

INTERNAL JOINT SEALS

Recommended Installation Procedure

Before Ordering NPC Internal Seals

1. Measure the internal diameter of the pipe on both sides of the joint being sealed. The pipe diameters can vary depending on the manufacturer, so we always recommend measuring the diameter to determine exact size.
2. Measure the width of the area that needs to be sealed. NPC Internal Seals are available in 7.5 and 10.5 inch widths. The 7.5 inch seals are available with an extension flap that allows them to be overlapped to form as wide a seal as is required.
3. Contact your sales representative or NPC engineering department if you have questions regarding your specific sealing requirements.

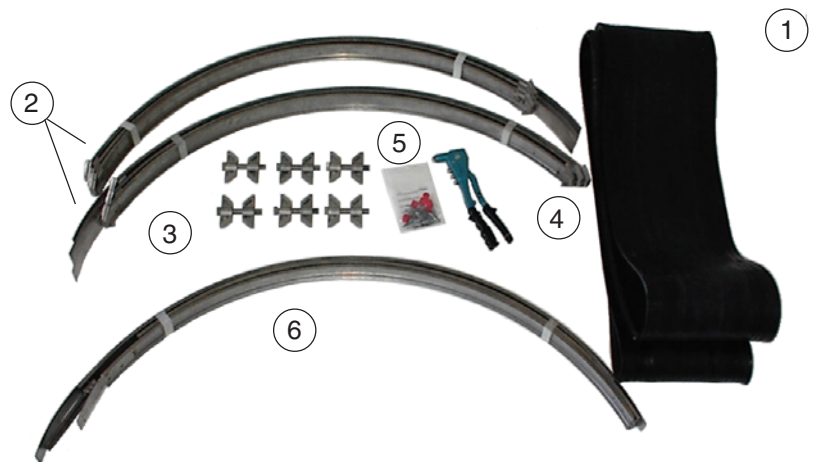
Preparing the Pipe Prior to Installation

1. Clean sand and dirt from the area where the seal will be located.
2. Inspect joint area being sealed for surface defects and repair as needed.

Components Included with the NPC Internal Seal Assembly

The Internal Seal comes unassembled with the components listed below.

1. Rubber Seal
2. Expansion Bands
3. WedgeLock Assemblies
4. Pop Rivet Gun
5. Pop Rivets and Safety Caps
6. Center Band. Recommended for any application with 5 ft. or more of ground water head pressure.



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Assembling the Internal Seal

1. Each Expansion Band section has a stainless steel strip at one end which allows the band sections to be riveted together. Position the arrow heads as shown in **Figure 1** and fasten with rivets.
2. After all sections of the Expansion Band have been riveted together insert the WedgeLock Assemblies as shown in **Figure 2**. Make sure that the bolt heads of all of the WedgeLock Assemblies are facing the same side of the Expansion Band. Tighten enough to keep them in place.
3. Repeat steps 1 & 2 for the other Expansion Band.
4. Place the assembled Expansion Bands into the Seal as shown in **Figure 3**. The Expansion Bands should be seated in the band track on either side of the Seal. Position the WedgeLocks in the areas cut out for them in the tracks. Make sure the bolt heads on the WedgeLocks face the outside of the seal.
5. Apply a drop of lubricant (pipe lube, liquid soap) to the back of the Expansion Bands halfway between each of the WedgeLocks. This will allow the bands to slide freely against the Seal as they expand.

Recommended Torque Values

Minimum: 45 Foot Pounds

Maximum: 75 Foot Pounds

Installing the Internal Seal

1. Prior to putting the Seal in place, mark the pipe on either side of the joint. If you are using a 10.5" Seal mark the pipe 5.25" from the joint, for a 7.5" Seal mark the pipe 3.75" from the joint. Doing this in a few places around the inside of the pipe will make it easier to position the Seal over the center of the joint.
2. Move the Seal into place over the center of the joint.
3. For any application with 5 ft. or more of ground water head pressure we recommend using a Centerband. To assemble the Centerband, bring the matching colored ends together and rivet. Place the Centerband in the middle of the Seal and tighten the adjustment nuts until it is seated tightly against the Seal. The purpose of the Centerband is to keep the center of the Seal from bulging from external groundwater pressure. Therefore it doesn't need to be tightened as much as the Expansion Bands.
4. Alternate tightening each of the WedgeLocks to begin expanding the bands inside the Seal. You will feel the rivets break as you tighten the WedgeLocks (the rivets are only used to aid in assembly and are no longer necessary). **Continue alternately tightening each of the WedgeLocks until you have reached the recommended torque value shown above. Check torque again after 30 minutes and tighten if necessary.**

Figure 1

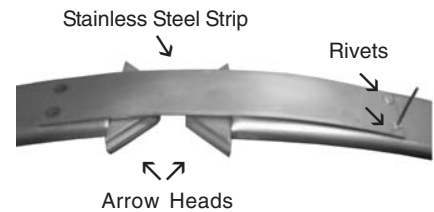


Figure 2



Figure 3

