

**COVER PAGE SECTION 05810
EXPANSION JOINT SEAL SYSTEM**

The accompanying guide specification has been prepared by Tremco Incorporated according to principles established in the *Manual of Practice* published by The Construction Specifications Institute. It is provided to assist design professionals, building owners and others in the preparation of a specification section covering installation of an elastomeric waterproofing joint seal system designed for expansion joints subject to traffic. It may be used in conjunction with most commercially available master specification sections with minor editing as the basis for developing a project specification or an office master specification.

This specification guide is provided in two parts as follows:

- * Cover Page (file 05810cvr.* on diskette): Conveys important requirements that should appear in other pertinent Sections of the project Specifications.
- * Section 05810 (file 05810spc.* on diskette): A guide specification that may be used as is or modified as you wish.

Please contact your nearest Tremco Architectural Services Representative or Tremco Incorporated at 1-800-852-8173 for additional copies, information on available electronic formats or design assistance.

THE PRODUCT: Factory molded elastomeric polyurethane expansion joint seal system designed for waterproofing wide joints in concrete surfaces subject to traffic such as parking decks, stadiums, plazas and similar large concrete structures.

1. The joint seal system:
 - a. Waterproofs horizontal or vertical structural expansion joints.
 - b. Withstands vehicular and/or pedestrian traffic abuse
 - c. Excels under harsh conditions such as chemical attacks, ultraviolet exposure and inclement weather circumstances.
 - d. Is part of a **single-source system of products** that includes waterproofing joint sealants and waterproofing traffic deck coatings providing a complete system approach and single-source manufacturer responsibility.

COORDINATION: Section 05810 defines requirements for the elastomeric joint seal system itself. It is important to define certain substrate requirements and requirements of adjacent trades in pertinent other sections of your specification as follows:

1. Section 03300 - Cast-in-place concrete:
 - a. A blockout recess in the concrete surface must be provided to receive this joint seal system.
 1. Refer to specific design specification guidelines for joint seal system. For boxout requirements.

EDITING OF GUIDE SECTION 05810: Paragraph 2.1 A.4 of the accompanying guide section 05810 provides for an exposed joint seal surface that is textured ...as an option, the joint seal surface can be smooth.

END OF COVER PAGE(s)

**TREMCO, INC.
COVER PAGE - 1**

Before using this Guide Section, fully read the associated cover page(s) (on diskette as file 05810cvr.*) for information about its use and important requirements that must appear in other Sections of the Project Manual. Carefully review this Guide and delete inapplicable text.

SECTION 05810

EXPANSION JOINT SEAL SYSTEM

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes: Provide a complete elastomeric polyurethane expansion joint seal system where indicated on the Drawings, including metal traffic plate, applicable sealants and elastomeric flashings needed to ensure a complete waterproof and weathertight system for deck, ramp and raised curb surfaces at locations indicated.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01330.
- B. Product data:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 3. Shop Drawings or catalog illustrations in sufficient detail to show installation and interface of the work of this Section with the work of adjacent trades.
 - 4. Manufacturer's current recommended installation procedures which, when reviewed by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
 - 5. Expansion joint seal system manufacturer's affidavit that factory molded joint seal system is verified compatible with applicable waterproofing coating system.
 - 6. Expansion joint seal system manufacturer's affidavit that manufactured polymer-modified concrete repair materials are verified compatible with factory molded joint seal system.
 - 7. Written documentation of applicator's qualifications, including reference projects of similar scope and complexity, with current phone contacts of architects and owners for verification.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.
- B. Applicator qualifications:
 - 1. Applicator shall have at least three years experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.

2. Applicator shall designate a single individual as project foreman who shall be on site at all times during installation.
- C. Convene a pre-installation job-site conference four weeks prior to commencing work of this Section:
 1. Secure attendance by Architect, Contractor, applicator, and authorized representatives of the joint seal system manufacturer and interfacing trades.
 2. Examine Drawings and Specifications affecting work of this Section, verify all conditions, review installation procedures, and coordinate scheduling with interfacing portions of the Work.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to job site in manufacturer's unopened containers with all labels intact and legible at time of use.
- B. Maintain the products in accord with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.
- C. Comply with pertinent provisions of Section 01660.

1.5 SUBSTRATE CONDITIONS

- A. General:
 1. Provide applicator with surfaces that are broom clean, dry, sound and free of voids, bugholes, rockpockets, honeycombs, protrusions, excessive roughness, foreign matter, frost, ice and other contaminants which may inhibit application or performance of the expansion joint seal system.
 2. Using suitable abrasive methods, remove residue of form release, curing compound, chemical retarders and other surface treatments, laitance, mortar smear, sawcutting residue, mill scale, rust, loose material and other contaminants from concrete, masonry and ferrous metal surfaces to receive the work of this Section.
- B. Joint blockout: Provide applicator with expansion joint blockout consistent with expansion joint seal system manufacturer's requirements and with other requirements of Contract Documents.

1.6 WARRANTY

- A. Deliver to the Architect signed copies of the following written warranties against defective materials and workmanship for a period of two years following date of completion. Warrant that installed expansion joint seal system shall be free of defects including adhesive failure, cohesive failure, weathering deficiencies and waterproofing failure.
 1. Manufacturer's standard warranty covering materials;
 2. Applicator's standard warranty covering workmanship.

PART 2 PRODUCTS

2.1 GENERAL

- A. Provide a complete elastomeric polyurethane expansion joint seal system having the following attributes:
 1. System designed to produce waterproof, traffic-bearing expansion joint seals.

2. Factory molded off site under environmentally controlled conditions.
 3. Verified compatible with applicable waterproofing traffic deck coating system and by same manufacturer providing single-source manufacturer responsibility for complete system.
 4. Exposed surface of factory molded joint seal is textured.
 5. Width of factory molded joint seal is five times anticipated movement of expansion joint.
 6. Color to be selected by Architect from manufacturer's standard color range.
 7. Acceptable products
 - a. Vulkem 255 FM Series
- B. Provide a complete pre-engineered elastomeric gland joint seal system having the following minimum attributes.
1. System designed to produce waterproof, traffic-bearing expansion joint seals.
 2. Factory molded off site under environmentally controlled conditions.
 3. Verified compatible with applicable waterproofing traffic deck coating system and by same manufacturer providing single-source manufacturer responsibility for complete system.
 4. Heat weldable splice joints.
 5. Anchored into place utilizing a polymortified system.
 6. Acceptable product
 - a. Vulkem 265 HD (Heavy Duty)
- C. Provide a complete pre-engineered premolded elastomeric gland joint seal system anchored on both sides with steel reinforced rubber having the following minimum attributes:
1. System designed to produce waterproof, traffic-bearing expansion joint seals.
 2. Factory molded off site under environmentally controlled conditions.
 3. Verified compatible with applicable waterproofing traffic deck coating system and by same manufacturer providing single-source manufacturer responsibility for complete system.
 4. Acceptable product
 - a. Vulkem 275 ED (Extreme Duty)

2.2 ACCESSORIES

- A. Primer: As recommended by expansion joint seal system manufacturer.
- B. System components as recommended by specific expansion joint seal system manufacturer.

2.3 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the joint seal system manufacturer as compatible, subject to review of the Architect.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Applicator shall examine the areas and conditions under which work of this Section will be performed.
 1. Verify conformance with manufacturer's requirements;
 2. Report unsatisfactory conditions in writing to the Architect;

3. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Surface preparation and detailing procedures to be in accord with expansion joint seal system manufacturer's recommendations except where more stringent requirements are indicated.
- B. Grind ledges of joint blockout as needed to ensure installed joint seals will be flush with traffic surfaces.
- C. Lightly sandblast expansion joint blockout and other surfaces contacting joint seal system to remove contaminants which would be detrimental to bond of adhesive components.
- D. Remove to sound concrete all spalled, delaminated, deteriorated or otherwise deficient concrete from structural concrete surfaces to receive expansion joint seal system; vacuum clean or blow clean with oil-free compressed air to assure all loose particles have been removed.
- E. Repair concrete and correct surface deficiencies using polymer-modified cementitious repair mortars mixed, installed and cured according to manufacturer's instructions.
 1. Finish to profile required for expansion joint seal system;
 2. Do not use liquid curing compounds.
- F. Clean surfaces to receive expansion joint seal system in accord with manufacturer's instructions; vacuum clean or blow clean with dry, oil-free compressed air the surfaces to receive joint seal system components immediately prior to installation.
- G. Abrade by power wire brushing the beveled edges and splice ends of factory molded joint seals.
- H. Prime surfaces in accord with manufacturer's instructions.

3.3 APPLICATION

- A. Install expansion joint seal system in accord with manufacturer's recommendations and instructions as apply to the Work except where more stringent requirements are indicated.

3.4 PROTECTION AND CLEAN-UP

- A. Promptly remove joint seal system material from adjacent surfaces with MEK, Toluene or Xylene; leave work area in broom clean condition.
- B. Allow completed Work to cure for a minimum of 48 hours, and longer if temperatures fall below 50 degrees F during curing period, prior to allowing traffic across installed joint seal system.

END OF SECTION