

Standard Guidelines for Product Review

Expansion Joints;

Section 00585

September 8, 2008

00585 – Expansion Joints

ODOT maintains a list of approved “Filled Joints” and “Closed Expansion Joints” for Bridges on the Qualified Products List (QPL). Initially, each manufacturer submits documentation, independent test reports, and samples for each model of expansion joint they wish to have listed on the QPL. Upon acceptance and placement onto the QPL, the product then becomes available for use on upcoming projects for the category listed, but on-site support, certification, and warranties are required for each project the expansion joints are proposed for use on.

Product Name: _____

Check the type appropriate for your submittal:

Closed Expansion Joints - A joint in which a seal material is placed to prevent water or debris from entering the joint. This includes poured silicone sealant (2-part), compression seals, asphaltic plug, strip seals, and modular seals.

Poured Silicone Sealant (2-part) Compression Seals Asphaltic Plug
 Strip Seals Modular Seals

Filled Joints - A joint using preformed filler, hot poured joint filler, traffic loop sealant, or a combination of these materials. These types of joint filler materials are not covered by this Guideline. You can find information related to the submittal requirements at the following locations:

The material and submittal requirements for **Preformed Filler** are covered at:

http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/QPL/Docs/preformed_joint_filler.pdf

The material and submittal requirements for **Hot Poured Joint Filler** are covered at:

<http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/QPL/Docs/PouredJointFiller.pdf>

The material and submittal requirements for **Traffic Loops** are covered at:

<http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/QPL/Docs/LoopSealantsTraffic.pdf>

To Submit a Product:

Review our [Specifications](#) and [Standard Drawings](#) to make sure you meet our requirements. Provide the following for QPL Evaluation:

- Submit a completed copy of the [Preliminary Information for Product Evaluation Form](#).
- Include a copy of this document with the appropriate box checked above. Separate submittals are required for each model or version you wish us to review.
- Include a signed copy of the attached Spec / Warranty Acceptance Statement.

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- Furnish a current list of 5 recent projects utilizing the type of expansion joints being submitted. Include names and contact information for the owner of the project.
- Submit 7 copies of Shop Drawings, Brochures, and Product Literature.
- Quality Control Program (QC) – furnish 3 copies. You must have a current QC program.
- Submit 2 samples (if the material comes in the liquid form, any samples should be cured between two pieces of concrete block approximately 1" x 1" x 2" long. No samples of the asphaltic plug are necessary. Full size samples of the strip seal and modular seal are not necessary as long as the samples supplied are representative and drawings are complete.
- Provide 3 copies of independent test reports that show compliance with the material requirements shown in the Specs. Must be clear, concise, and meet our requirements.

Submittal Material Requirements

You are urged to review the specifications for these joints as shown in Section 00585 and 02440 of our Specifications located at: <http://www.oregon.gov/ODOT/HWY/SPECS/>. Our entire specification for Expansion Joints is shown there. This document only lists the specifications and test results you will need to submit in order to be considered for placement on the QPL.

1. Poured Silicone Sealant (2-Part) –

- A. Must be fully cured within – TBD – hours (ASTM D 5893).
- B. Movement capability must be at least +100 / -50 % (ASTM C 719).
- C. Elongation at Break must be at least +1000% (ASTM D 512 or D 5329).
- C. Peel Strength must be at least 25 pli (ASTM C 794).
- D. The material must be compatible with common header materials that we use, like steel, concrete and asphalt substrates.
- E. You must be willing to furnish a Manufacturer's representative to be present on each project during the installation of the expansion joints. One of the responsibilities of this representative will be to make sure the material is installed in a warrantable manner. The Manufacturer's representative must be independent of the Contractor's work force or display proof that they are certified to install warranted materials from the Manufacturer.
- F. Must furnish a job specific 2 year manufacturer's warranty that the expansion joint will not leak, delaminate, debond, rut, or otherwise fail to perform for two years.

2. Compression Seals –

- A. Must meet ASTM D3542 or AASHTO M 297.
- B. Movement capability must be at least +/- 0.875".
- C. The recommended adhesive must be compatible with steel, asphalt, and concrete substrates.

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- D. You must be willing to furnish a Manufacturer's representative to be present on each project during the installation of the expansion joints. One of the responsibilities of this representative will be to make sure the material is installed in a warrantable manner. The Manufacturer's representative must be independent of the Contractor's work force or display proof that they are certified to install warranted materials from the Manufacturer.
- E. Must furnish a job specific 2 year manufacturer's warranty that the expansion joint will not leak, delaminate, debond, rut, or otherwise fail to perform for two years.

3. Asphaltic Plug Seal –

- A. Must meet ASTM D6297.
- B. 1/4" hot dipped galvanized (AASHTO M111 / ASTM A123) steel plate to bridge the joint.
- C. This joint must be capable of at least $\pm 3/4$ " of movement.
- D. The joint must be compatible with asphalt and concrete substrates.
- E. The joint must offer a smooth transition between both sides of the joint during a wide range of ambient air temperatures without separating.
- F. You must be willing to furnish a Manufacturer's representative to be present on each project during the installation of the expansion joints. One of the responsibilities of this representative will be to make sure the material is installed in a warrantable manner. The Manufacturer's representative must be independent of the Contractor's work force or display proof that they are certified to install warranted materials from the Manufacturer.
- G. Must furnish a job specific 2 year manufacturer's warranty that the expansion joint will not leak, delaminate, debond, rut, or otherwise fail to perform for two years.

4. Strip Seal –

- A. Must meet ASTM D 5973 or ASTM D 3542
- B. This joint must be capable of at least 1 3/4" to 4" of movement.
- C. The extrusions must be at least 8" tall and 5/8" thick. The height can be less, but you must furnish a suitable design to fit our applications without additional cost to ODOT.
- D. The pull out strength of the seal from the metal extrusion must be at least: 350 lbs.
- E. You must be willing to furnish a Manufacturer's representative to be present on each project during the installation of the expansion joints. One of the responsibilities of this representative will be to make sure the material is installed in a warrantable manner. The Manufacturer's representative must be independent of the Contractor's work force or display proof that they are certified to install warranted materials from the Manufacturer.
- F. Must furnish a job specific 2 year manufacturer's warranty that the expansion joint will not leak, delaminate, debond, rut, or otherwise fail to perform for two years.

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5. Modular Seal –

- A. Must meet AASHTO LRFD Bridge Construction Specifications Section 19.3.2.
- B. This joint must be capable of at least 3½“ of movement.
- C. The extrusions must be at least 8” tall and 5/8” thick.
- D. The pull out strength of the seal from the metal extrusion must be at least: 350 lbs.
- E. You must be willing to furnish a Manufacturer’s representative to be present on each project during the installation of the expansion joints. One of the responsibilities of this representative will be to make sure the material is installed in a warrantable manner. The Manufacturer’s representative must be independent of the Contractor’s work force or display proof that they are certified to install warranted materials from the Manufacturer.
- F. Must furnish a job specific 2 year manufacturer’s warranty that the expansion joint will not leak, delaminate, debond, rut, or otherwise fail to perform for two years.

Submit documentation and submittal forms to:

Oregon DOT - Product Evaluation Coordinator
Oregon DOT Materials Lab
800 Airport Road SE
Salem OR 97301-4798

<http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/QPL/QPIndex.shtml>

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Specs / Warranty Acceptance Statement

I certify that we have reviewed the Oregon Department of Transportation (ODOT) Specifications for **Expansion Joints** and declare that our product meets those specifications and is suitable for these applications.

We understand that these Specifications require the manufacturer to furnish a warranty for installations using these products.

We understand that approving these Specifications is critical for our product to be used in Oregon, because of the requirements that they impose on us.

We further understand that these Specifications may change over time and that it is our responsibility to watch the Specifications on each project to ensure that we can still support the requirements.

Product Name: _____

Category: _____.

Yes, we can support the specifications for Expansion Joints.

No, we can not support these specifications for Expansion Joints.

Comments: _____

By: (Company Representative) _____

Company Name: _____

Address: _____

Phone: _____ Date: _____

(Use Manufacturer's Letterhead)

Warranty Statement (Submit to Contractor with each project)

Warranty for Expansion Joints (submit a separate warranty for each type of joint per project):

ODOT Contract # _____ Acceptance Date: _____

Project Name: _____

Contractor: _____

Hwy and MP: _____

Manufacturer: _____

Manufacturer Contact / Phone: _____

Manufacturer Address: _____

Product Name: _____

Category: Strip Seal Modular Seal

Poured Silicone Sealant (2-part) Compression Seal Asphaltic Plug

The expansion joints placed on the above referenced project were completed using the product listed above and is warranted in accordance with the ODOT contract requirement and as follows: Upon written notification by the Agency, that the expansion joint, or portions of the expansion joint, used according to the manufacturer's recommendations, have failed, the manufacturer will replace the expansion joint or portions of the expansion joint, within 6 months of the Agency's written notification.

If the manufacturer fails to replace the expansion joint or portions of the expansion joints within the given 6 month period the agency at its discretion will replace the expansion joints or portions of the expansion joints, or have the expansion joints or portions of the expansion joints replaced by an independent contractor, with the total costs of replacement, including all materials, equipment, labor, associated mobilization, and traffic control costs paid for by the manufacturer.

Manufacturer's Representative (Printed & Signed)

Title

Date