



RESCON® SEGMENTAL BRIDGE EPOXY ADHESIVE

High Modulus, Epoxy Gel Epoxy Adhesive

PURPOSE

RESCON SEGMENTAL BRIDGE EPOXY ADHESIVE (RSBA) is used as a high-performance epoxy adhesive for the bonding and sealing of segmental precast bridge elements with internal tendons and the erection of span-to-span segments where temporary post-tensioning is applied.

The benefits / advantages of RSBA include:

- ◆ Moisture insensitive
- ◆ Three application temperatures available
- ◆ Very high strength
- ◆ High modulus epoxy gel adhesive
- ◆ Convenient easy-to-use 2:1 mixing ratio
- ◆ Non-sag characteristics for vertical and overhead installation
- ◆ Provides a degree of lubricity to facilitate locating and positioning of shear keys
- ◆ 100% solids; contains no significant volatiles
- ◆ VOC compliant

DESCRIPTION

RSBA is a two component, 100% solids, moisture-tolerant epoxy adhesive. It is used to bond, seal and adhere segmental precast structural bridge elements. The product conforms to ASTM C-881 as a Type VI. It is available in three application temperature ranges, conforming to ASTM C-881, Classes D, E and F.

PACKAGING

RSBA is packaged in 165 gallon (624.5 L) units, 15 gallon (56.7 L) units and 3 gallon (11.3 L) units.

STANDARDS

RSBA meets or exceeds the ASTM-C-881 specifications for Type VI, Grade 3, Classes D, E and F.

RSBA meets or exceeds Federation Internationale de la Precontrainte (FIP) standards.

SPECIFICATIONS

Color (mixed): Gray (Part A White, Part B, Black)
 Consistency: Paste/Gel
 Mix Ratio: Part A: Part B = 2:1 by volume
 Density: 1.7 kg/l when mixed. Liquid only.
 RSBA LT: 5-20°C ASTM Class D
 RSBA MT: 15-30°C ASTM Class E
 RSBA HT: 25-40°C ASTM Class F

PROPERTIES

Federation Internationale de la Precontrainte (FIP)

Pot Life: FIP 5.1, 100 grams of mixed sample

Temperature	RSBA-LT	RSBA-MT	RSBA-HT
10°C	> 90 minutes	> 120 minutes	> 150 minutes
20°C	> 60 minutes	> 90 minutes	> 120 minutes
30°C	> 30 minutes	> 60 minutes	> 90 minutes
40°C	> 15 minutes	> 30 minutes	> 60 minutes

Open Time: FIP 5.2

Temperature	RSBA-LT	RSBA-MT	RSBA-HT
10°C	> 120 minutes	> 150 minutes	> 180 minutes
20°C	> 90 minutes	> 120 minutes	> 150 minutes
30°C	> 60 minutes	> 90 minutes	> 120 minutes
40°C	> 45 minutes	> 60 minutes	> 90 minutes

Squeezability: FIP 5.4

Squeeze Load	RSBA-LT	RSBA-MT	RSBA-HT
15 kg	6,000 mm ²	5,800 mm ²	5,500 mm ²
200 kg	6,500 mm ²	6,300 mm ²	6,000 mm ²
400 kg	7,000 mm ²	6,800 mm ²	6,500 mm ²

Compressive Strength: FIP 5.12, 24-hr cure, ASTM D-695

Temperature	RSBA-LT	RSBA-MT	RSBA-HT
10°C	> 40 N/mm ²	—	—
20°C	> 65 N/mm ²	> 60 N/mm ²	> 40 N/mm ²
30°C	> 75 N/mm ²	> 70 N/mm ²	> 60 N/mm ²
40°C	> 80 N/mm ²	> 80 N/mm ²	> 70 N/mm ²

Heat Resistance: FIP 5.10, ASTM D 648, 7-day cure

Temperature	RSBA-LT	RSBA-MT	RSBA-HT
20°C	50°C	—	—
30°C	—	55°C	—
40°C	—	—	60°C

Bond Strength: ASTM C-882 (2-day moist) 1,400 psi

Modulus of Elasticity: FIP 5.13 — meets requirements
 Instantaneous Modulus: 11,000-13,000 N/mm²

Deferred Modulus: 10,000-11,000 N/mm²

Heat Deflection Temp: ASTM D-648, 60°C (140°F)

Shear Strength: FIP 5.15 — meets requirements
 Slant Cylinder Test: > 15N/mm²

Thixotropy: FIP 5.3 - no sag flow at all temperatures at a thickness of no less than 6.0 mm (min. requirement of 3 mm)

APPLICATION

Storage: Store in a dry environment at ambient temperatures of between 40-95°F (4-35°C). Always condition the material to temperatures between 70-75°F (21-24°C) prior to mixing or otherwise using the product.

Preparation: All concrete surfaces must be clean and of sound condition, free of any dust, surface laitance, curing agents, all oil and grease or other deleterious contaminants that may affect bond and adhesion. Concrete surfaces may be dry or slightly damp. Do not apply over standing water, frost or ice.

Mixing: All three temperature grades of RSBA are supplied as pre-packaged units, made up of the exact amounts (ratios) of Part A (resin) and Part B (hardener). Pre-mix both Part A & B separately using a low-speed drill motor, not exceeding 450 rpm.

Mix the two volumes of Part A and the one volume of Part B in a clean, dry pail. Mix thoroughly for 3 minutes or until a uniform gray color is achieved without streaks. Only mix the amount of material or units that can be used and placed within the material's gel time of approximately 40 minutes at 23°C. Use immediately. Higher temperatures will shorten gel and working time. Lower temperature will provide longer gel and working times.

Coverage: At a film thickness of 1/16" (1.6 mm) the yield is 26 sq ft/gal (2.4 sq m/L). Coverage rate is approximate and depends on porosity and profile of concrete.

Installation: Installation / application may be performed by use of a trowel, brush or gloved hand. Do not apply at air or surface temperatures below 45°F (7.2°C). Apply to the properly prepared concrete substrate, making certain that the concrete has been completely "wet out" and covered by the RSBA. Work the epoxy into both concrete segments to be joined and bonded together. Carefully affix both segments firmly together within the working open time of the epoxy, taking into consideration the ambient air, epoxy and surface temperatures.

Unusual applications or conditions may require the technical assistance of a Symons representative.

LIMITATIONS

Do not add any thinners, solvents or thickeners. Make certain to use the correct formulation of the RSBA for the prevailing ambient temperatures.

CLEAN-UP

Only uncured epoxies can be cleaned and removed. Hardened epoxy must be mechanically removed. Clean tools, mixing containers, etc. with an approved solvent. Always dispose of in accordance with current local, state and federal disposal requirements and regulations.

Collect uncured epoxy material with an absorbant cloth or rag. Flush the area with water. Always dispose of in accordance with current local, state and federal disposal requirements and regulations.

SHELF LIFE

Shelf life of RSBA in properly stored containers is two years from the date of manufacture.

PRECAUTIONS

Cured and hardened RSBA is not harmful. If skin contact occurs with uncured material, remove in accordance with the "CLEAN UP" section of this document (solvents should not be used for this purpose). Flush eyes immediately with clean water for a minimum of 15 minutes and contact a physician immediately. Certain people may be sensitized to epoxies. Wear protective gloves and goggles. Avoid direct contact with skin and eyes.

Additional precautions, safety information and first aid treatments are contained in the Material Safety Data Sheet.

MANUFACTURER

Symons
2400 Arthur Avenue
Elk Grove, IL 60007 USA

General +1 847-298-3200
FAX +1 847-635-9287

Technical +1 877-854-0643
FAX +1 913-279-4806

info@symons.com
www.symons.com

WARRANTY

Symons warrants, for 12 months from the date of manufacture, or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Symons, the product is free of manufacturing defects and conforms to Symons' published specifications in force on the date of acceptance by Symons of the order. Symons shall only be liable under this warranty if the material has been applied, used, and stored in accordance with Symons' instructions in this technical data sheet.

The purchaser must examine the product when received and promptly notify Symons in writing of any nonconformity before the product is used, or no later than 30 days after such nonconformity is first discovered. If Symons, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the nonconforming product, refund the purchase price or issue a credit. This is the sole and exclusive remedy for breach of this warranty.

Only a Symons' officer is authorized to modify this warranty. The sales information on the Symons website and received by the customer during the sales process does not supersede this warranty and the specifications of the product in force on the date of sale. THE FORE-GOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

LIMITATION OF LIABILITY

Symons shall not be liable, in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injuries), or economic losses of any kind; or for any special, incidental, indirect, consequential, special, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, this Agreement, even if Symons could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this agreement, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.

MANUFACTURER

Symons
2400 Arthur Avenue
Elk Grove, IL 60007 USA

General +1 847-298-3200
FAX +1 847-635-9287

© 2009