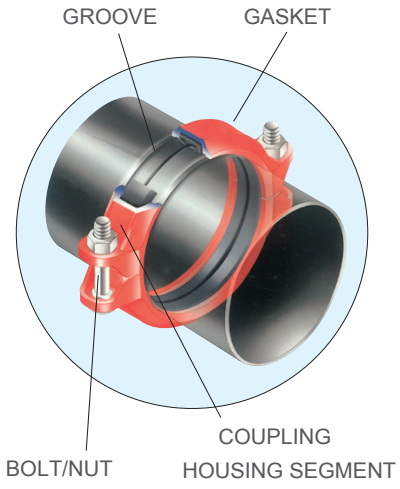
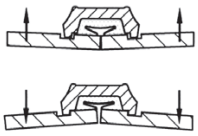
6. INSTALLATION INSTRUCTIONS

6.1 Installation Instructions For Rigid & Flexible Coupling

1 Flexible Coupling

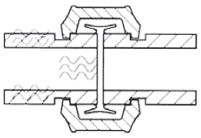


1.A flexible coupling accommodates pipe deflection and or non-alignment as below: If nominal diameter <DN200, deflection angle is ≥1° ; If nominal diameter ≥DN200, deflection angle is ≥0.5° but <1° .

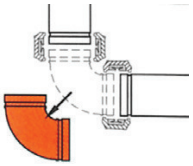


2.The C-shaped rubber gasket provides excellent self-sealing capabilities in both low and high pressure service as well as under certain vacuum conditions.

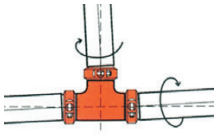
3.The design and construction of the coupling with elastomeric gaskets can provide significant noise and vibration absorption as well as seismic stress.



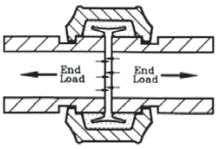
4.With the removal of just a few bolts you can easily access the system for cleaning, maintenance, changes or system expansion.



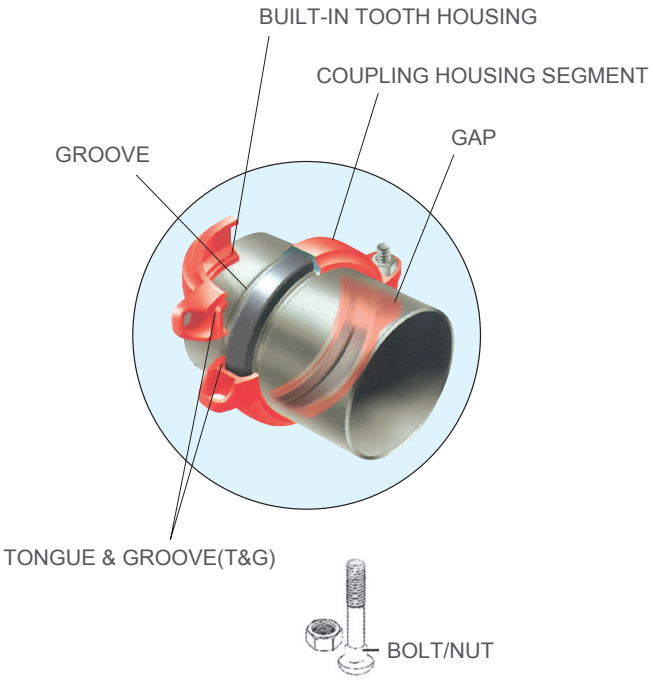
5.Coupling are non-directive and pipe can be rotated 360° during installation.



6.Coupling keys engage the full circumference of the grooves and provide significant pressure and end load restraint against pipe movement from internal and external forces.



2 Rigid Coupling



1.The T&G mechanism in combination with a slightly shortened key diameter provides a mechanical and frictional interlock resulting in a rigid joint which reduces undesired angular movement.

2.The built-in teeth on the coupling grip the groove shoulder and serve to reduce linear movement.

3.The T&G mechanism features a slight offset at the foot of the coupling halves which serve to protect the gasket from exposure.

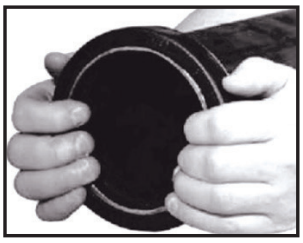
4.With the T&G style coupling no metal-to-metal contact of the bolt pads is required. You will normally see a 1/16″ -1/8″ (1.6mm to 3.2mm) gap between the bold pads when installed.

1.Pipe preparation

Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.

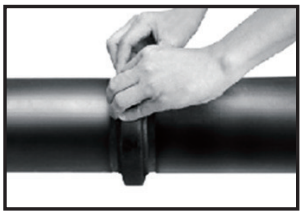
2.Lubricate gasket

Check gasket to be sure it's compatible for the intended service. Apply thin lubricant to the outside and sealing lips of the gasket.



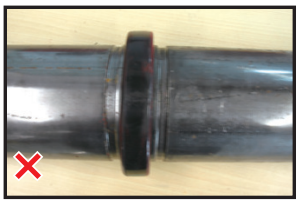
3.Gasket installation

Slip the gasket over one pipe, making sure the gasket lip does not over-hang the pipe end.

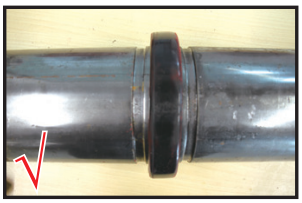


4.Alignment and bring the mating pipe together

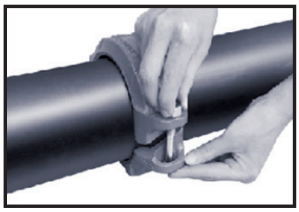
Bring together and align the two pipe ends to be joined. Ensure proper alignment and slide the gasket into position, properly centering it between the grooved portions of each pipe.. No part of the gasket should protrude into the groove of either pipe.



Wong position of the Gasket, not in the middle of the grooved portion



Right position of the Gasket

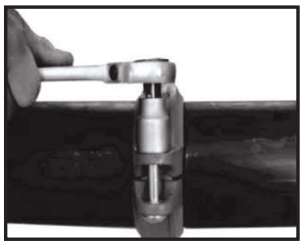


5.Insert bolts and nuts

Insert the bolts and nuts and tighten the nuts evenly by alternating sides until metal-to metal contact to ensure a better joint.

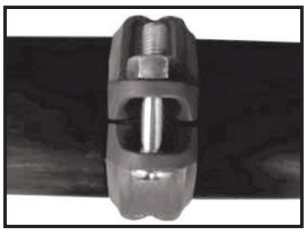
Wrong connection for Tongue & Groove of Type 1G

Right connection for Tongue & Groove of Type 1G



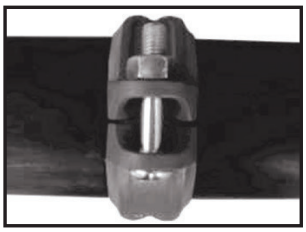
6.Tighten nuts

Firstly hand tighten nuts and make sure oval neck bolt completely fits into bolt hole. Then securely tighten nuts alternatively and equally to the specified bolt torque by using spanner.



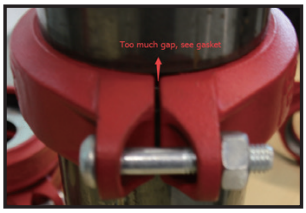
7 a.Assembly completed
- Rigid Coupling

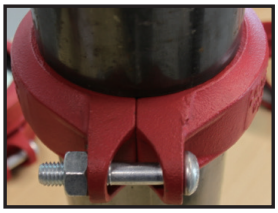
For Rigid Coupling, keep the gaps at bolt pads evenly spaced. Gaskets can't be seen visually.



7 b. Assembly completed
- Flexible Coupling

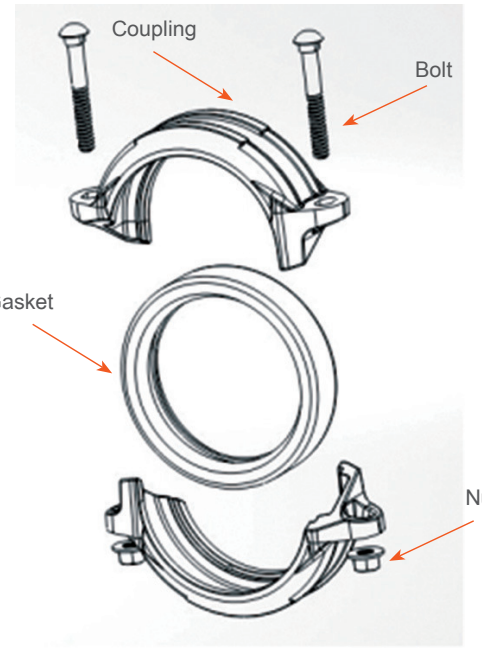
For Flexible Coupling, two housings should be iron to iron connected. Gaskets can't be seen visually.





Note:
It is important to keep hands away from coupling openings during tightening.
No partially assembling for coupling is allowed which might cause drop hazards.
Visual inspection of each joint is critical. Improperly assembled joints must be correct. Tighten the nuts by another one quarter to one half turn to make sure the bolts and nuts are snug and secure.
Never exceed torque. Excessive tightening of nuts may cause a bolt or joint failure.

6.2 Installation Instruction For Angle Pad Rigid Coupling



Note：

Make sure no portion of the gasket extends into the groove of either pipe or mating component.

It is important to tighten the nuts evenly by alternating sides until metal-to metal contact to ensure a better joint.

No partially assembling for coupling is allowed which might cause drop hazards.

1.Pipe preparation

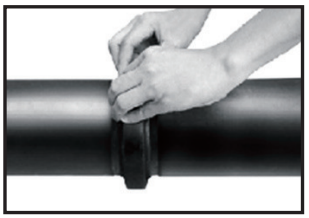
Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.

2.Lubricate gasket

Check gasket to be sure it's compatible for the intended service. Apply thin lubricant to the outside and sealing lips of the gasket.

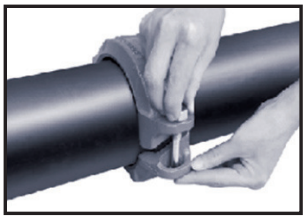
3.Gasket installation

Slip the gasket over one pipe, making sure the gasket lip does not over-hang the pipe end.



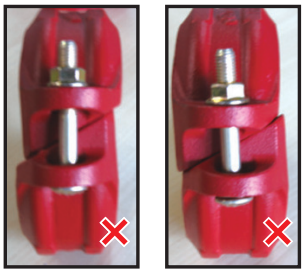
4.Alignment and bring the mating pipe together

Bring together and align the two pipe ends to be joined. Ensure proper alignment and slide the gasket into position, properly centering it between the grooved portions of each pipe.. No part of the gasket should protrude into the groove of either pipe.



5.Insert bolts and nuts

Insert the bolts and nuts and tighten the nuts evenly by alternating sides until metal-to metal contact to ensure a better joint.



Angel pad contact is wrong. Not equal offsets

Angel pad contact is wrong. Too much space.

Angel pad contact is OK with equal offsets

Note:

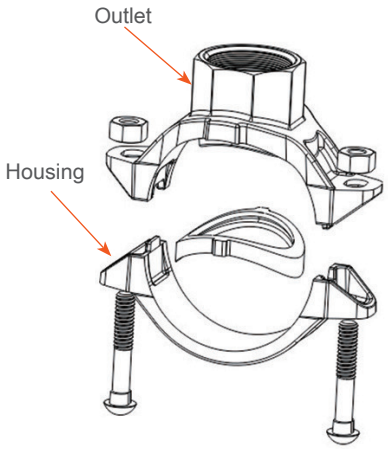
It is important to keep hands away from coupling openings during tightening.

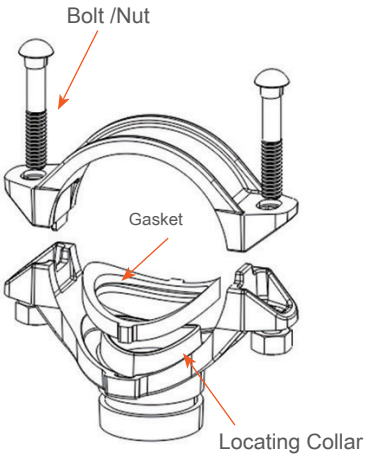
No partially assembling for coupling is allowed which might cause drop hazards.

Visual inspection of each joint is critical. Improperly assembled joints must be correct. Tighten the nuts by another one quarter to one half turn to make sure the bolts and nuts are snug and secure.

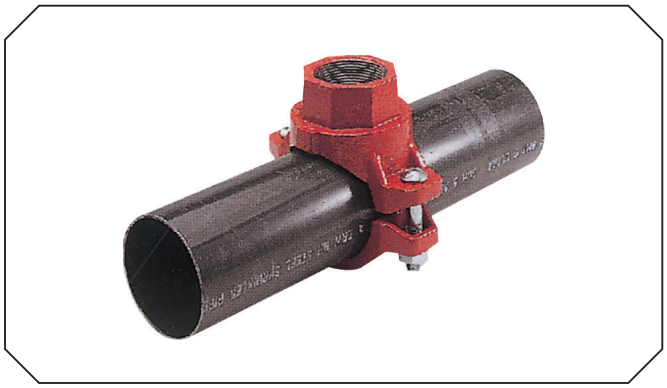
Never exceed torque. Excessive tightening of nuts may cause a bolt or joint failure.

6.3 Installation Instruction For Threaded & Grooved Mechanical Tee and Cross





The Mechanical Tee(3J, 3JS, 3G, 3GS) and Mechanical Cross(4G, 4GS, 4J, 4JS) provide for a fast and easy grooved or threaded branch outlet and eliminate the need for welding or the use of a reducing tee and couplings. Simply cut a hole to the specified size at the expected location and fasten the mechanical tee to the pipe with the nuts and bolts provided. As the housing bolts are tightened, the pressure responsive gasket forms a leak-tight seal.

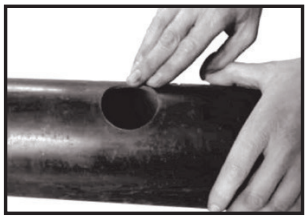


For mechanical tee products, the pipes should have right holes for connecting related branch tees. The tapping dimension of pipes should follow:

- Choose right tapping tools according to the size of the main pipe and branch pipe diameter. Please check below chart for reference.
- Before tapping the hole in the pipe, it is necessary to locate the hole position and make mark on it, otherwise it might cause the pipeline to be unparalleled after the installation, which might lead to the rubber ring pipe leakage (especially for the mechanical cross, if the two holes corresponding to the center is not in the same line, the mechanical cross would not work. The pipe would be changed too)
- If the size of the opening is not qualified, it is easy to cause the failure of connection and leakage.

Pipe Tapping diameter for MECH Mechanical tee (3J, 3JS, 3G, 3GS, 3L) and Mechanical cross(4G, 4J)

Main Pipe Diameter		Branch pipe Diameter mm	Tapping Diameter mm	Main Pipe Diameter		Branch pipe Diameter mm	Tapping Diameter mm	Main Pipe Diameter		Branch pipe Diameter mm	Tapping Diameter mm
DN	mm			DN	mm			DN	mm		
50	60.3	15（21）	38	100	108.0 114.3	15	38	150	159.0 165.1 168.3	25	38
		20(27)				20				32	51
		25(34)				25				40	
65	73.0 76.1	15	38			32	51			50	64
		20				40				65	70
		25				50(60)	64			80	89
		32(42)	45			65(73/76)	70			100 （108/114）	114
		40(48)				80（89）	89	200 250	219.1 273.0	25	38
80	88.9	15	38	125	133.0 139.7 141.3	25	38			32	51
		20				32	51			40	
		25				40				50	64
		32	51			50	64			65	70
		40				65	70			80	89
						80	89			100	114



1.Pipe preparation

Clean the gasket sealing surface within 16mm of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket. Don't drill the hole on weld line.

2.Remove burrs

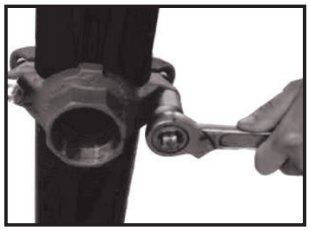
If any burrs or slug exists at the pipe hole, please remove them before assembly, to protect the gasket and avoid leakage.

3.Gasket installation

Insert the gasket into outlet housing making sure the tab in the gasket line up with the tab recesses in the housing. Align outlet housing over the pipe hole making sure that the locating collar is in the pipe hole.

4.Alignment

Align the strap around the pipe, inser the bolts and tighten the nuts finger tight.



5.Tighten nuts

Alternatively and evenly tighten the nuts to the specified bolt torque.

6.Assembly completed

There should be even gaps on two sides between upper and lower housings.

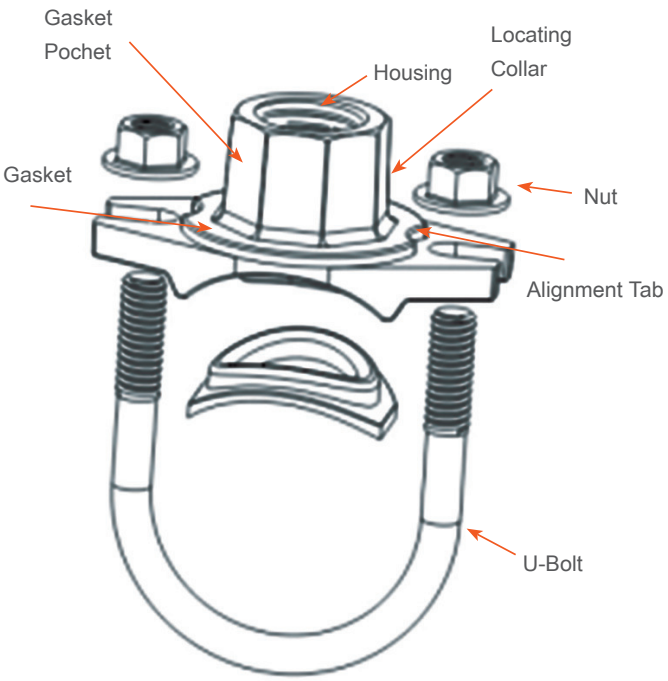
Note:

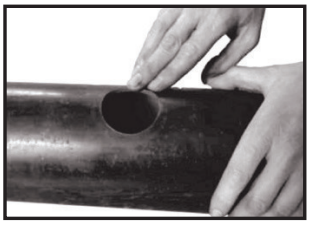
The hole must be cleanly cut and shall have a smooth edge. Otherwise it would cause gasket damage and joint failure.

Proper torque of bolts is required to obtain specified performance. Over torque the bolts may result in damage to the bolt and / or casting which could result in pipe joint separation. Under torque the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

It is important to tighten the nuts evenly by alternating sides until metal-to metal contact to ensure a better joint.

6.4 Installation Instruction For U-Bolt Mechanical Tee





1.Pipe preparation

Clean the gasket sealing surface within 16mm of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket. Don't drill the hole on weld line.

2.Remove burrs

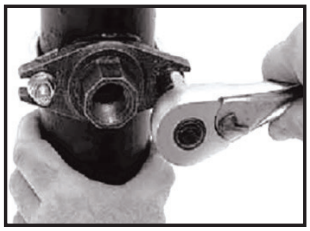
If any burrs or slug exists at the pipe hole, please remove them before assembly, to protect the gasket and avoid leakage.

3.Gasket installation

Insert the gasket into outlet housing properly. Align outlet housing over the pipe hole making sure that the locating collar is in the pipe hole.

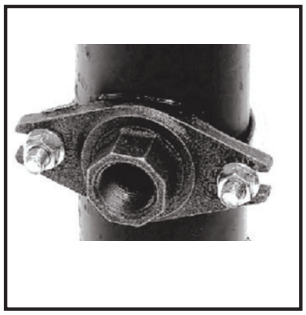
4.Alignment

Attach the U-bolt from the other side and tighten the nuts finger tight.



5.Tighten nuts

Alternatively and evenly tighten the nuts to the specified bolt torque.



6.Assembly completed

Assembly completed.

Note:

The hole must be cleanly cut and shall have a smooth edge. Otherwise it would cause gasket damage and joint failure.

Proper torque of bolts is required to obtain specified performance. Over torque the bolts may result in damage to the bolt and / or casting which could result in pipe joint separation. Under torque the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

It is important to insert the lower housing from the opposite side of the pipe and apply the bolts and nuts hand tight.

6.5 Installation Instruction For Grooved Flange

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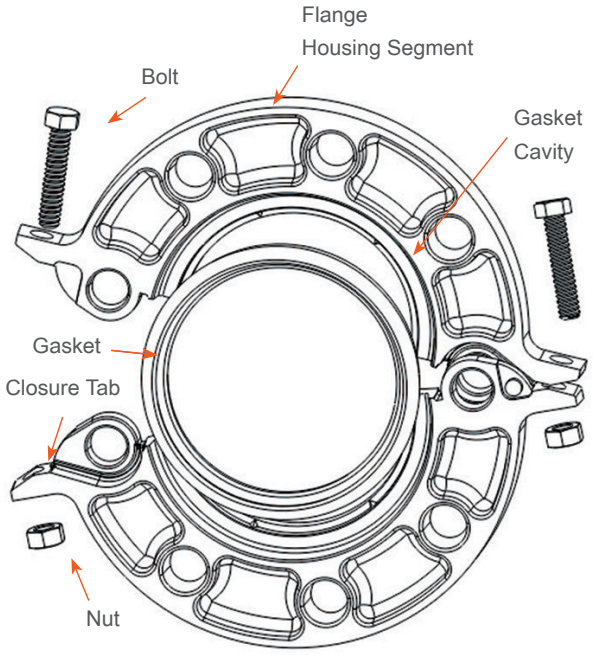
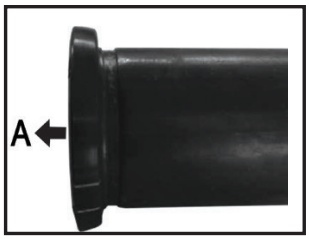


1.Pipe preparation

Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.

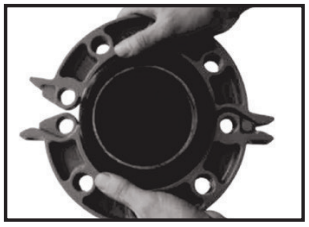
2.Lubricate gasket

Check gasket to be sure it's compatible for the intended service. Apply thin lubricant to the outside and sealing lips of the gasket.



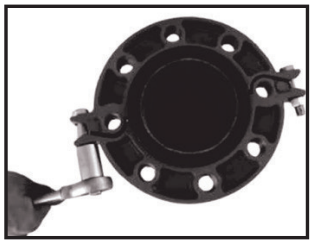
3.Gasket installation

Slip the gasket over pipe end, with the gasket opening side towards "A". Make sure the gasket sealing lip is even with pipe end.



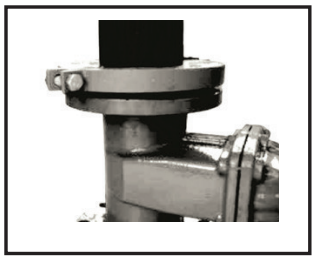
4.Housing installation

Romove bolts and nuts, place two housings over the gasket, making sure the housing keys fit into the pipe grooves. Re-insert the bolts and hand tighten the nuts.



5.Tighten nuts

Securely tighten nuts alternatively and equally to the specified bolt torque by using spanner.



6.Connect mating flange

Align flange bolt holes with mating flange (or valve) bolt holes. Insert a standard flange bolt through bolt hole and hand tighten a nut. Insert another bolt opposite the first and hand tighten a nut. Continue this until all bolt holes are fitted. Tighten nuts evenly to specified bolt torque, so flange faces remain parallel. Assembly completed.

Note:

The groove in the pipe must be cleaned sufficiently. Otherwise it would cause gasket damage and joint failure.

Proper torque of bolts is required to obtain specified performance. Over torque the bolts may result in damage to the bolt and / or casting which could result in pipe joint separation. Under torque the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.