

SPECIFICATION

Division 07900

AR-Series Colorable Seal Profiles – Santoprene (Thermo-rubber)

PART 1 - GENERAL

1.01 Summary

A. Section Includes: Furnishing of all materials, labor, and equipment necessary to the surface preparation and the installation of the sealed expansion joints in accordance with the details shown on the plans and these specifications. The designs for the deck condition utilize an extruded compression seal profile bonded in place with a one-component polyurethane structural adhesive. The design is arranged to flex in response to joint movement and to seal against the intrusion of deck drainage.

B. Related Sections:

1. Section 03300 - Cast-in-place concrete
2. Section 07900 - Waterproofing, including sealants and coatings

1.02 References

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

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

1.03 Quality Assurance

A. Application Qualifications: The manufacturer of the expansion joint seal will provide a technically qualified representative who will train the installer on the proper techniques for installing the seal. 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 latter case, the manufacturer's technical representative must be present for the installation of three (3) joint lengths - equaling no less than 100 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 surfaces 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. Do not proceed with the work when temperatures are above 90° F unless approved in writing by the manufacturer.

F. Manufacturer will have a minimum of five (5) years experience specializing in expansion joint systems for similar applications.

1.04 Submittals

A. Submit in accordance with this Specification, unless otherwise indicated.

B. Product Data: Manufacturer's specifications and technical data including the following:

1. Manufacturer's installation instructions, specially written for this project.
2. Certified test reports indicating compliance with performance requirements specified herein.

C. Shop Drawings: Indicate dimensioning, membrane size, model number, general construction, specific modifications, and installation procedures (specifically the mixing and application of the structural adhesive) 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.

D. Quality Control Submittals:

1. Statement of Qualifications
2. Design Data
3. Test Reports

E. Contract Close-out Submittals: In accordance with this Specification, submit:

1. Operating and Maintenance Manuals
2. Special Warranties

1.05 Delivery, Storage and Handling

A. Packing and Shipping: Deliver products in original, unopened packaging with labels and seals unbroken.

B. Storage and Protection: Store materials in accordance with manufacturer's recommendations in area protected from weather, moisture, open flame, and sparks. Adhesive must be stored at temperatures between 40°F and 90°F.

1.06 Warranty

A. Warranty will state that the material and installation of the 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 it is the responsibility of the installer/manufacturer to stand behind the installed system for the warranty period indicated and for the conditions listed below:

1. Leakage of the parking deck system, including points in transition
2. Abrasion and wear of the materials resulting from normal wear

PART 2 - PRODUCTS

2.01 Manufacturers

A. Compression Seal System components will be designated as the following:

1. AR-Series, Colorable seal profiles as supplied by EMS, Inc., 13311 Main Road, Akron, NY 14001 Phone: (716) 542-3991 Fax: (716) 542-3996
2. Polyurethane adhesive as supplied by EMS, Inc., 13311 Main Road, NY 14001 Phone: (716) 542-3991 Fax: (716) 542-3996

2.02 Components and Materials

A. Compression Seal Profile: The extruded profile will be made from thermo-rubber trade name Santoprene®. The material will have a minimum 1,000-psi tensile strength requirement and 200% elongation at break. The profile will be structured so that its cross-section features a multi-celled web design that exerts a constant pressure to the joint wall interfaces. Color match will be selected by architect/engineer.

B. Polyurethane Adhesive: The adhesive is a one part polyurethane material. It is 100% reactive and will develop a strong bond in approximately eight to ten hours at room temperature. A full cure will develop within twenty-four hours at 70° F.

PART 3 - EXECUTION

3.01 Inspection

- A. Prior to installation of the expansion joint profile, the installer will visit the site and notify the proper authority in writing of any conditions (done under other sections) that might be detrimental to the installation or performance of the expansion joint. Coordinate the installation with related work.

3.02 Preparation of Surfaces of Joint Opening

A. All surfaces to receive the compression seal profile will be dry, clean, and sound concrete free of loose, cracked, delaminated, and spalled sections. Repair any sections that do not meet these criteria.

3.03 Preparation of Joint Interfaces

A. Form or saw cut the groove/joint opening into the concrete to the recommended depth shown. Assure that the interfaces, whether concrete or steel, run parallel to each other for the length of the run. Walls should be plumb to the top surface of the concrete and spaced at a consistent width across the joint. Unsound concrete must be removed and repaired.

B. Clean dirt, stones, and standing water from the joint opening. Use a stiff bristled brush and compressed air to remove all dust.

3.04 Installation of the Seal Profile

A. Immediately prior to installation, the interface walls should be blown out again.

B. Uncoil the seal and allow it to relax. Clean the sidewall surfaces of the seal to receive the adhesive. When done properly, the shine of the surfaces will be removed. A roughened, dull finish will be obtained.

C. Apply the adhesive to the joint interfaces and into the ribs of the seal using a paintbrush. The ribs must be lightly coated.

D. Insert the seal into the joint opening to the proper depth. Check the ribs for proper adhesive coverage, filling any voids. A small amount of excess adhesive should be visible above the ribbed area. Remove any additional adhesive using organic solvents.

E. Allow the adhesive to cure eight to ten hours (at room temperature). Maximum bond strength (at room temperature) is usually achieved within twenty-four hours.

3.05 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 guaranty/warranty to the owner authority, as required.

END OF SECTION