



# CHEM-SEGMENTAL

## Segmental Bridge Epoxy Adhesive & Repair

### PRODUCT DESCRIPTION

CHEM-SEGMENTAL is a two component solvent-free epoxy resin based structural adhesive formulated for bonding prefabricated bridge segments.

### FIELDS OF APPLICATION

CHEM-SEGMENTAL is extensively used in the following applications:

- Bonding bridge beams or bridge bearings.
- Joining concrete-to-concrete, steel to concrete elements.
- Repairing surface defects or to honeycombing concrete in horizontal, vertical or overhead situations.
- Fastening bolts into walls.
- As a gap filling adhesive.
- Filling and sealing bolt pockets.
- Bedding Tiles.

### PRODUCT FEATURES

- Ready to use work pack ensures correct mixing.
- Can be applied on damp substrate.
- Thixotropic consistency allows application vertical, overhead, etc. packers do not sag.
- Non sag flow at thickness of 0.375 inch (10 mm) for overhead and vertical applications.
- Excellent adhesion.
- Non-slump.
- Excellent mechanical properties.
- Easy to use, trowels to a smooth finish.

### PACKAGING

Product	Packaging
CHEM-SEGMENTAL	12.52 LB (5.68 KG) UNIT

### TECHNICAL DATA

Mixed Colour: Grey

Specification:

ASTM, C881: Type 1, Grade 3, Class B & C.

Properties at 25°C

	Part A Resin	Part B Hardener
Solids	100%	100%
Color	White	Black
Density Lb/Gal (kg/Liter)	12.52 (1.5)	12.52 (1.5)
Shelf life	2 years	2 years

### Typical Mixed Values

Property	Value @ 77°F (25°C)	ASTM Method
Mix Ratio A:B By Volume	3:2	N/A
Mixed Density, Lb/Gal (kg/Liter)	12.52 (1.50)	D-1475
Viscosity	Thixotropic Paste	N/A
Gel time (60gm), minutes	60	D-2471
Hardness (shore)	70 D	D-2240
Compressive strength (1day), psi (MPa)	6092 (42)	D-695
Compressive strength (7days), psi (MPa)	8992 (62)	D-695
Slant Shear Bond Strength to concrete, psi (MPa)	2611 (18) (Concrete Failure)	C-882
Bond Strength to Steel, psi (MPa)	573 (3.95)	C-321
Water Absorption	< 0.03%	D-570
Bond strength to steel, psi (MPa)	580 (4.0)	C-321
Final Cure	7 days	-

### APPLICATION OF DATA

Limitations: Applications at ambient temperatures below 40°F (5°C) is not recommended. Exposure to temperatures exceeding 150°F (65°C) for prolonged period is not recommended.

Pre-treatment of Substrate:

Concrete Surfaces: The substrate must be clean, dry, free from grease or oil, etc. Laitance and loose particles must be removed by either sandblasting or mechanical grinding.

Steel Surfaces: All steel surfaces to be bonded with Chem-Segmental must be clean, dry, free from rust, oil, grease, etc. Shot blasting to Swedish Standard SA 2½ is preferable to achieve a white metal.

Mixing: The pack of 12.52 Lb (5.68 kg) has been designed to be manually mixed for ease of use on site.

If more than one pack are to be mixed at a time, a drill fitted with a mixing paddle (maximum 400 rpm) are recommended for mechanical mixing until achieving homogenous uniform colour mixture.

#### Application:

As a Structural Adhesive: Chem-Segmental is used for bonding concrete to concrete or steel plates to concrete, etc... Apply Chem-Segmental using a toothed spatula. Depth and width of the teeth should be chosen in a way that the resulting adhesion joint would be 1 mm to max 10 mm in width in vertical or overhead application.

Subsequently, press both the elements to be joined and hold together for at least 24 hrs.

As a Crack Sealing Compound: Use Chem-Segmental to fix the adhesive packers and seal the length of the crack using spatula or putty knife on strips minimum 50 mm wide and 2 mm thick.

The coverage of Chem-Segmental is approximately 300 Grams per linear meter. 5.68 kg work pack will cover approximately 18.90 linear meter of crack. Allow the crack sealing compound Chem-Segmental to cure for minimum 8 hours prior to injection.

Chem-Segmental consumption: Approximately 1.50 kg/m<sup>2</sup> per 1 mm layer thickness.

#### CLEANING

All tools and appliances should be thoroughly cleaned using Xylene or CHEM-CRETE BLENDED SOLVENT immediately after use. Cured material may only be removed mechanically.

#### STORAGE

Shelf life of minimum one year when stored in original, unopened containers in a cool, dry place. Protect from direct sunlight. Do not store at temperatures below +5 °C or in direct sunlight.

#### SAFETY PRECAUTIONS

After hardening thoroughly, CHEM-SEGMENTAL is physiologically harmless.

Keep the resin and hardener away from the eyes mouth and skin. Do not breath in the vapors. The uncured mixture can cause irritation of the skin. For best protection, wear rubber or plastic gloves. In case of contamination, wipe away resin or hardener immediately from the skin using paper towels and then wash with soap and water or hand cleaning detergent.

Empty resin and hardener cans must be destroyed. Under no circumstances use them to store food or drink even if they have been thoroughly cleaned.

#### TECHNICAL ASSISTANCE

Please contact International Chem-Crete Corporation for Technical Personnel.

#### WARRANTY

LIMITED WARRANTY: International Chem-Crete Inc. warrants that, at the time and place we make shipment, our materials will be of good quality and will conform to our published specifications in force on the date of acceptance of the order.

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Manufactured By:



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