

ITEM 567.45960125 - STRUCTURAL SEALING JOINT SYSTEM

1. DESCRIPTION:

- 1.01 The bridge joint system shall be a flexible, waterproof bridge expansion joint which will provide for all deck movements as indicated in the plans and this specification.

2. MATERIALS:

- 2.01 The system shall consist of a preformed neoprene seal, adhered to the concrete by a 2-component epoxy adhesive.

All materials shall be supplied by:

██████████
95 Pineview Drive
Amherst, NY 14228
Telephone: ██████████
██████████

Expansion Joint System is to be installed in strict accordance with the manufacturer's instructions by Watson Bowman Acme approved installers or under the supervision of Watson Bowman Acme Technicians.

NO ALTERNATE SYSTEMS WILL BE ALLOWED.

- 2.02 **Warranty:** The Expansion Control System shall be warranted for one (1) year against failure from the time of installation when installed by the manufacturer's factory trained installer. Installation shall be in strict accordance with manufacturer's technical specifications, details, installation instructions, and general procedures in effect for normal intended usage and suitable applications under specific design movements and loading conditions. Failure shall be interpreted to mean any visible signs of debonding of joint to the structural slab or failure of the joint material such as cracking or tearing. Failures shall be repaired or replaced by the Installer as determined by the Engineer at no cost to the Authority.
- 2.03 **Profile:** Polychloreprene (neoprene) elastomer, preformed by extrusion and vulcanized into its definitive shape, which is supplied in several configurations and dimensions, ranging from ¼" to 5".

The profile shall have the following properties:

PROPERTY	ASTM METHOD	REQUIREMENT
Tensile Strength, min.	D-412	2000 psi (13.8 MPa)
Elongation at Break, min.	D-412	250%
Hardness, Shore A	D-2240	65± 5
Oven Aging, 70 hrs. at 212°F Tensile Strength, Max Loss. Elongation at Break, Max Loss – Change in Hardness	D-573	20% 20% 0 – 10 Points
Oil Swell, 70 hrs. at 212°F Weight Change, Max.	D-471	45%
Ozone Resistance, 70 hrs. at 104°F	D-1149	No Cracks
Low Temperature Stiffing, 7 days at 14°F Change in Hardness	D-2240	0 – 15 Points

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2. MATERIALS: (cont'd)

- 2.04 **Adhesive:** Two-component, thixotropic, epoxy-based adhesive, which is mixed at the job site. The adhesive shall have the following properties:

PROPERTY	ASTM METHOD	REQUIREMENT
Tensile Strength	D-638	4,000 psi
Axial Compression	D-638	8,000 psi
Pot Life at 8°F	N/A	40 minutes
Flash Point	N/A	>200°F
Initial Cure at 68°F	N/A	24 hours
Full Cure at 68°F	N/A	7 days

NOTE: If the ambient air temperature is between 40°F and 60°F, an alternate cold weather epoxy shall be utilized.

3. CONSTRUCTION DETAILS:

- 3.01 Before installation of the joint system the entire recess must be sand blasted, free of dust, oil, grease, waste, moisture, and loose concrete. Any method of preparation or altering of the recess shall be approved by the manufacturer's factory trained installer, in writing, prior to modification of, preparation, and installation of the seal.

Failure of the joint due to the inadequate preparation of the substrate shall be considered failure of the system to perform and be governed by the Contractor. Failures discovered by the Thruway Authority shall be repaired or replaced by the Contractor as specified by the Engineer at no cost to the Thruway Authority. Failure shall be interpreted to mean any visible signs of de-bonding from the recess or other material failures.

- 3.02 No installation may be performed in wet conditions, or when rain is expected for 1 hour after installation. All surfaces must be dry prior to installation.
- 3.03 During installation, the ambient temperature shall not be lower than 55°F.
- 3.04 All materials shall be in the original intact manufacturer labeled containers. A copy of all invoices shall be submitted to the Engineer, any materials that are damaged during shipping, storage, or installation shall be replaced at no cost to the Authority.
- 3.05 All splices in the seal shall be tested for air tightness and integrity by careful inspection to seal installation in joint opening. Pressurization is done through a valve with cap system. The profile is pressurized during installation and curing time of adhesive to assure complete bonding throughout gap/profile surfaces. Air pressure will bleed itself with time or air valve can be released at any time after 24 hours in installation.
- 3.06 Personnel shall read the material Safety Data Sheet for all components before beginning the installation.
- 3.07 **Contractor Responsibility:** The Contractor shall provide the Engineer-in-Charge with written evidence that the supplier/installer has complied with all details of the specifications and the manufacturer's recommendations.

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3. CONSTRUCTION DETAILS: (cont'd)

- 3.08 **General Condition:** The bridge joint system shall be installed in strict conformance with supplier/installers instructions, and neither this specification, nor the plan details shall be altered without written approval of the supplier/installer and the Thruway Authority.
- 3.09 Expansion joint system is to be installed in strict accordance with the manufacturer's instructions by Watson Bowman Acme approved installers or under the supervision of Watson Bowman Acme Technicians.
- 3.10 The seal shall be installed in not less than a single lane width. No splices of the seal in a single lane width allowed.

4. METHOD OF MEASUREMENT:

- 4.01 Measurement will be made as the number of linear feet of joint system completely installed, measured horizontally and vertically along the centerline of the joint.

Complete installation shall be as follows:

- A. All materials are neatly in their proper position, and show no signs of failure as described in 2.02.

5. BASIS OF PAYMENT:

- 5.01 The unit price per linear feet shall include all labor, materials, and equipment necessary to complete the work.
- 5.02 The Contractor shall not receive any payment for this item until the joint system has completed the criteria in 3.01, 3.07, and 4.01.
- 5.03 Payment will only be made for an installed portion of joint which has met all requirements of this specification. Any failure, as detailed in this specification, will result in no payment for that entire tested portion of joint.