

PART 1 - GENERAL

1.01 Description

A. Section Includes: Furnishing all materials, labor, and equipment necessary for the surface preparation and the installation of the sealed expansion joints in accordance with details shown on the plans and these specifications. The design utilizes extruded aluminum rails and elastomeric glands to be cast into an elastomeric concrete deck. The designs are arranged to flex in respect to joint movement and to seal against the intrusion of deck drainage.

B. Related Sections:

1. Section 03100 - Concrete Formwork
2. Section 03200 - Concrete Reinforcement
3. Section 05800 - Waterproofing
4. Section 09885 - Cast in Place Concrete

1.02 References

A. American Society for Testing and Materials (ASTM):

1. ASTM D412
2. ASTM D2240
3. ASTM D395
4. ASTM D624
5. ASTM D792
6. ASTM D746

1.03 Quality Assurance

- A. Application Qualifications: The manufacturer of the expansion joint will provide a technically qualified representative who will train the contractor or approved subcontractor on the proper techniques for installing the expansion joint. Each installation will be registered and approved by the manufacturer.
- B. For the purpose of designating type and quality for work of this section, drawings and specifications are based on products manufactured or furnished by the manufacturer listed in Part 2 of this section. No other products will be considered for use.

- C. Execute work of this section by skilled, trained applicators, conforming to installation methods and procedures in accordance with the manufacturer's printed instructions. The applicator must be licensed by the manufacturer or approved by him. In the later case, the manufacturer's technical representative must be present for the installation of three (3) joint lengths - equal to no less than 150 LF of joint.
- D. Do not proceed with the work until surfaces to receive the expansion joints have been inspected by the engineer and approved by the manufacturer. Correct any deficiencies in the surface to receive the expansion joints, as recommended by the manufacturer and engineer.
- E. Do not proceed with the work when temperatures are below 45°F or expected to fall below 45°F, unless approved in writing by the manufacturer.
- F. Manufacturers will have a minimum of five (5) years experience specializing with the production of their submitted products.

1.04 Submittals

- A. Submit in accordance with this Specification, unless otherwise indicated.
- B. Submit manufacturer's literature for review and approval on the following items:
 - 1. Performed expansion joint fillers, thermoplastic sealing element
 - 2. Extruded Aluminum edge rails
- C. Samples will be submitted on request for the above referenced products.
- D. Product Data: Manufacturer's specifications and technical data including the following:
 - 1. Manufacturer's installation instructions, specially written for each specific project
 - 2. Certified test reports indicating compliance with performance requirements specified herein
- E. Shop Drawings: Indicate dimensions, general construction, specific modifications, component connections, anchorage methods, hardware, and installation procedures, plus the following specific requirements:
 - 1. Temperature/Adjustment table, indicating joint width at various temperatures
 - 2. Dimensions based on anticipated movement for the joint location, as supplied by the engineer

F. Quality Control Submittals:

1. Statement of qualifications
2. Design data
3. Test reports
4. Manufacturer's field reports

G. Contract Closeout submittals: In accordance with specification:

1. Operating and Maintenance Manuals
2. Special Warranties

1.05 Delivery, Storage And Handling

- A. Packaging and Shipping: Deliver products in original, unopened packaging with labels intact and seals unbroken.
- B. Storage and Protection: Store materials in accordance with manufacture's recommendations in an area protected from weather, moisture, open flame, and sparks.

1.06 Warranty

- A. Warranty will state that the material and installation of the expansion joint system complies with requirements of the contract documents and the manufacturer's printed instructions for installing the expansion joints.
- B. Warranty will state that the contractor/manufacturer/installer will stand behind the installed system for a period of five (5) years from the date of installation against all the conditions listed below:
 1. Leakage of the system, including points at directional changes
 2. Abrasion and wear of the materials resulting from normal traffic loading
 3. Disengagement of the elastomeric seals from the aluminum retainers, resulting from flexing within the recommended movement range of the system

PART 2 - PRODUCTS:

2.01 Manufacturers

A. Expansion Joint Assemblies will be:

1. TM-Series Aluminum Strip Seal System by EMS, Inc., 13311 Main Road, Akron, NY 14001 Phone: (716) 542-3991 Fax: (716) 542-3996

- B. Elastomeric Concrete header material will be the following:
 - 1. Polycrete 1600 Elastomeric Concrete by EMS, Inc., 13311 Main Road, Akron, NY 14001 Phone: (716) 542-3991 Fax: (716) 542-3996

2.02 Components And Materials

- A. Elastomeric Seal: The extruded configuration will be a Santoprene material meeting the specifications prescribed in the manufacturer's product data sheet, and ASTM D-2000. The seal will be structured so that its cross-section features a row of chambers. Seals will be locked in place with pre-formed attachment lugs.
- B. Aluminum Retainer: This edge rail is an extruded section made from ASTM 6061-T6 Aluminum. Rails are to be supplied in lengths of 10 feet [Note: Any additional coating will have to be specified on a job-to-job basis].
- C. Lubricant/Adhesive: A one-part, polyurethane material conforming to ASTM D4070.

PART 3 - EXECUTION:

3.01 Inspection

- A. Prior to the installation of the expansion joint, the installer will visit the site and notify the contractor, in writing, of any conditions that might be detrimental to the installation or performance of the expansion joint.

3.02 Preparation And Block Out Recess

- A. When the concrete is constructed, a recess will be formed to accommodate the expansion joint assembly. The recess will be covered and otherwise protected at all times prior to installing the expansion joint assembly. Prior to installation, the concrete will be cleaned thoroughly.

3.03 Installation

- A. The ends of the aluminum rails will be butted together with a 1/8" bead of caulk between ends. Set the opening between the adjacent rails (across the joint opening) per figures shown in the temperature adjustment table.
- B. Install the elastomeric seal full length, using a lubricant/adhesive as recommended by the manufacturer.
- C. Clean up the area, removing any extra materials, debris, etc.

3.04 Field Quality Control

- A. Work that does not conform to the specified requirements will be corrected and/or replaced as directed by the manufacturer and engineer.
- B. Manufacturer/installer will supply the warranty to contractor, as required.

END OF SECTION