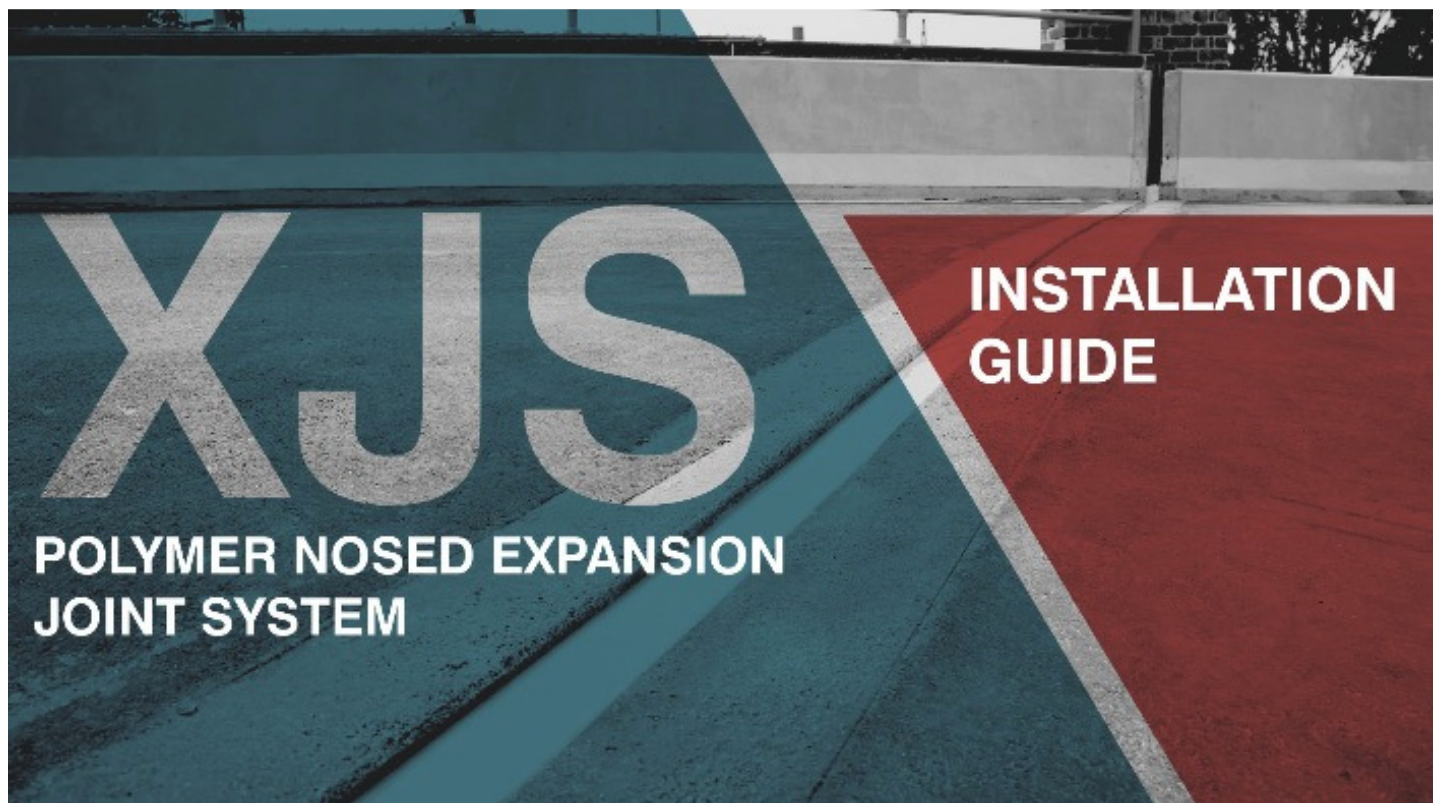


EXPANSION JOINTS –Small Movements

GRANOR® X.J.S. EXPANSION JOINT SYSTEM

INSTALLATION PROCEDURE



XJS INSTALLATION PROCEDURE

Step 1 – Cutting asphalt either side of Expansion Joint gap.

The asphalt deck overlay needs to be saw cut to the full depth of the asphalt. The asphalt needs to be cut wide enough to allow for Silspec headers to be placed either side of the expansion joint gap. The width of the Silspec headers are to be at least twice the depth of the asphalt (minimum width is 150mm wide).



Step 1 - Cutting asphalt

Step 2 – Removing asphalt.

All asphalt is to be removed from the blockout, so as to expose the concrete deck. The concrete should be “scabbled” to remove any black residue from the asphalt. If the existing joint had steel angles, then these should be removed, or cut down, at this stage.



Step 2 - Removing asphalt

Step 3 - Sandblasting

Sweep out blockout, and remove any loose material, prior to grit blasting.

Grit blast the blockout so that all residue from the asphalt, and any other “old” or loose material is removed.

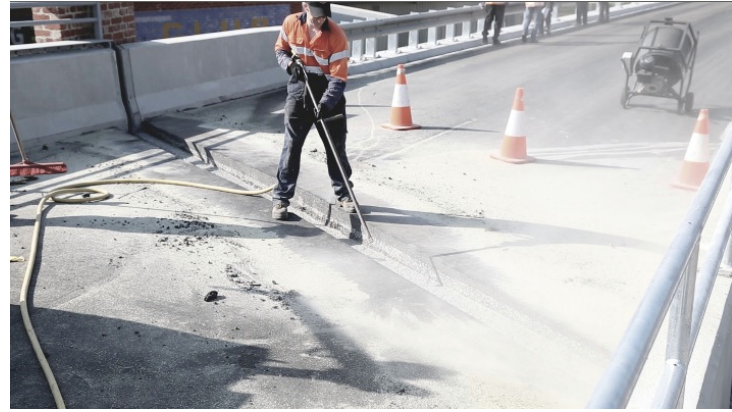


Step 3 - Sandblasting

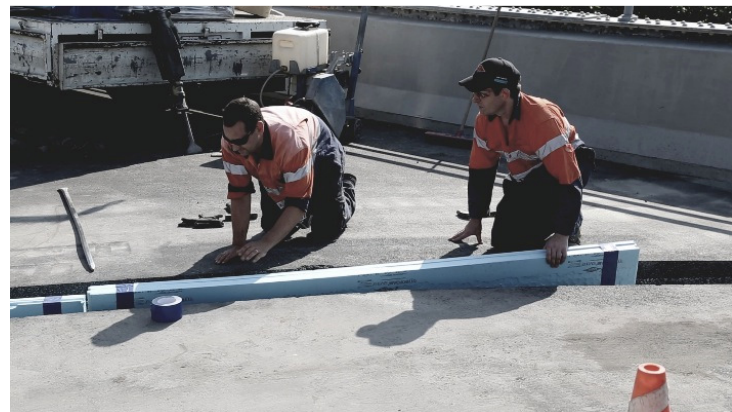
Step 4 – Cleaning the blockout & forming the joint gap.

After grit blasting thoroughly sweep area and blow out the blockout so that there are no loose particles or dust left in the blockout that could prevent adhesion of the Silspec material. Whilst the silspec can tolerate some moisture it is preferable to have the blockout as dry as possible.

Place formwork in the middle of the blockout to form the expansion joint gap to the desired expansion joint gap width. We use a Dow Corning product called “Styrofoam” as a gap former, because it is much more rigid than polystyrene, and easy to remove once the Silspec has cured.



Step 4.1 – Blowing Blockout



Step 4.2 – Styrofoam gap former

Step 5 – Mixing the Silspec

The Silspec material consists of three components. The two liquids (one black and one white) should be mixed together thoroughly with a spiral mixing paddle on a drill. Ensure that the two tins of liquid are completely emptied into the mixing bucket, the white liquid sometimes forms a paste in the bottom of the tin, make sure that this paste is scraped out. If the weather is cold, heating the tins up slightly before opening them can make them easier to mix.

Once the two liquids are mixed, pour them into a mixing barrel, or large bucket, then add the Silspec aggregate. If using a mixing barrel, then you can pour in the aggregate quickly, and let the barrel do the work. However, if you are mixing the Silspec in a bucket, with a mixing paddle on a “Festo” mixer, or similar, then add the aggregate slowly whilst mixing. Ensure that the aggregate and liquid are fully mixed together, all of the aggregate should be visibly coated with the brown liquid.



Step 5.1 – Mixing two liquid tins



Step 5.2 – Adding Silspec

Step 6 – Placing the Silspec.

Pour the Silspec into the blockout, and pack it down firmly into the blockout. The Silspec is self-priming, but it needs to be “pounded” to ensure the liquid in the Silspec coats the bottom of the blockout. This is important for the adhesion of the Silspec. We use a trowel which is basically a flat plate with a D shaped handle, to enable the worker to pound down on the Silspec with his fist. When liquid starts to come to the surface, this indicates that the Silspec has been adequately compacted.

Ensure that the Silspec is flush with the asphalt either side of the joint. This will ensure a good ride over the joint.

The Silspec will take approximately 2 hours to cure, depending on the depth of the blockout, and the temperature. If you are in a cold environment, then curing time can be decreased by keeping the joint warm, i.e. covering the joint and blowing warm air over it. Do not heat up the joint by applying a naked flame to it, as this will cause a brittle crust to form on the top of the Silspec.



Step 6.1 – Pouring Silspec



Step 6.2 – Using trowel to make Silspec flush

Step 7 – Preparing for Silicone Sealant installation.

Once the Silspec has cured you can remove the Styrofoam former. The edges of the gap should be ground (using an angle grinder) to form a 5mm x 5mm chamfer.

The sides of the joint gap should be grit blasted to give a clean, pitted surface for the sealant to bond to. All dust and blasting grit should be blown out of the gap. The sides of the gap need to be completely dry.

Paint the Dow Corning P5200 primer on the sides of the gap using a small paint brush. Allow the primer to completely dry before putting in the backer rod. The primer should only take a few minutes to dry.

It is important that the primer is painted on first before putting in the backer rod, otherwise the primer will pool up on the backer rod and not dry up.

Choose a backer rod that is larger in diameter than the width of the gap, so that it is a tight fit. Push it into the gap so that the top of the backer rod is 25mm below the surface of the joint.



Step 7.1 – Cutting out Styrofoam



Step 7.2 – Sandblasting



Step 7.3 – Painting on Primer



Step 7.4– Pushing in backing rod

Step 8 – Installing the 902RCS silicone sealant.

Connect the silicone installation gun to a compressor. Fit a spiral mixing tip to the end of the gun. Open the barrels of the gun and place a part A, and a part B silicone sausage into the barrels. Cut the tops off the silicone sausages. Close the barrels of the gun.

Point the mixing tip into the gap, and squeeze the trigger on the gun. Pour the sealant into the gap so that it is 12mm below the surface. The sealant is self-leveling, you do not need to touch it with a trowel. It will form a skin almost immediately, although you can go back and top up sections if the sealant appears a bit low (but only within 5 to 10 minutes of originally pouring the sealant). The sealant is rapid curing. Traffic can be run over the joint as soon as you've finished pouring and packed up.

After cleaning up, your job is now complete.



Step 8.1 – Adding part A & B silicone



Step 8.2 – Pouring silicone



Step 8.3 – Pouring over backing rod



**Thank you for using a Granor Product.
For enquiries regarding these instructions, or any
other information on bridge bearings or deck
expansion joints, please call Granor on:
+61 3 9762 9699
Or email:
info@granor.com.au**