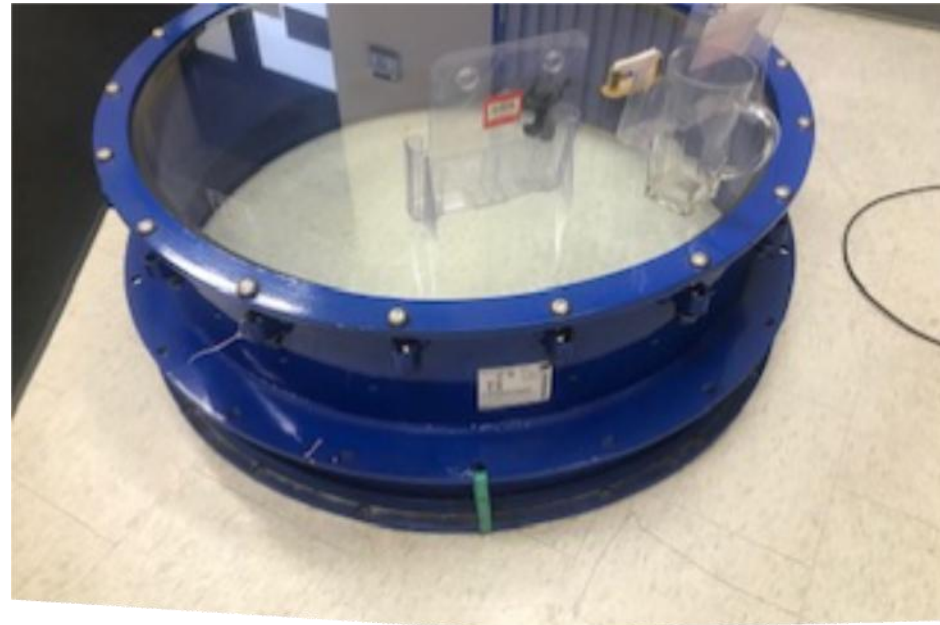


Pipe Connecting, Fitting and Restraints



There are many different types of pipe.

- There are many different types of Pipe and OD'S
- Its critical to know the pipe OD when joining.

Cast Iron Pipe



Asbestos-Cement



HDPE



PVC



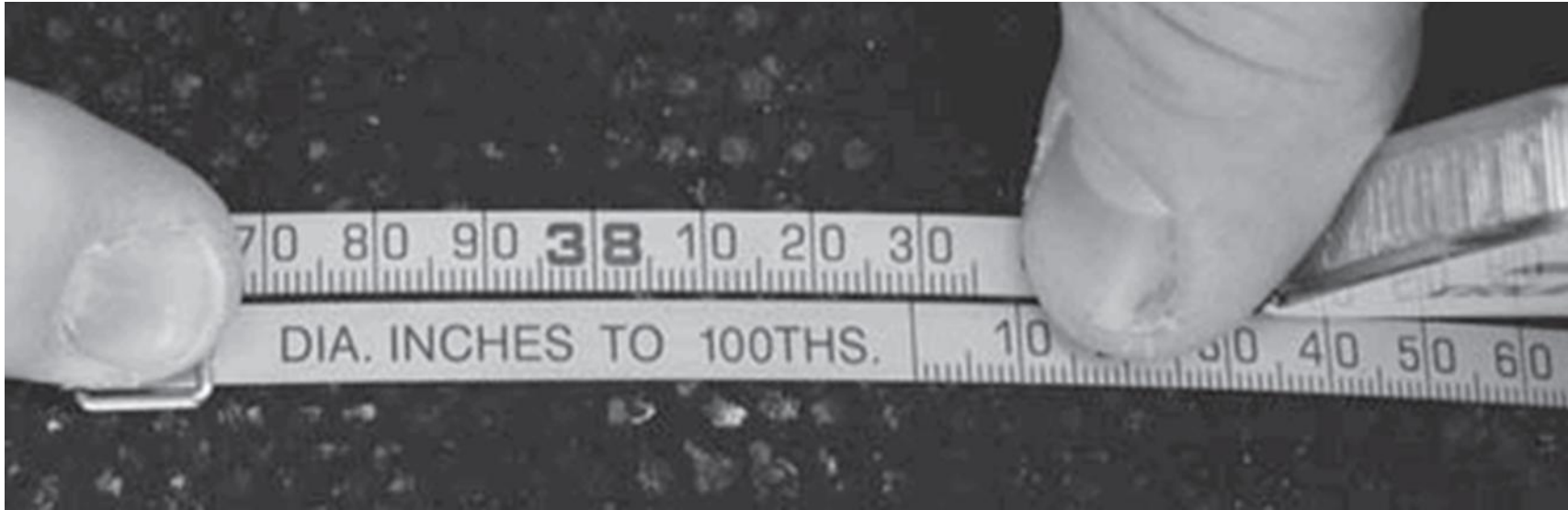
Steel



Copper



Importance of Pipe Measurement



- If you do not have an OD tape, use a regular tape measure
- Formula is pipe measurement divided by pi (3.1415) to get the OD
- Example is pipe is 29.5 divided by 3.1415=9.38 Pipe OD.

The Coffee Table Story



Restrained and Non-Restrained Couplings



What is the difference between Restrained and Non-Restrained?

Restrained couplings

- Prevent axial movement and separation
- Restrained joint gripping or locking the joint together
- Takes into account thermal expansion
- Benefits of security and reliability.
- Allows 4 degrees of deflection minimum per end versus wedge action restraint with 0 deflection



Unrestrained Couplings

- Allow axial movement and expansion
- Benefits of flexibility and ease of installation

Smith-Blair presents



Installation Instructions for
421/422 Top Bolt Coupling

Couplings



Smith Blair Omni Coupling system is most commonly used:

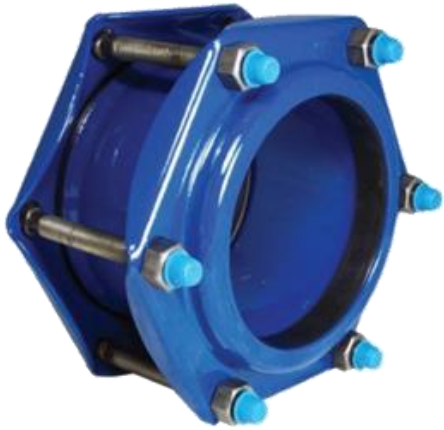
- By simply changing end ring and gasket it will accommodate a large variety of pipes

Benefits:

- Easy and fast to change gaskets.
- Can accommodate 98% of pipes used from IPS size to AC up to 16"
- All ends are stocked in Ontario for fast delivery.
- Inexpensive.
- Longer body lengths available.

Nominal Pipe Size (Inches)	Range of Pipe Size (Inches)	Gasket/Follower Color Code	Gasket	Follower Flange	Coupler Tube Size (CTS)	O.D. Steel	Flare Pipes of These Nominal O.D.'s (Inches)			Asbestos Cement Pipe		
							Sched. 40/60 Steel and IPS PVC	Standard 40/60 S. Crown PVC	Standard 40/60 Cast Iron	Class 150	Class 150	Class 200
							IPS	PVC	Cast Iron	IPS	PVC	Cast Iron
2	2.34 - 2.63	Red	33027	20075			2.38	2.51				
2 1/2	2.68 - 2.98	Red	33028	21308			2.98					
	2.98 - 3.13	Red	33029	21308	3.13		3.10					
	3.13 - 3.36	Red	33030	21308			3.16	3.30		3.16	3.34	
3	3.37 - 4.14	Red	33031	21309								
	4.15 - 4.18	Red	33032	22502	4.13	4.00						
	4.22 - 4.30	Red	33033	22502			4.30					
4	4.30 - 4.60	Red	33034	22502			4.50	4.80				
	4.60 - 5.10	Red	33035	21303					5.00	4.81	5.07	4.81
	5.11 - 5.48	Red	33036	21303					5.25		5.30	5.33
6	6.00 - 6.18	Red	33037	22503	6.13	6.00						
	6.24 - 6.63	Red	33038	22503			6.63					
	6.66 - 6.96	Red	33039	22503			6.93	6.90	7.50	6.91	7.10	6.91
8	6.99 - 7.22	Red	33040	21348								
	7.25 - 7.60	Red	33041	21348					7.60		7.57	7.60
	8.00 - 8.18	Red	33042	22504	8.00							
10	8.40 - 8.63	Red	33043	22504			8.63					
	8.64 - 9.11	Red	33044	22504			9.05					
	9.05 - 9.45	Red	33045	21300			9.30	9.11	9.30	9.11	9.40	9.11
12	9.46 - 9.85	Red	33046	21300					9.87		9.82	9.75
	9.86 - 10.00	Red	33047	21300	10.00							
	10.00 - 10.75	Red	33048	21300			10.75					
14	11.50 - 11.60	Red	33049	21306			11.50	11.40	11.24	11.47	11.60	11.60
	11.65 - 11.88	Red	33050	21307							11.80	11.80
	11.90 - 12.00	Red	33051	21307							12.15	12.15
16	12.00 - 12.75	Red	33052	21309	12.00							
	12.80 - 13.95	Red	33053	21309			13.75					
	13.95 - 14.25	Red	33054	21309			14.00			13.74	14.20	14.20
18	14.25 - 14.40	Red	33055	21309							14.36	14.30
	14.40 - 15.00	Red	33056	21309			15.00					
	15.00 - 15.80	Red	33057	21309			15.50	15.60		15.80		15.80
20	15.80 - 16.35	Red	33058	21304							16.30	16.30
	16.35 - 16.55	Red	33059	21304							16.75	16.65
	16.55 - 16.90	Red	33060	21304							16.90	16.85
24	16.90 - 17.00	Red	33061	21371			17.40	17.80		17.60		
	17.00 - 18.00	Red	33062	21372						18.40	18.75	18.40
	18.00 - 18.20	Red	33063	21372						18.87		18.80

Couplings



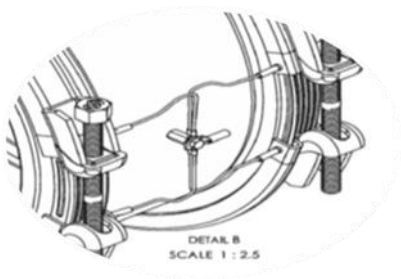
What's the difference?

411 Steel Body Couplings

- Steel bodies couplings give you the flexibility to make any O.D. size required (up to 120" diameter)
- Also, can be made to transition from varying pipe sizes. " up to 120".
- Standard steel thickness rated the same as a cast coupling, thicker steel higher rated couplings can be made.
- Typically, 411 coupling are OD specific but will allow 1% plus minus OD listed.

Wide Range Couplings

421 Top Bolt Style



- Wide range coupling that covers 95% of pipes by using a step gasket.
- Easy to install, one bolt on 4 thru 12" & 16" and 24" size.
- Step style remove and replaceable gasket, range for high & Low is printed on the coupling.
- Optional conductivity strip and anode connection.
- Dual Action bolting.
- Seal only coupling

Razorlock Coupling

- Restrained one bolt style coupling with a range.
- Will work on most pipes including PVC, DI, CI, AC, Steel & HDPE.
- 360- degrees of Continual Bite engaging without compromising the pipe
- Similar technology to the EZ Maxi-Grip which has been proven and installed hundreds of thousands of times



Razorlock Coupling



Razorlock Coupling



Hymax Grip Coupling

- Joins a wide range of pipes
- Ductile iron body
- Unique radical gripping system
- Allows for 4 degrees Deflection per end.
- Restraining Coupling
- Exceeds NSF 61, NSF 372 AND AWWA C19



Robar Restrained Coupling

- Stab fit design allowing the use on IPS/HDPE, Ductile/PVC and AC pipe without disassembling the coupling
- Fabricated from Stainless Steel material minimizing corrosion attacking the coupling
- 304 Stainless Steel and Nitrile Rubber



Ford Restrained Coupling

- -Dual gaskets with removable replaceable inner gasket provide greater range
- NSF61 certified
- Hardware located on top for coupling for ease of installation
- Allows for 4 degrees of deflection

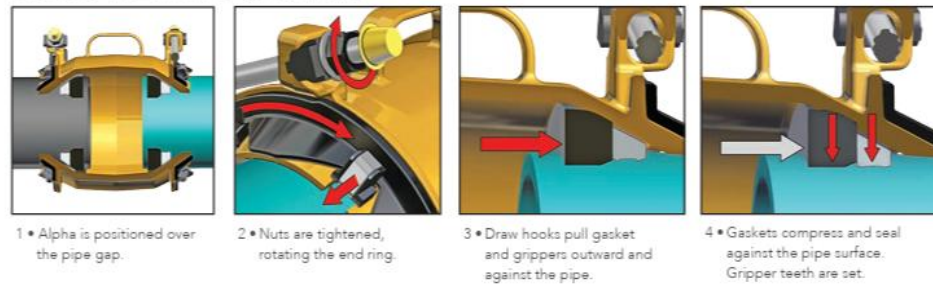


Alpha Romac Coupling

KEY ALPHA COMPONENTS



HOW ALPHA WORKS

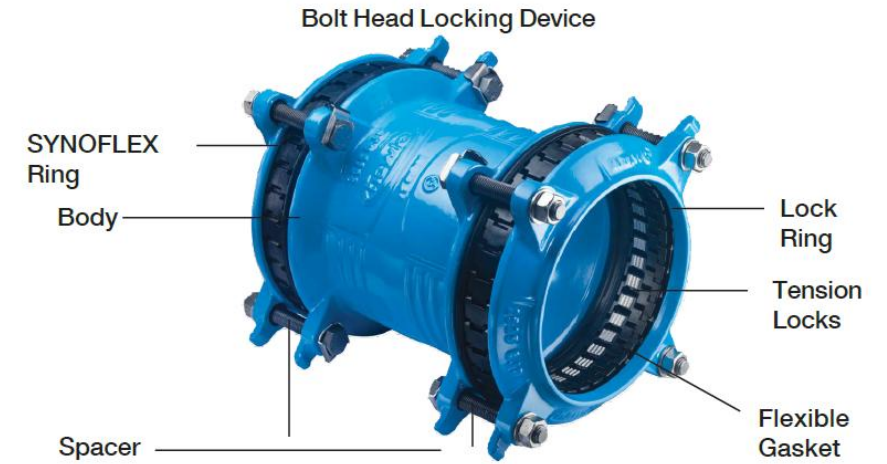


- Stab Fit Installation
- Covers IPS PVC (including C909) through DI pipe diameters without having to change components
- Manufactured in the USA
- Stab fit installation, one piece
- Working Pressure: 350
- Restrained Coupling



SYNOFLEX Coupling

- All in one coupling and join and restrain various pipe materials
- Reduce installation time and cost compared to a standard coupling
- 10 Year warranty
- Durability, Adaptable, Reliable and Cost Saving
- Fully Restrained.



GF 3000 Series

- Save Installation time and stock
- One Piece stab fit installation
- Allows for 16 degrees of flexibility (8 degrees on each end)
- Suitable for CI,DI,AC,PE,PVC AND SS
- Durable and Corrosion Proof.



Installation Instructions

Example

Installation Instructions

1. Clean and descale the pipe. Make sure the pipe is not out of round and is free of scratches, dents, flats and defects
2. Measure the pipes OD twice. **Make sure that the coupling size range will fit**
3. Mark each pipe end for min and max pipe insertion distance .
4. Flip the gasket open if a larger OD is required
5. Position the coupling of installation. If possible, place couplings on replacements pipe and lower into ditch. Slide couplings outward so they cover marks from step 3. **Make sure pipes aren't touching to allow for continuous dynamic deflection**
6. Tighten the bolts to the right torque shown on the product label. When finished, check again.
7. Recharge the line and check for leaks. If any leaks present, reduce the pressure in the line and increase the bolt torque up to 50%. Verify no leaks along the seal.

Shielded Sewer Coupling

The Maxadaptor is a shielded sewer repair coupling designed to provide superior performance and excellent resistance to heavy earth loads, shear forces, deflection and improved alignment.

An unshielded sewer coupling allows for pipe movement and displacement at the join which occurs as a result of heavy earth loads or shear forces.

Useful in the following applications

- Repair of existing pipelines by replacement of shirt sections
- Making post construction connections to existing sewers by the insertion of a factory-made junction
- Adaptor between pipes of different sizes or materials
- Joining shirt and cut lengths of pipe
- Pipe to manhole connections



Shielded Sewer Coupling

With a few Maxadaptor coupling sizes you are prepared for almost any repair, at any time, at any time! Its unrivaled versatility offers you flexibility in pipe transitions with an increased tolerance application range.



MAXADAPTOR®
Coupling
vs.
Standard Shielded
Sewer Repair Coupling



Universal Shielded Sewer Repair Coupling

Standard Shielded Sewer Repair Coupling

GASKET

- EPDM Rubber Elastomer
- Environmentally Friendly
- Withstands Tension & Compression
- More Pliable & Easier to Install in Cold Weather

- Plasticized PVC Elastomer
- Contains Chlorides - Environmentally Harmful
- Relaxes Under Tension & Compression
- Hard/Stiff in Cold Weather

STAINLESS STEEL SHEAR BAND

- AISI 304 Series Stainless Steel
- Greater Corrosion Resistance
- Band Thickness of .0315" (Almost 3 Times Thicker)

- 301 Series Stainless Steel
- Less Corrosion Resistance
- Band Thickness of .012"

STAINLESS STEEL CLAMPS

- AISI 304 Series Stainless Steel
- Greater Corrosion Resistance
- High Torque - Installs at 80 in./lbs.
- Ultimate Torque at 150 in./lbs.
- Minimal Risk of Clamp Failure
- Replaceable - Click-Lock System

- 301 Series Stainless Steel
- Less Corrosion Resistance
- Medium Torque - Installs at 60 in./lbs.
- Ultimate Torque at 80 in./lbs.
- High Risk of Clamp Failure
- Not Replaceable - Spot Welded in Permanently

SECURING CAGE

- High Impact Polyamide (Nylon)
- Impervious to All Soil Conditions

- Not Applicable

VERSATILITY

- Multiple Pipe Materials
- Large O.D. Range
- Reduction in Inventory

- Pipe Material Specific
- Limited O.D. Range
- Excessive Inventory - 6 Times the Inventory

EASE

- Quick Install with Cordless Drill

- Laborious Install with Nut Driver

TESTING

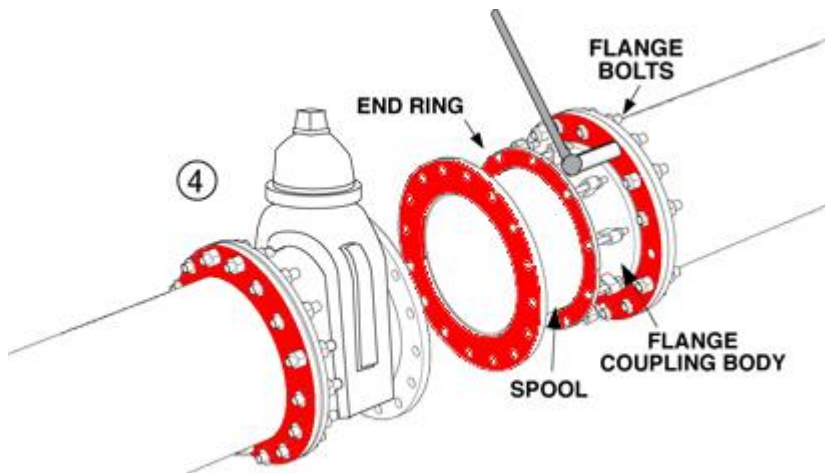
- Meets and Exceeds ASTM C1173

- Meets and Exceeds ASTM C1173



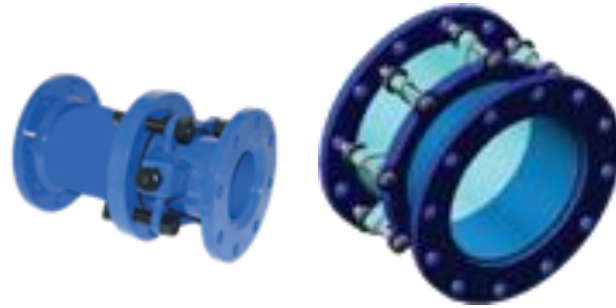
What is a dismantling joint?

Is a flanged fitting that allows for longitudinal adjustment, making it easier to install, repair, and replace flanged fittings. Especially when dealing with valves, pumps and meters



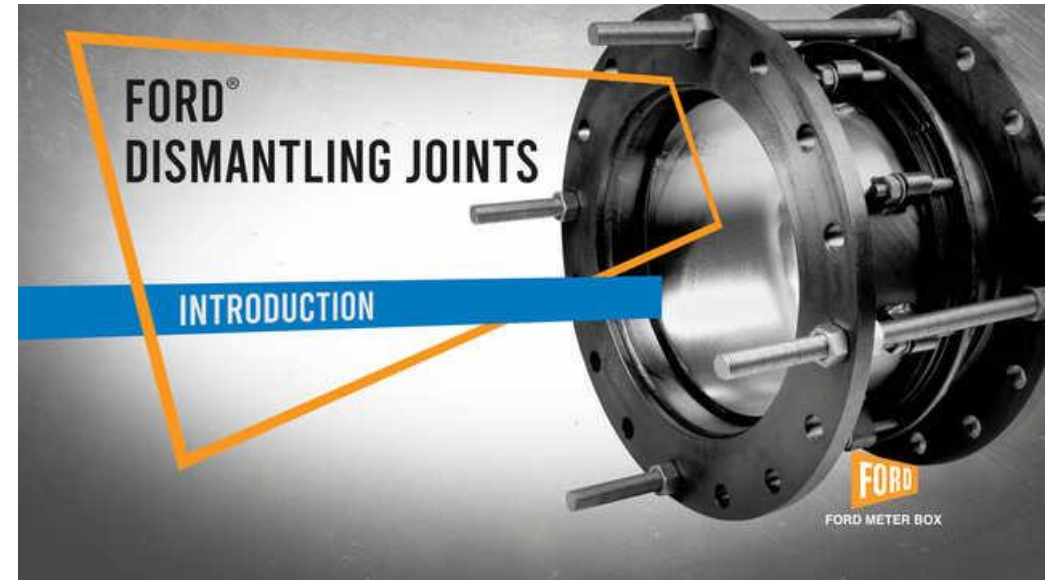
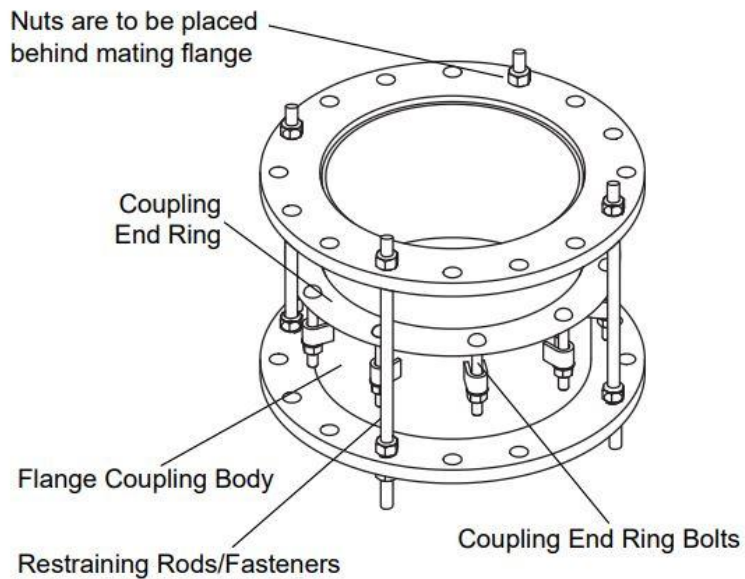
Dismantling Joints

- Allows the installer flexibility during installation and removal of valves, meter, etc.
- Most Systems have a groove style coupling and have trouble placing the coupling back in proper position
- Spool piece can collapse to remove existing devices.
- Can be made to special lengths and reducing sizes to accommodate need.
- Allows you to take a mechanical device without disruption



Dismantling Joints

- Ideal for Water Treatment Facilities
- Flange on Flange Install
- MJ Flanges or Stainless Steel
- Made for any length



Benefits of using a dismantling joint

- Simplified installation and Disassembly
- Longitudinal Adjustment
- Durability and reliability
- Cost savings



Installation Instructions

1. Ensuring the dismantling joint is the proper type and size prior to installation
2. Checking the flanges to ensure they match the flanges of the dismantling joint, are parallel, and are aligned axially.
3. Clean the companion flange faces. Remove any scale, dirt, or debris that could affect the gasket seal.
4. Place the dismantling joint into position between the companion flanges. The flanged spool end should be concentric with the flanged coupling adaptor.
5. Lubricate the spool surface and gasket using a soap and water solution. Slide the flange and gasket into position, and hand tighten the follower flange nuts.
6. Torque the Nuts per job specifications
7. Uniformly tighten the flange nuts to 70 ft lbs. by alternating between opposite sides of the flange. Retorque after line pressurization.

Megatite[®]

BY USC

STRONG

WORKABLE

AQUAPURE[®]

PURE

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a xylem brand

Represented in Canada by


UTILITY SUPPLY CORPORATION


Copperhead
INDUSTRIES, LLC