

## **ELASTIC CEMENT GRAY FOR CONCRETE REPAIR**

Elastic Cement is a low viscosity, fast-reacting urethane polymer, which is applied with our Vari-Flow dispensing equipment, specially designed for this product.

### **PRODUCT DESCRIPTION**

Elastic Cement Gray is recommended for larger highway and other projects where extensive repairs are needed. It can be used with a variety of aggregate materials, depending on the requirements of the specific application. Multiple repairs can be completed in rapid succession with minimal traffic closure time.

### **USES**

Elastic Cement is a multi-purpose material that works well for both concrete and asphalt repairs. It allows the user to solve several problems with one material. Because it is a very thin liquid it can penetrate into small cracks and forms a high strength adhesive bond between broken structures. Elastic Cement will flow underneath cracked or spalled concrete and seal the base against further erosion from water.

- pothole, spall and crack repair
- highway and parking lot repair
- bridge and slab repair

### **KEY ADVANTAGES**

- Quick Set - Less Than 10 Min
- Minimal Prep - No Primer Required
- Shorter Traffic Closures - Reduced Labor Costs
- Waterproofs Both Asphalt and Concrete
- Protection Against Oils, Gasoline Hydraulic/Brake Fluids and Water
- Longer Lasting Than Conventional Repair Materials
- Odorless and Vaporless

### **LIMITATIONS**

Concrete must be clean and dry before beginning repair. Add catalyst in temperatures below 45 (degree symbol). In temperatures over 100 (degrees) keep material cool prior to use.

### **PACKAGING**

Available in amber or gray for concrete, Elastic Cement is packaged in 21-oz. cartridges for hand application or a 10-gallon kit, 30-gallon kit, or 100-gallon kit for machine application.

### **INSTALLATION**

ELASTIC CEMENT GRAY when used in combination with aggregates forms a high performance, rapid setting polymeric cement. Within ten minutes of placement, durable, long lasting repairs are ready for traffic. Withstands vibration, heavy traffic loads and thermal movement.

#### ***Solidifies in less than two minutes.....***

The reaction is fast. Thin, equal volume, "A" and "B" side liquid polymers are metered, combined and pumped through our dual component dispensing equipment. The reactive mix is percolated over aggregates and solidifies in two minutes. It cures to a flexible polymer concrete suitable for repairing spalls and potholes, matching grades, smoothing rough pavements, and repairing rutting. Product can smooth mismatching grades of adjacent slabs. When used without preplaced aggregates Elastic Cement makes an excellent joint sealant for control joints, utility cuts or traffic loops.

#### ***Thin overlays easily formed.....***

Concrete cracked and damaged by overloading, freeze/thaw spalling, or fires can be easily re-surfaced. Decks are sealed and waterproofed. High traction surfaces are easily created.

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## PRODUCT INFORMATION

Elastic Cement Gray is a low viscosity waterproof - two component urethane consisting of equal parts of A side, a diphenylmethane di-isocyanate urethane pre-polymer, and of B side, a polyether diols triols. Elastic Cement Gray is 100% solids and contains no VOCs. Elastic Cement Gray is dispensed by a pump at a 1 to 1 ratio of parts A & B and combined with a clean DRY 3/8 inch round washed dried pea stone or washed DRIED size 1A aggregate, with lack of moisture content being key.

## STORAGE

Store in cool dry, ventilated storage area, in closed containers and out of direct sunlight in rooms with ambient temperatures maintained between 32 degree and 80 degrees F.

## SURFACE PREPARATION

- Method of Cleaning - Saw cut or hammer the perimeter of the repair site back to sound concrete, using abrasive blasting remove loose concrete, debris, dirt, and dust using a minimum 150 psi continuously dry compressed air. Wet saw cut is NOT recommended unless sufficient time for drying is allowed.
- Level of Cleanliness – Removal all loose and foreign materials by profiling surfaces in accordance with ICRI Guide 03732 to a minimum of CSP 3 by abrasive blasting.
- Moisture content of structure – Maximum moisture content is 5% measured by a moisture meter. Concrete may be dried with a propane torch as necessary to achieve this. Only place Elastic Cement Gray in temperatures between 40 degrees and 100 degrees F. and on concrete with a surface temperature at least 5 degrees F. above the dew point and avoid application over damp surfaces.
- Concrete surfaces being prepared must be fully cured 28 days and fast setting concrete surfaces being prepared must be fully cured 7 days.
- For applications over previously installed polymers, the polymer surfaces must be cleaned, abraded and vacuumed prior to placement.

## APPLICATION PROCEDURES

- Pre-application: Pre-condition both drums of Parts A and B Elastic Cement Gray to 50-70 degrees F before use. Using the stir stick provided to mix Part B for a minimum of 5 minutes prior to initial use of Part B drums.
- Using the pump dispensing machine, with the manifold and static tube removed, perform the 1 to 1 ratio test of Parts A and B by pumping about a quart into two separate recipients and verify the machine is pumping equal volumes in each before proceeding with the repair.
- Place and level out approved aggregate to within about 1/4 inch of surrounding surface and using the machine, dispense Elastic Cement Gray into the repair site completely immersing the aggregate. It is not necessary to use Elastic Cement Gray as a primer.
- For repair sites greater than 3 inches deep apply aggregate and Elastic Cement Gray in 3 inch lifts without waiting for cure of previous lift and trowel level with surrounding surface and avoid overfilling.
- For topping sand use top rock or bagged US Silica washed and dried coarse sand and add to refusal.

Note: With the addition of catalyst to the B side drum of the Elastic Cement Gray before shipping, the installation can typically be ready for traffic in about 20 minutes at 70 degrees F. with the cure faster in warmer temperatures and slower in colder temperatures.

## EFFECT OF TEMPERATURE ON SET TIME

TEMPERATURE	SET TIME	RETURN TO SERVICE
80-100 degrees F.	3 minutes	15 minutes
60-80 degrees F.	5 minutes	25 minutes
40-60 degrees F.	7 minutes	40 minutes
20-40 degrees F.	10 minutes	60 minutes

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## **CLEANING AND MAINTENANCE**

For machine, clean the three manifold ports and threads on tube ends daily after use with acetone. Flush A side pump and lines through manifold with vegetable oil when storing machine more than 3-4 weeks between uses.

For hand tools, wipe clean with dry cloth before cure.

Cured material must be removed mechanically. Do not attempt to burn off cured material.

## **DEFICIENCY AND REPAIR**

Elastic Cement Gray can be saw cut and ground similar to concrete ideally after a 24 hour period but if necessary after 1-2 hour cure depending on the ambient temperature. If excess material needs to be removed, saw cut, sand, or grind as needed.

## **MATERIAL REQUIREMENTS**

**Physical Test Requirements.** Elastomeric concrete will conform to the following physical test requirements per NYS DOT Standard Specification 701-11:

\*The physical information shown in the column on the right in the table below are the results of the New York State DOT Materials Testing Laboratory test of Elastic Cement Gray product in March 2014.

New York State DOT Contact: Guy Hildreth 518-485-5431

TESTS	PROCEDURE	MINIMUM REQUIREMENTS	Elastic Cement Gray*
Resilience	ASTM C579-01	70%	Pass
5 hr. Compressive Strength	ASTM C579-01 Mod.	3.45 MPa (500 psi)	2,700+ psi
24 hr. Compressive Strength	ASTM C579-01 Mod.	14 MPa (2000 psi)	6,400+ psi
7-Day Tensile	ASTM D638	1 MPa (150 psi)	1,100+ psi
7-Day Tear	ASTM D624	7kN/m (40 lbf/in)	150+ lbf/in
Pot Life	Gardeo GT-S gel timer	5 minutes	Pass

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## HEALTH AND SAFETY INFORMATION

**EYE CONTACT:** Immediately flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Have eyes examined and treated by medical personnel.

**INHALATION:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth.

If breathing is labored, give oxygen.

Consult medical personnel.

**SKIN CONTACT:** Wash material off the skin with plenty of soap and water. If redness, itching, or a burning sensation develops, get medical attention.

Wash contaminated clothing and decontaminate footwear before reuse.

**INGESTION:** Do not induce vomiting. Give 1 or 2 glasses of water to drink and refer person to medical personnel.

Never give anything by mouth to an unconscious person.

## RETURN POLICY

Our products are manufactured to conform to the specifications published in our product data sheets. We do not warranty the performance of our materials or equipment. Please see our website for more details:

<http://www.geocheminc.com/disclaimer.htm>

## TECHNICAL DATA

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5 hr. Compressive Strength	ASTM C579-01 Mod.	2,700+ psi
24 hr. Compressive Strength	ASTM C579-01 Mod.	6,400+ psi
7-Day Tensile	ASTM D638	1,100+ psi
7-Day Tear	ASTM D624	150+ lbf/in

## DISCLAIMER

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