

SPECIFICATION Division 07900

EB-Series System [Elastomeric Block]

PART 1 GENERAL

1.01 Summary

- A. Provide all labor, materials, equipment, and services; perform all operations required for complete installation of expansion control system and related work as indicated on the drawings and specified herein.
- B. Work Included: The work shall consist of furnishing and installing expansion joints in accordance with the details shown on the plans and the requirements of the specifications. The joints utilize extruded elastomeric seals, molded, steel reinforced pads, urethane sealants, and bedding.

1.02 Quality Assurance

- A. Materials and work will conform to the latest edition of reference specifications specified herein and to all applicable codes and requirements of local authorities having jurisdiction.
- B. The manufacturer will have documented experience in expansion joint control covers and systems for parking structures.
- C. The manufacturer will provide the owner/operator, through the architect/engineer, with a preventative maintenance guideline for parking structure expansion joint control systems, as related to the National Parking Association publication "Parking Garage Maintenance Manual".
- D. Fire Barrier - Where indicated, provide expansion joint cover assemblies whose fire resistance and cycling capability has been determined per UL 2079 by Underwriter Laboratories, Inc. Fire rating not less than the rating of adjacent construction.

1.03 Submittals

- A. Product Data - Submit copies of manufacturer's latest published literature for materials specified herein for approval. Data to clearly indicate movement capability of cover assemblies and suitability of material.
- B. Certificates - Material test reports from qualified independent testing laboratory indicating and interpreting test results relative to compliance of fire-rated expansion joint assemblies with requirements indicated.
- C. Shop Drawings - Submit shop drawings for work specified herein for approval. Shop drawings showing full extent of expansion joint cover assemblies. Include large-scale details indicating profiles of each type of expansion joint cover assembly, splice joints between sections, joinery with other types, special end conditions, anchorages, fasteners, and relationship to adjoining work and finishes.

- D. Samples will include the following - Samples of each type of system to be used in work with color samples.

1.04 Delivery, Storage

- A. Deliver products in manufacturers original, intact, labeled containers, pallets, and/or bundles and store in a dry environment with ambient temperatures above 40°F. Protect materials from general construction site activities.

PART 2 PRODUCTS

2.01 General

- A. Provide an expansion joint sealing system that is capable of withstanding HS-20 loading requirements while accommodating multi-directional movement. The system shall be composed of heavy-duty steel reinforced EPDM anchor panels with integral bolt cavities for the manufacturer's recommended anchorage system. Anchor panels shall be comprised of EPDM rubber meeting the properties as outlined below. Panels shall have molded anchorage slots located at 12" O.C. utilizing 5/8" diameter anchor bolts. Panels shall have integrally molded 1/4" A36 carbon steel reinforcement angle profiles to provide a durable, rigid system. Panels shall have a minimum thickness of 1.375" and a width of 4" in size. The EPDM panels shall have tongue and groove ends and shall be designed to accept and interlock with the manufacturer's preformed elastomeric seal. Provide thermo-rubber seal profiles that satisfy project requirements including movement and pertinent ADA legislation.

Furnish the EB-Series Elastomeric Block Expansion Joint System as manufactured by Erie Metal Specialties, Inc. and as indicated on the drawings. Alternate product will be considered if submitted at least 15 days prior to bid.

2.02 Manufacturers

- A. Expansion joint cover assemblies specified herein and indicated on the drawings shall be manufactured by EMS, Inc. 13311 Main Road, Akron, NY 14001.

2.03 Materials

- A. Urethane Bedding Sealant

Provide manufacturer supplied bedding material to the bottom of the blockout prior to placement of the extruded seal. The bedding material is a single component mastic sealant packaged in 20 oz. foil sausage packs. The material shall meet the following physical properties indicated below:

PHYSICAL PROPERTIES – Bedding Sealant

<u>Property</u>	<u>Results</u>
Solids	100%
Tensile Strength	312 psi
Elongation	625%
Viscosity	Paste
Flash Point	266°F
Cure Time	10 hours

B. Extruded Elastomeric Seal

Provide seal as specified and indicated on the contract drawings. Seal design shall incorporate integral “flanges” on each side, which are locked to the substrate by the molded EPDM anchor panels. Seal material shall meet the following physical properties indicated below:

PHYSICAL PROPERTIES – Elastomeric Seal

<u>Property</u>	<u>ASTM Test Method</u>	<u>Results</u>
Shore A Hardness	D-2240	65 +/-5
Tensile Strength	D-412	815 psi
Ultimate Elongation	D-412	400%
100% Modulus	D-412	377 PSI
Tear Strength	D-642	160 lb/in
Compression Set	D-395	23% @ 77°F
168 hours		36% @ 212°F
Brittle Point	D-746	-76°F

C. Molded Elastomeric Panel

Molded panel shall be made of steel reinforced EPDM meeting ASTM D-2000. It will be heavy duty, capable of withstanding HS-20 loading, with a non-skid surface, having integrated bolt hole cavities and meeting the following physical requirements:

PHYSICAL PROPERTIES – Molded Elastomeric Panel

<u>Property</u>	<u>ASTM Test Method</u>	<u>Results</u>
Shore A Hardness	D-2240	60 +/-5
Tensile Strength	D-412	1500 psi
Elongation Break	D-412	350% min
Compression Set	D-395	50% max
Heat Resistance (70 hrs @ 212°F)		
Tensile Strength, max	D-573	25%
Elongation, max	D-573	25%
Hardness, max	D-573	10 pts
Total Weight, 6 ft. Molded Panel		32 lbs, min
Oil Resistance (70 hrs @ 212°F)		
Volume, max	D-471	120%
Ozone Resistance (50pphm for 72 hrs @ 104°F)	No Cracks	Pass

- D. Steel Inserts – Panels shall be molded with 1/4" thick A36 carbon steel reinforcement angles. The steel insert shall have a vertical leg length of 1" and a horizontal leg length of 3.5". Slotted holes for anchor bolts will be provided at 12" O.C.
- E. Sealants – Bolt hole cavity and edge void sealants shall be provided by manufacturer.
- F. Anchorage – provide 5/8" dia hex wedge anchor x 4" @ 12" O.C. Install anchors in strict accordance with manufacturer's recommendations into sound concrete.

2.04 Fabrication

- A. Molded panels shall be shipped in manufacturer's standard 6 ft lengths and shall be cut to length in the field. As well, directional changes shall be miter cut in the field.
- B. Elastomeric seals shall be shipped in the longest practical lengths in manufacturer's standard shipping carton.

2.05 Finishes

- A. Finishes – Molded panels and elastomeric seals shall be supplied in standard color: black.

PART 3 - EXECUTION

3.01 Installation

- A. Protect all expansion joint components from damage during the placement of concrete or elastomeric concrete; work in adjacent areas and construction traffic until completion of structure.
- B. Expansion joint systems shall be set to the proper width for the ambient temperature at time of installation. Properly align all molded shapes prior to anchoring operations to ensure proper joint performance.
- C. Expansion joint systems shall be installed in strict accordance with the manufacturer's typical details and instructions along with the advice of their qualified representative. Contact manufacturer to discuss field splicing of all components prior to their installation to verify correct and proper procedures.

3.02 Clean and Protect

- A. Protect system and its components during construction. After work is complete in adjacent areas, clean excess adhesive from elastomeric seal with a suitable cleaner that will not harm or attack material.

END OF SECTION