

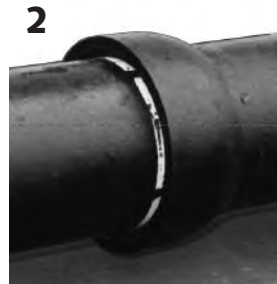
SECTION 9

AMERICAN Restrained Joint Pipe





AMERICAN Ductile Iron Flex-Ring® Joint Pipe Assembly Instructions 4"-12"



Prior to joint assembly, remove the packing material holding the split flex-ring onto the pipe. (See "Field Assembly of Flex-Ring" if split flex-ring is shipped separately.) Thoroughly clean the socket locking groove as well as the Fastite gasket recess and pipe plain end. In accordance with standard Fastite joint assembly instructions, insert the gasket and lubricate the pipe plain end, bevel, and inside surface of the gasket. With the pipe in essentially straight alignment, assemble the plain end into the Flex-Ring socket until the spigot stripe disappears into the bell. The orientation of the spigot stripe relative to the bell face is an indication of pipe alignment.

1. Tap the flex-ring into the socket beginning with one end of the flex-ring

and progressing around the joint as shown in Photo 1. This operation is made easier by holding one end of the flex-ring inside the bell as the remainder of the ring is caulked into the socket. Correct seating is generally ensured by a snapping noise as the flex-ring springs into position. (Note: When a visual inspection to determine the flex-ring position is not practical, such as in an underwater installation, a feeler gauge can be used to ensure the correct positioning of the flex-ring in the socket locking groove. It may be necessary to move the entering pipe slightly to improve alignment if the ring does not readily spring into the socket locking groove.)

2. The completed joint.



This bridge crossing illustrates design/construction advantages, including the deflection capabilities of AMERICAN Flex-Ring Joint Pipe.



AMERICAN Ductile Iron Flex-Ring® Joint Pipe

Assembly Instructions 4"-12"



FIELD ASSEMBLY OF FLEX-RING

If the split flex-ring is shipped separately, assemble it onto the pipe spigot by spreading the Flex-Ring ends as shown above. Be sure that the flex-ring is oriented so that the small end is toward the pipe plain end.



DISASSEMBLY OF 4"-12" FLEX-RING

If disassembly of the joint is required, it may be accomplished by inserting pins or nails into the drilled holes furnished in the flex-ring ends and compressing the flex-ring firmly onto the pipe as shown above. If desired, steel pins can be field-welded onto the ends of common adjustable pliers, if such a disassembly tool is more desirable to the user. If axial movement or joint extension has occurred in the joint prior to disassembly, it may be necessary to move the spigot completely to the rear of the socket in straight alignment to allow the Flex-Ring to be compressed for removal.

THE FOLLOWING INFORMATION PERTAINS TO 4"-48" JOINTS:

NOTE: The AMERICAN Flex-Ring Joint allows for joint take-up and flexibility after installation. In most underground installations, including most restrained bend locations, this feature is advantageous in that increased thrust-resisting soil forces are generated. Also, expansion and contraction due to temperature variations may be accommodated without excessive stress in the pipe members.

In any application where axial or lateral movement may be undesirable, such as certain bridge crossings, certain exposed or unburied piping applications, or certain connections of restrained pipe sections to rigid piping, special provisions, including effective joint extension, may be necessary to control unacceptable pipeline movement. (See also

Section 7, Pipe-On-Supports, etc.)

Depending on job conditions and restrained pipe length, cumulative joint take-up can be substantial, particularly in exposed or unburied piping applications. In this regard, joints may be extended after assembly to minimize further joint take-up in test or service. This will not prevent proper joint deflection.

The amount of joint take-up or line movement in buried restrained pipelines is substantially limited by the surrounding soil. Therefore, system security and safety is maximized by filling and testing restrained sections of pipelines after back-filling as recommended by ANSI/AWWA C600, Installation of Ductile Iron Water Mains and Their Appurtenances and AWWA M41.