy Compounds.

CLEAN UP

All tools and equipment must be cleaned before the mixed material cures. Cleaning can be facilitated with a solvent such as acetone or heavy-duty detergents. Cured material may be removed from equipment and tools by soaking in an epoxy stripper.

SHELF LIFE

Three years in unopened, original containers when stored between 60°F and 90°F (15.6°C and 32.2°C) in a dry place away from sunlight. Remixing of components may be required upon long-term storage. Avoid freezing temperatures.

AGGREGATE EXTENSION

One gallon of neat CCS™ Control Joint HB Paste yields 231 cubic inches, which can be extended with uniform size sand that has been washed, kiln dried, and bagged. Adding aggregate may change arc resistance number.

- Add up to two gallons of aggregate to one gallon of epoxy for a pourable aggregate extension, which yields approximately 500 cubic inches. Use 20 – 60 US Sieve Mesh, aggregate should be round or tending toward round for best flowability.
- For troweling or patching use a flooring mortar tri-blended, with the larger aggregate being angular in shape.
- Broadcast 100 US Sieve Mesh aggregate that has been washed, dried, and bagged on patches or mortar repairs, to minimize tracking of uncured material if accidentally stepped on.
- Note: ChemCo Systems can recommend pre-coated aggregate when it is required for safety reasons.

SAFETY

This bulletin does not accompany the product when sold. For hazard warnings, safe handling, and first aid instructions, CAREFULLY READ THE 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 an 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, Warning! Causes eye and skin irritation, may cause allergic skin and respiratory reaction. Corrosive, do not get in eyes or skin or on clothing. Avoid breathing vapor. Keep container closed. Use only with adequate ventilation. Keep away from heat and open flame

TECHNICAL SUPPORT

Additional information, technical assistance, and management services are also available from a ChemCo Systems Technical Representative at sales@chemcosystems.com or 650-261-3790.

The properties listed in this bulletin are typical and descriptive of the product and should not be used for specification purposes. For specification preparation, reference the specification of this product available from ChemCo Systems.

PROJECT NOTES

ChemCo Systems