



## Installation Instructions

### Model 200 Series Ductile Iron Couplings Models 210, 211, 212, 214, 219

Read instructions before starting installation\*

For purposes other than water, contact JCM Industries for application and product assistance.

Review of "Tricks of the Trade" on the reverse will assist with installation.

1. Clean/remove all dirt, rust, mud or loose scale. Inspect the pipe ends where gaskets contact the pipe for any gouges, grooves, irregularities or imperfections that will interfere with the gasket seal. Measure cleaned pipe diameter, confirm proper size of coupling. Inspection of the pipe's integrity for product application is the responsibility of the end user
2. Measure back on each pipe end one-half of the middle ring length plus two inches and place a reference mark. These marks will be a visual reference point for centering the middle ring over the joint.
3. **Lubricate both the pipe and the entire gasket with water or soapy-water mixture.** Install follower ring(s), then gasket onto the pipe end(s). **NOTE:** Flat side of the gasket face meets the follower ring, tapered side inserts into the middle ring. Alcohol may be added to water in freezing weather. **DO NOT use pipe lubricant or grease based products to lubricate.**
4. Install middle ring on one pipe end. Insert other pipe end into middle ring; center the middle ring over the joint, between the reference marks. Lift the middle ring to insure that the gaskets are evenly centered in the ends. Center follower rings on the pipe to ensure even gasket compression into the middle ring.
5. **For 214 Pipe End Cap Coupling:** Install middle ring on pipe end (note the reference mark). Slide the middle ring back on the gasket. Slide the follower ring up against the gasket. Install the end cap assembly (includes gasket, end cap and follower ring) into place. Slide the assembly and ensure assembly gasket is inserted into middle ring correctly.
6. **Torque coupling bolts on opposite sides, using a star rotation pattern,** draw the followers evenly until all bolts are tightened to a minimum of 75 Ft/Lb. of torque. For fittings provided with stainless steel bolts, see reverse for guidelines.

**NOTES:** Pipe ends must be inserted past the end of the gasket a minimum of one and one-half (1-1/2") inches. For deflected/offset pipe ends, pipe ends must be inserted a minimum of one and one-half (1-1/2") inches past the end of the gasket after the deflection/offset has occurred. Do not exceed a recommended 4° of pipe deflection with the coupling without inspecting the centering and sealing of the gasket in the middle ring and follower ring. Excessive deflection will cause the gasket to improperly seal.

#### For Restrained Couplings:

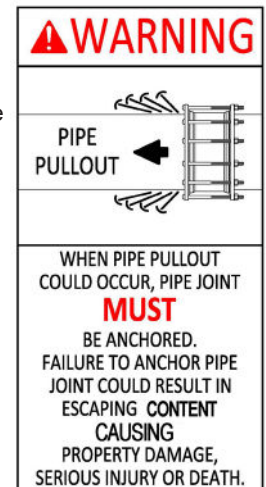
Using a 12 point 7/16" socket wrench, evenly tighten all set screws until they are in contact with the pipe. Then alternately tighten them in a star pattern to approximately 50 Ft-lbs. of torque. When set, tighten all set screws in a star pattern to 80 -90 ft lbs. torque has been reached. evenly tighten all restraining set screws until they are in contact with the pipe.

#### IMPORTANT:

Standard couplings do not provide for axial pipe movement. In applications in which lateral pipe pull out may occur, pipe restraint must be provided. See fitting manufacturer recommendations for applications on High Density Polyethylene Pipe (HDPE). Restraining set screws are not recommended for Asbestos Cement, PVC, HDPE or other thin wall pipe or brittle pipe. Pipe inspection is the responsibility of the end user.

Ductile iron couplings and flanged coupling adapters create a flexible joint that allows minimal deflection and movement of the pipe at the joint. Use of restraining torque head set screws eliminates this flexibility and changes the fitting to a rigid joint that no longer accommodates deflection or movement after fitting installation.

\*Ensure fitting is suitable for application (confirm size, materials, pressure ratings, line content, meets local governing & association standards, etc.). Pipeline operation forces, including pressure fluctuations, thermal expansion/contraction, movement/shifting, etc. will influence the success of the application. Proper anchorage, restraint, harnessing, thrust blocks or other devices must be provided to prevent pipe movement (lateral, angular, axial) or pipe pullout from the bolt-on fitting. Inspection of the pipe integrity is the responsibility of the end user. JCM recommends the use of calibrated torque wrench. Failure to follow installation instructions will result in voided product warranty



Certified to  
NSF/ANSI/DIN 01  
& NSF/ANSI 372

For application review or questions contact JCM Industries at 1-800-527-8482, 903-832-2581

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## Stainless Steel Fastener Management and Tips and Tricks of the Trade for Successful Installation

### JCM Quality Fittings Equipped With 18-8 Stainless Steel Bolts and Nuts

When not properly handled it is the nature of stainless steel fasteners to gall and freeze (seize up). This is due to the inherent properties of the stainless material. Galling and freezing is often triggered by the presence of metal chips, burrs and grains of sand on the threads of the bolts and nuts. Extra care has been taken by JCM prior to assembly and packing of this fitting to assure a trouble-free installation.

1. The nuts and bolts are made from material of different hardness so that they have different strengths.
2. Nuts are coated with a special anti-seize coating. Additional lubricant may be needed. A Molybdenum-Base lubricant is recommended.
3. Each nut is assembled by hand to be sure that it went on the bolt freely.
4. The bolts and nuts are handled carefully to avoid damage to the threads.
5. The bolts and nuts are made to exacting specifications to assure that the correct material is used and that the thread form is correct.

Stainless hardware is especially susceptible to galling. JCM supplies specially coated nuts to eliminate the galling caused by over-torquing, but the bolt threads must be kept clean, free from nicks and not pitched or thrown into the tool bucket during the installation process. Use of pneumatic wrench for installation could cause hardware to seize and is not recommended.

### Tricks of the Trade

Years of field experience, special applications and product testing have revealed many subtleties regarding application and installation of bolted fittings. For maximum performance under adverse conditions take advantage of the JCM **“Tricks of the Trade.”**

**Lubricate the pipe with soap-water or water.** Oil based pipe lubricants produce a film between the gasket and pipe surface that is not water soluble and can interfere with the gasket/pipe water tight seal.

1. Difficult to reach or cramped areas on the backside or underside of the pipe can be visually checked by using a mirror.
2. Couplings perform at optimal effectiveness when centered over joint area.
3. To ease installation gaskets and pipe should be lubricated with water or soapy-water mixture. DO NOT use pipe lubricant or grease based products to lubricate. Lubricant does not dissipate with water and will not let the gasket adhere to the pipe.
4. While inspecting pipe ends, assess the condition of the pipe wall. Weakened or deteriorated pipe conditions should be analyzed and allowed for during the installation and bolt tightening process.
5. Lubricating coupling bolts will ease installation and assure proper torquing of bolts. During the bolt tightening procedure, tighten bolts in a star pattern, evenly compressing the gasket into the middle ring. Inspect for gasket misalignment or “cocked” position in the middle ring.

Backfill carefully. Improper assembly support and careless backfilling can sabotage an otherwise perfect installation.