



Stargrip® series 3100P

Wedge Action Restraint
for Ductile Iron Pipe Bells - New Installations

Sizes 3" - 48"

INSTALLATION INSTRUCTIONS - SIZES 3" - 48"*



STEP 1

Stargrip® Series 3100P is designed to restrain Push-On Ductile Iron Pipe connections (all thickness classes). It includes a Stargrip® Series 3000 restraint gland for the spigot end and a Split Back-Up Ring behind the bell.

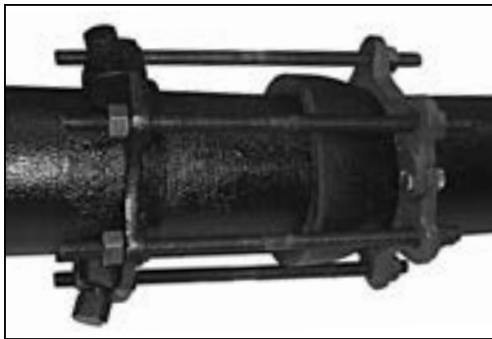
Place the Stargrip® Series 3000 restraint gland on the spigot end of the plain pipe with the lip extension facing towards the mating bell. Do not remove rubber washers prior to installation. Washers have been provided for proper wedge placement during shipment and installation.



STEP 2

Install the Split Back-Up Ring, behind the pipe bell in the direction indicated on the casting. Tighten clamping bolts on the Split Back-Up Ring 90 ft-lb.

Assemble the Pipe Push-On joint per the pipe manufacturer's installation instructions.



STEP 3

Rotate Stargrip® Series 3000 restraint gland on the spigot such that the boltholes are in alignment and adjust the position so that the distance between the glands is suitable for the double-ended rod length. Adequate length should be allowed on the double-ended rods so that nuts can be fully engaged with several threads showing.

Install the remaining double-ended rods provided in each bolt hole. Place nuts on the ends of each double-ended rod. Ensure that adequate length is allowed on rods to fully engage the nuts with several threads showing.

Pull Stargrip® Series 3000 restraint gland away from the joint until there is no slack in the rods.



STEP 4

Tighten the torque limiting twist off nuts in a clockwise direction until all the wedges are in firm contact with the pipe OD. Continue tightening in an alternative manner going on opposite sides (Star Pattern), until all of the nuts have been twisted off.

The nuts on the double-ended rods must be tightened until the Split Back-Up Ring is in firm contact with the back of the bell. These nuts should not be over tightened.

If removal of the Stargrip® Series 3000 restraint gland is necessary, utilize the 5/8" hex head provided. If reassembly is required, assemble the product in the same manner as above and tighten the wedge bolts to 90 ft-lbs on sizes 3"-20", 120 ft-lbs on sizes 24"-36", and 130 ft-lbs on sizes 42" and 48".

Important Note for Sizes 42" & 48":

- For sizes 42" & 48", two Stargrips are provided. Stargrip is placed on the spigot end of plain pipe with lip extension facing towards the mating bell. The other Stargrip is placed on the second pipe behind the bell with lip extension toward the bell. Proceed to follow steps 3 & 4 as listed above to complete installation.

Notes:

- Stargrip® Series 3100P restraints are designed for use on ductile iron pipe that meets all physical requirements of ANSI/AWWA C151/A21.51. The pipe must be fully annealed to assure primary carbides have been dissolved and pearlite has been converted to ferrite. Please contact Star Pipe Products for technical assistance.
- Not to be used on plain end fittings or PVC or HDPE pipe.
- Stargrips® must be adequately wrapped or protected if they are covered by concrete to ensure that concrete does not enter the wedge pocket.
- Tightening of torque limiting twist off nuts can be performed by use of Wrench (box, ratchet or pneumatic).
- For applications exceeding the maximum pressure ratings listed, please contact Star Pipe Products for recommendations.
- For applications with vertical offsets please contact Star Pipe Products for technical assistance.
- For applications on existing pipe, the pipe needs to be structurally sound and the surface needs to be relatively free of any corrosive by-products in order for the wedges to function properly. Please contact Star Pipe Products for technical assistance.

STAR® PIPE PRODUCTS