APPLICATION INSTRUCTIONS

WILLSEAL® 250-B

Pre-Compressed Horizontal Road and Bridge Expansion Joint

1. PURPOSE

1.1 The purpose of this document is to establish typical guidelines for installation of Willseal® 250-B. The techniques involved may require modifications to adjust to jobsite conditions. Consult your local Willseal or Tremco Sales Representative or Tremco Technical Services for specific design requirements.

1.2 Willseal 250-B provides a primary horizontal seal. Willseal 250-B is specifically designed to provide a maximum seal in structures with shear and rapid movement, including road and bridge joints, and approach slabs.

2. SCOPE

2.1 This document will provide the necessary instructions for installaton of Willseal 250-B to qualify for a manufacturer's warranty.

3. APPROVED SEALANTS

3.1 Recommended materials for use with Willseal 250-B:

- a. Spectrem 1
- b. Spectrem 800

3.2 Follow recommended sealant dimension guidelines on the appropriate Tremco Data Sheet.

4. AVAILABILITY

4.1 Willseal 250-B is available in joint sizes from 1/2" to 4" sticks (6.5 ft lengths) from your authorized Tremco distributor, or any Tremco or Willseal Sales Representative. For more information contact Customer Service by phone at 800-274-2813 or email custserv@willseal.com.

5. STORAGE

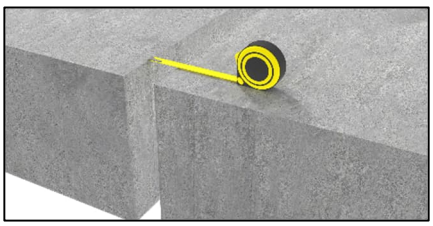
5.1 Store materials in a dry, enclosed area, making sure materials are off the ground and out of direct sunlight.

5.2 Material will expand faster when hot and slower when cold. In cold temperatures, store material in a heated area 24 hours prior to installation. In hot temperatures, store material out of direct sunlight and not in an enclosed storage container where temperatures may exceed 100 °F (38 °C).

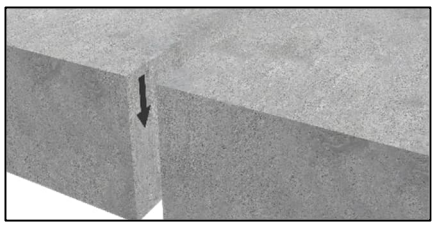
6. MATERIAL SIZING

6.1 Joints must be sized every 5 to 7 ft (1.5 to 2.1 m) to ensure gap opening is uniform. See Ref 1.

6.2 Allow sufficient depth to recess the foam material a minimum 1/2 to 3/4 inch (12.7 to 19.0 mm) into the joint. See Ref 2.



Ref 1 – Measure gap opening every 5 to 7 ft (1.5 to 2.1 m).



Ref 2 – Ensure depth for ½ to ¾ in. foam recess minimum.

7. MATERIAL PREPARATION

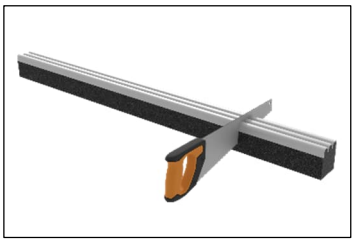
7.1 Store material at a minimum of 68 °F (20 °C) for a minimum of 24 hours prior to installation, regardless of temperature at location of installation.

7.2 Cutting Material

- a. Use a miter saw to make any cuts to the material before removing the clear shrink packaging. All starting and ending pieces must be square to the termination point. See Ref 3.

b. Use a sharp foam knife to cut the material once the clear shrink packaging and wooden boards have been removed. Apply mineral spirits to the knife for a smoother cut. See Ref 4.
c. Install immediately after removing shrink wrap and making final cuts to prevent expansion past the joint size.

Ref 3 – Measure & cut before removing shrink wrap.



Ref 4 – Cut with foam knife after packaging removed.

8. SUBSTRATE PREPARATION

8.1 Verify that the joint is clean, sound, and will provide an appropriate surface for installation of the joint sealant.
   a. Use compressed air to clean any loose debris from the joint.
   b. Apply alcohol to a clean cloth and wipe the joint walls to the depth of the sealant material plus 1 in.

8.2 Verify that the joint is uniform and repair any damages or irregularities prior to installation.
8.3 Check the material for appropriate length, width, and depth.
8.4 Supplied material should be pre-compressed to a size smaller than the intended joint opening.
8.5 Joint depth must allow for the installed material to be recessed 1/4" from the substrate surface.
8.6 Apply duct tape to the substrate surface butting up to the joint opening. This will assist in keeping the substrate clean in case epoxy is inadvertly applied over the edge of the joint.

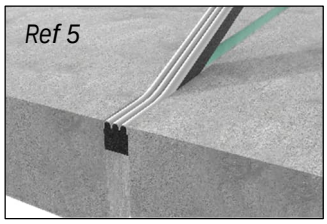
9. EPOXY PREPARATION

9.1 Mix Part A and Part B together in a separate container.
   a. Transfer the entire contents of Part A (resin) and then Part B (hardener) into a clean, empty container. **Part B must ALWAYS be added to part A, and mixed in a 1:1 ratio.**
   b. Mix the material thoroughly with a low speed (approximately 300 rpm) drill or jiffy mixer.
   c. Mix parts A and B until a homogenized color is achieved, leaving no streaks of either color.
   d. Transfer the mixture to another clean container to avoid any leftover residue from streaking the final mixture.

9.2 Epoxy Tips
   a. The epoxy will not cure when the temperature is below 40°F (4.4°C).
   b. For every +17°F (-8.3°C), the epoxy cures twice as fast.
   c. For every -17°F (-27°C), the epoxy takes twice as long to cure.
   d. Greater volume = less time to cure, smaller volume = more time to cure. A technique to increase the pot life of the epoxy is to split up the mixed material into smaller units.
   e. Mix only the required amount of epoxy that will be used within a 30 minute timeframe to prevent the epoxy from curing prematurely.

10. SEALANT INSTALLATION

10.1 Begin installation at one end of the joint and work across to the opposite end using butt seams. See Ref 5.
10.2 When fully prepared to install, apply a 1/16 to 1/8 inch (1.6 to 3.2 mm) coating of the epoxy mixture to both joint walls using a 1" margin trowel starting 1/4" from the joint surface to a depth of the sealant material plus 1/2"(1.25 cm). See Ref 6.



a. The epoxy must still be wet upon installation of Willseal 250-B. The working time for epoxy is approximately 30 minutes depending on the temperature.
b. If the epoxy hardens on the surface of the substrate before installation, another coat of epoxy can be applied within 2 hours. After 2 hours, the substrate surface must be abraded to eliminate the amine blush that occurs during the final cure.

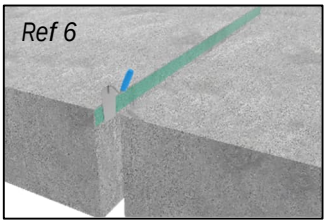
10.3 When fully prepared to install, cut the shrink packaging along the edge of the masonite strapping. See Ref 7.
a. Be prepared to install material immediately once the packaging is removed to prevent the material from expanding past the joint width.

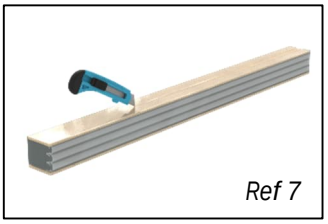
10.4 Verify that the material is cut square at both ends for proper seams; all pieces must be square to the termination point.

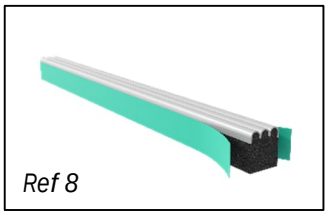
10.5 Pay attention to the direction of insertion marked on the packaging.

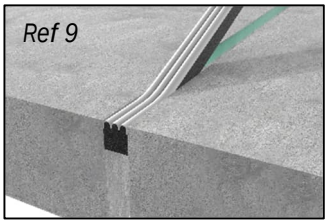
10.6 Remove the release liner on both sides of the Willseal 250-B. See Ref 8.
a. Make sure not to pull, twist, or stretch the material in the process of installation to avoid tearing the release liner.

10.7 Initially, position Willseal 250-B 1/8 inch (3.2 mm) above the deck surface. Once the material is partially expanded in the joint, it can then be installed to 1/2 to 3/4 inch (6.4 mm) below the surface of the joint using a putty knife or margin trowel. See Ref 9.
a. Wedges can be used to aid in installation.
b. Remove wedges once the material begins to expand and before the epoxy cures.


Ref 6


Ref 7


Ref 8


Ref 9

11. SEAMS AND FINISH

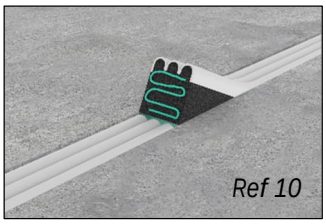
11.1 Verify that the new piece of material is cut square and not at an angle to the previous piece installed.

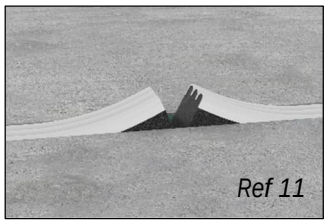
11.2 Apply flexible sealant to the butt end of the new piece of material. See Ref 10.
a. Do not apply sealant to the faces of the product that are in contact with epoxy.

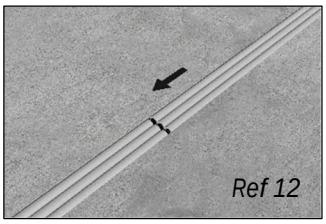
11.3 Overlap extra material approximately 1/4 inch (6.3 mm) at seams and splices to ensure that the seam is in compression after installation. See Ref 11.

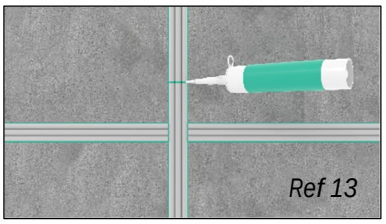
11.4 Make sure seams are flush against each other and then push the pieces together. See Ref 12.

11.5 Butt seam all “T” and “+” intersections. If there are any mitred joints with a hole or void, use the supplied flexible sealant to fill and seal the joint.


Ref 10


Ref 11


Ref 12

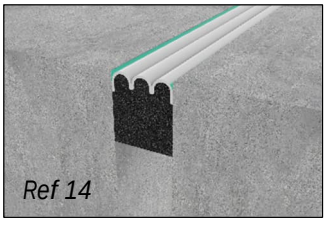

Ref 13

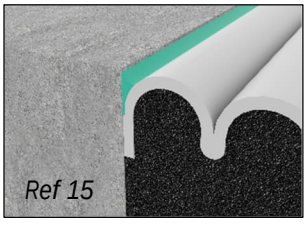
11.6 Apply recommended silicone sealant over seams and intersections. See Ref 13.
a. If crew size permits and two lengths of material can be prepared, the ends to be seamed can be held above the deck surface and the mitred pieces can be pushed down into the joint together

11.7 Remove duct tape.

11.8 Apply and tool finishing bead with recommended silicone sealant. See Ref 14 and Ref 15.

11.9 Remove any excess fleixble sealant or epoxy left on the surface of the material substrate. Do not allow the excess flexible sealant or epoxy to cure on surface.


Ref 14


Ref 15

12. MAINTENANCE

12.1 Semiannual maintenace is recommended for best results. Follow the Willseal Horizontal Stick Maintenance Procedure available online via tremcosealants.com. Contact Tremco or Willseal Technical Services with any questions.

13. LIMITATIONS

13.1 Do not install Willseal 250-B when substrate or ambient temperatures are below 40 °F (4 °C). Do not install when raining or snowing. If ambient storage temperatures are below 50°F (10°C), store material at a minimum of 68°F (20°C) for a minimum of 24 hours prior to installation, regardless of temperature at location of installation. Store material in a dry, enclosed area, off the ground, and out of direct sunlight.

13.2 Joints must be sized by measuring every 5 to 7 ft (1.5 to 2.1 m) to ensure gap opening is uniform and depth is sufficient for the supplied material. Willseal 250-B will not adhere to surfaces contaminated by oil or grease.

13.3 This product is not intended for the following:

a. Joints continuously submerged in water
b. Joints in continuous contact with harsh chemicals
c. Joints in roofing applications or areas with occupied space

W250B-AI/0124