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**\*\*\*COMPLETE GUIDE SPECIFICATION\*\*\***

**SECTION 07 90 00 and 07 95 00 (formerly 05810 / 07102 / 07915)-- SEALANTS, CAULKING, & SEALS**

**Application: Watertight, Energy-Efficient, Pick-Resistant, 2-Hour Fire-Rated Expansion Joints--  
Basis of Design: EMSHIELD SecuritySeal.**

USA & INTERNATIONAL: EMSEAL JOINT SYSTEMS, LTD, 25 Bridle Lane Westborough, MA 01581-2603,

Toll Free: 800-526-8365 or PH: 508-836-0280, FX: 508-836-0281, [www.emseal.com](http://www.emseal.com).

CANADA: EMSEAL, LLC, 120 Carrier Drive, Toronto, Ontario, Canada, M9W 5R1 Toll Free: 800-526-8365 or PH: 416-740-2090, FX: 416-740-0233, [www.emseal.com](http://www.emseal.com)

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS**

A. The requirements of the GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS and DIVISION 1 GENERAL REQUIREMENTS apply to the work of this section.

**1.02 DESCRIPTION**

A. EMSHIELD SECURITYSEAL SYSTEM – Watertight, energy-efficient, pick-resistant, 2-hour fire-rated expansion joint by EMSEAL Joint Systems for expansion joints and isolation joints in walls. Typical locations include applications for exterior wall joints and interior wall joints where a 2-hour fire rating is required or desired. System shall perform waterproofing, fire-rating, movement-accommodation functions as well as contribute to thermal insulation and sound attenuation as the result of a single installation of a pick-resistant system and without the addition of ancillary fire-blankets, mineral wool, coverplates, etc.

**1.03 RELATED WORK SPECIFIED ELSEWHERE**

A. CONCRETE

**1.04 QUALITY ASSURANCE**

A. Manufacturer's Instructions: In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for all phases of work, including preparation of substrate, applying materials, and protection of installed units.

**1.05 SUBMITTALS**

General: Submit the following in accordance with (*Designer: Insert appropriate section reference for submittals*).

A. Product data in the form of manufacturer's product specifications, installation instructions, and details for each type of expansion joint sealant system indicated.

B. Samples of same materials to be used in work including certification by Underwriters Laboratories (UL) that product has been tested and certified for UL 2079. Products meet the

requirements of ASTM E1966, ASTM E119 and ASTM E1399. Certification that product has been tested to ASTM E-90 and meets or exceeds an STC 62 rating in a STC 68 wall and an OITC 52 rating in OITC 52 wall.

#### **1.06 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials as factory packaged, sealed, and labeled. Handle and protect as necessary to prevent damage or deterioration during shipment, handling and storage.
- B. Follow any special instructions by manufacturer or manufacturer's representative.

#### **1.07 PROJECT CONDITIONS**

- A. **Substrate Condition:** Proceed with work only when substrate construction and preparation work is complete and in condition to receive sealant system.
- B. **Weather Conditions:** Perform work only when existing and forecasted weather conditions are within the guidelines established by the manufacturer of the sealant system.

### **PART 2 – PRODUCTS**

#### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Manufacturers known to be able to supply materials as specified:

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#### **2.02 MATERIALS**

- A. **EMSHIELD SECURITYSEAL SYSTEM** – Sealant system shall be comprised of three components: 1) fire-retardant-impregnated foam pre-coated on both sides with an intumescent fire-proofing material and pre-coated at the top layer with waterproof polyurethane; 2) field-applied epoxy adhesive primer, 3) field-injected polyurethane sealant bands. Impregnation agent to have proven non-migratory characteristics. Polyurethane coating to be low-modulus, waterproof polyurethane applied to the impregnated foam sealant at a width greater than maximum allowable joint extension and which when cured and compressed will form a bellows. Product must be proved to have been tested and UL/ULC certified by Underwriters Laboratories to the joint-cycling and fire testing standards of UL 2079.
- B. **EMSHIELD SECURITYSEAL foam seal** to be installed into manufacturer-supplied field-applied epoxy adhesive. The **EMSHIELD SecuritySeal SYSTEM** is to be installed slightly recessed from the surface wall such that when the field-applied injection band of polyurethane is applied at the installation side between the substrates and the foam-and-polyurethane-bellows, the system will be essentially flush with the substrate surface. Material shall be capable of movements of +25%, -25% (50% total) of nominal material size. Standard sizes from 1/2" (12mm) to 6" (150mm). Depth of seal is 4" (100mm).
- C. Substitute candidates in addition to having been certified by UL according to UL2079, shall provide certification in writing to be free in composition of any waxes or asphalts, wax compounds or asphalt compounds. All substitute candidates shall be certified in writing to be: a) capable of withstanding 150°F (65°C) for 3 hours while compressed down to the minimum of movement capability dimension of the basis of design product (-25% of nominal

material size) without evidence of any bleeding of impregnation medium from the material; and b) that the same material after the heat stability test will self-expand to the maximum of movement capability dimension of the basis-of-design product (+25% of nominal material size) within 24 hours at room temperature 68°F (20°C).

- D. Factory-fabricated universal-90-degree transition units shall be used to transition all joints into horizontal plane surfaces (decks, floors, etc). Universal-90-degree transitions pieces to be single units containing minimum 12-inch long leg and 6-inch long leg on each side of the direction change unless modified at the factory for custom installation sizes. Both outward-facing surfaces of the entire unit to be continuously coated with both the intumescent bellows and over that, waterproof polyurethane bellows. Factory-fabricated units to be field-jointed to straight lengths in accordance with manufacturer's prescribed methods and supplied joining materials.
- E. Product must be proved to have been tested to ASTM E-90 and to meet or exceed an STC 62 rating in a STC 68 wall and an OITC 52 rating in an OITC 52 wall.

### **PART 3 – EXECUTION**

#### **3.01 INSPECTION**

- A. Joint surfaces to receive seal shall be sound, smooth, straight, parallel, clean, dry and free of all visible contaminants. Applications of non-visible coatings or contaminants to surfaces of joint interface area prior to installation of seal shall be controlled by the Architect/Engineer in consultation with the expansion joint manufacturer.
- B. The joint configuration and the joint surfaces shall be as detailed in the drawings and in accordance with the contract specifications and in compliance with requirements in the current material Tech Data available from the Manufacturer. All known detrimental conditions shall be reported immediately in writing. Field measurements of the depth and width of the joint shall be supplied to manufacturer before material is ordered.

#### **3.02 INSTALLATION**

- A. Do not proceed with the installation of joint sealer if the joint is other than designed, until written notification of these conditions is submitted to the manufacturer and design professional, and a written acknowledgement with an order to proceed is provided.
- B. Do not proceed with the installation of joint sealer under adverse weather conditions when joint to be sealed is damp, wet or frozen, or when temperatures are below or above the manufacturer's recommended limitations for installation. Consult manufacturer for specific instructions before proceeding.
- C. Joint sealer/expansion joint material to be installed in strict accordance with the manufacturer's instructions and the advice of their official representative.

#### **3.03 CLEANING AND PROTECTION**

- A. Remove all waste materials from site. Leave work in a condition satisfactory to the Architect/Engineer.

**END OF SECTION**

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