

SPECIFICATION
Sections 07 90 00 / 07 95 00

Willseal Seismic by Willseal

Preformed, Pre-Compressed, Self-Expanding, Tensionless, Sealant System with Silicone or Urethane Bellows, Watertight, Energy-Efficient, Primary Seal for Interior and Exterior Joints.

PART 1 – GENERAL

1.01 Work Included

- A. The work shall consist of furnishing and installing waterproof expansion joints in accordance with the details shown on the plans and the requirements of the specifications. Preformed sealant shall be silicone pre-coated, preformed, pre-compressed, self-expanding, sealant system.
- B. Related Work
 - Division 4 - Masonry
 - Division 7 - Thermal & Moisture Protection
 - Division 7 - Sealants, Caulking and Waterproofing

1.02 Submittals

- A. General – Submit the following according to Division 1 Specification Section.
- B. Standard Submittal Package – Submit typical expansion joint drawing(s) indicating pertinent dimensions, general construction, expansion joint opening dimensions and product information.
- C. Sample of material is required at time of submittal.
- D. Quality control, manufacturer shall be ISO-9001:2008, certified and shall provide written confirmation that a formal Quality management System and Quality Processes have been adopted in the areas of, (but not limited to) Manufacturing, Quality Control and Customer Service for all processes, products and their components. Alternate manufacturers will be considered provided they submit written proof that they are ISO 9001:2008, certified prior to the project bid date.
- E. All products must be certified by independent laboratory tests that they are not comprised of un-bonded vertical laminations and do not rely on a water based intumescent surface coating as part of the FR sealant system. Manufacturer must have proof that the FR expansion joint will perform as UL Listed even if the surface bellows are vandalized or damaged.
- F. All products must be certified by independent laboratory test report to exceed the requirements of curtain wall performance tests ASTM E330, E283-04, E331 and TAS 202/203 (+/- 200mph).

1.03 Product Delivery, Storage and Handling

- A. Deliver products to site in Manufacturer's original, intact, labeled containers. Handle and protect as necessary to prevent damage or deterioration during shipment, handling and storage. Store in accordance with manufacturer's installation instructions.

1.04 Basis of Design

- A. All joints shall be designed to meet the specified performance criteria of the project as manufactured by: Willseal, 34 Executive Drive, Hudson, NH 03051, 800-274-2813. Willseal.com, custserv@willseal.com.
- B. Alternate manufacturers must demonstrate that their products meet or exceed the design criteria and must submit certified performance test reports performed by nationally recognized independent laboratories as called for in section 1.02 Submittals. Submittal of alternates must be made three weeks prior to bid opening to allow proper evaluation time.

1.05 Quality Assurance

- A. The General Contractor will conduct a pre-construction meeting with all parties and trades involved in the treatment of work at and around expansion joints including, but not limited to, concrete, mechanical, electrical, HVAC, landscaping, masonry, curtain wall, waterproofing, fire-stopping, caulking, flooring and other finish trade subcontractors. All superintendents and foremen with responsibility for oversight and setting of the joint gap must attend this meeting. The General Contractor is responsible to coordinate and schedule all trades and ensure that all subcontractors understand their responsibilities in relation to expansion joints and that their work cannot impede anticipated structural movement at the expansion joints, or compromise the achievement of water-tightness or life safety at expansion joints in any way.
- B. Warranty – Manufacturer’s standard warranty shall apply.
- C. LEED Building Performance Requirements:
 - 1) The VOC of the silicone must not exceed 40 grams/liter.
 - 2) Products must be proved to be certified by independent test report to exceed the requirements of curtain wall performance tests ASTM E330, E283-04, E331.
 - 3) Products must be proved to have been certified by independent test report in accordance with ASTM C518-04 and demonstrate an R-Value per 1-inch (25mm) of depth of not less than 1.03 at as-installed nominal joint size compression.
 - 4) Products must be proved to have been certified by independent test report to ASTM E90-09 and to meet or exceed the STC and OITC rating for the project.
 - 5) Additional credits may be available for projects within 500 miles of Hudson, NH.
 - 6) Product must be proved by independent test report to have air permeability not to exceed 0.02 L/(s.m²) at 75 Pascals as required by the Air Barrier Association of America (ABAA) and in accordance with ASTM E283-04.

PART 2 – PRODUCT

2.01 General

- A. Provide watertight, tensionless, energy-efficient exterior joints in vertical walls (above-grade). Typical locations include, but are not limited to the following: applications in window perimeters, other façade penetrations such as doors, store fronts, vents, HVAC units, panel to panel joints, curtain walls, control joints, between dissimilar materials, high movement and seismic structural expansion joints, acoustic partition barriers, and retrofit applications.
- B. Provide Willseal Seismic as manufactured by Willseal and as indicated on drawings for vertical wall expansion joint locations.
- C. Preformed sealant shall be silicone or urethane coated, preformed, pre-compressed, self-expanding, sealant system. Expanding foam to be cellular foam impregnated with a hydrophobic, acrylic, waterproofing polymer. Seal shall combine factory-applied, low-modulus silicone and a backing of acrylic-impregnated expanding foam into a unified,

tensionless, sealant system. Material can be supplied with the sealant bellows on one or both sides of the joint system.

- D. Material shall be capable of movements of +50%, -50% (100% total) of nominal material size.
- E. Silicone external color facings to be low-modulus, waterproof silicone factory- applied to the foam while it is partially pre-compressed to a width greater than maximum joint extension and cured before final compression. When compressed to final supplied dimension, a bellow(s) to handle movement must be created in the silicone coating. Silicone coatings to be available in a range of not less than 26 standard colors for coordination with typical building materials. Special order and separate colors may be chosen for each coated surface.
- F. Select the sealant system model appropriate to the movement and design requirements at each joint location that meet the project specification or as defined by the structural engineer of record.
- G. Manufacturer's Checklist must be completed by expansion joint subcontractor and returned to manufacturer at time of ordering material.

2.02 Fabrication

- A. Willseal Seismic by WILLSEAL must be supplied pre-compressed to less than the joint size, packaged in shrink-wrapped lengths (sticks). If stick lengths are required in lengths other than 6.56LF (2M) add at least 10 working days to the lead time.
- B. Directional changes and terminations into horizontal plane surfaces can be provided by factory supplied 90-degree angles containing minimum 12-inch long leg and 6-inch long leg, or custom leg on each side of the direction change, or through field fabrication in strict accordance with published installation instructions. In most cases field conditions are such that the restrictive nature of the factory supplied corners do not conform to as built conditions and may outweigh the benefits. Consult manufacturer for proven field transition methods.

PART 3 – EXECUTION

3.01 Installation

- A. Preparation of the Work Area
 1. The contractor shall provide a properly formed and prepared expansion joint openings constructed to the exact dimensions and elevations shown on manufacturer's standard system drawings or as shown on the contract drawings. Deviations from these dimensions will not be allowed without the written consent of the engineer of record.
 2. The contractor shall clean the joint opening of all contaminants immediately prior to installation of expansion joint system. Repair spalled, irregular or unsound joint surfaces using accepted industry practices for repair of the substrates in question. Remove protruding roughness to ensure joint sides are smooth. Ensure that there is sufficient depth to receive the full depth of the size of the Willseal Seismic being installed plus at least ¼-inch (6mm) for the application of corner beads. Refer to Manufacturers Installation Guide for detailed step-by-step instructions.
 3. No drilling, or screwing, or fasteners of any type are permitted to anchor the sealant system into the substrate.

3.02 Clean and Protect

- A. Protect the system and its components during construction. Subsequent damage to the expansion joint system will be repaired at the general contractor's expense. After work is complete, clean exposed surfaces with a suitable cleaner that will not harm or attack the finish.

END OF SECTION