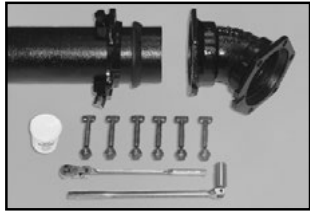




Stargrip® series 3000 & 3000OS

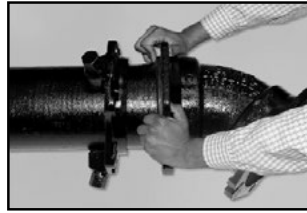
Mechanical Joint Wedge Action Restraint for Ductile Iron Pipe

INSTALLATION INSTRUCTIONS - SIZES 3" - 48"



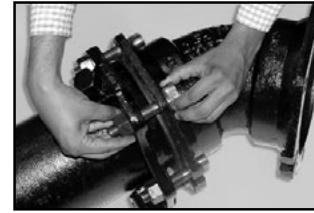
STEP 1

To ensure the rubber gasket will seal effectively, clean and remove all loose materials and rust from the mating surfaces. Lubricate the gasket and plain end by brushing either soapy water or pipe lubricant. Slide the Stargrip® on the plain end with lip extension towards the plain end, followed by the MJ gasket. Do not remove rubber washers prior to installation. Washers have been provided for proper wedge placement during shipment and installation.



STEP 2

After insertion of the pipe into the bell of the fitting, firmly press the gasket into the gasket recess. During this process the joint should be kept straight.



STEP 3

Slide the Stargrip® toward the MJ bell with the gland lip against the gasket. Insert T-bolts and hand tighten nuts.

IMPORTANT: Make deflection after joint is assembled but before tightening T-bolts.



STEP 4

When tightening bolts, it is essential that the gland be brought up toward the bell flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. All T-bolts should be tightened until they are in within the torque range per ANSI/AWWA C600 (See Table A). T-Bolts should be tightened alternately on the opposite sides (Star Pattern).



STEP 5

Tighten the torque limiting twist off nuts in a clockwise direction until all wedges are in firm contact with the pipe surface.

Continue tightening in an alternative manner going on the opposite sides [Star Pattern], until all nuts have been twisted off.



STEP 6

If removal is necessary, utilize the 5/8" hex head provided. [If reassembly is required, assemble the joint in the same manner as above and tighten the wedge bolt to 90 ft-lbs on sizes 3"-20", 120 ft-lbs on sizes 24"-36" & 130 ft-lbs on sizes 42"-48"].

(TABLE A) T-HEAD BOLT & NUT DETAILS		
PIPE SIZE (IN)	BOLT SIZE (IN)	RANGE ¹ OF TORQUE (FT-LBS)
3	5/8	45-60
4-24	3/4	75-90
30-36	1	100-120
42-48	1 1/4	120-150

¹These torque ranges are requirements of AWWA C600

Notes:

- Stargrip® Series 3000 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.
- If effective sealing is not attained at the maximum torque indicated, then the joint should be disassembled, thoroughly cleaned, and reassembled. **Overstressing the bolts to compensate for poor installation practice is not acceptable.**
- Tightening of T-Bolts and torque limiting twist off nuts can be performed by use of Wrench (box, ratchet or pneumatic).
- Not to be used on plain end fittings or PVC or HDPE pipe.
- Stargrip® Series 3000 may also be used on steel pipe* up to 12" (*transition gasket required on 12" and under). For 14" and larger steel applications, contact Star Pipe.
- Stargrips® must be adequately wrapped or protected if they are covered by concrete to ensure that concrete does not enter the wedge pocket.
- For applications exceeding the maximum pressure ratings listed, please contact Star Pipe Products for recommendations (see Tandem Stargrip® Series 3000T on page 11).
- 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.
- Pressure ratings shall not exceed the maximum pressure rating of the iron pipe it is installed on.

STAR® PIPE PRODUCTS