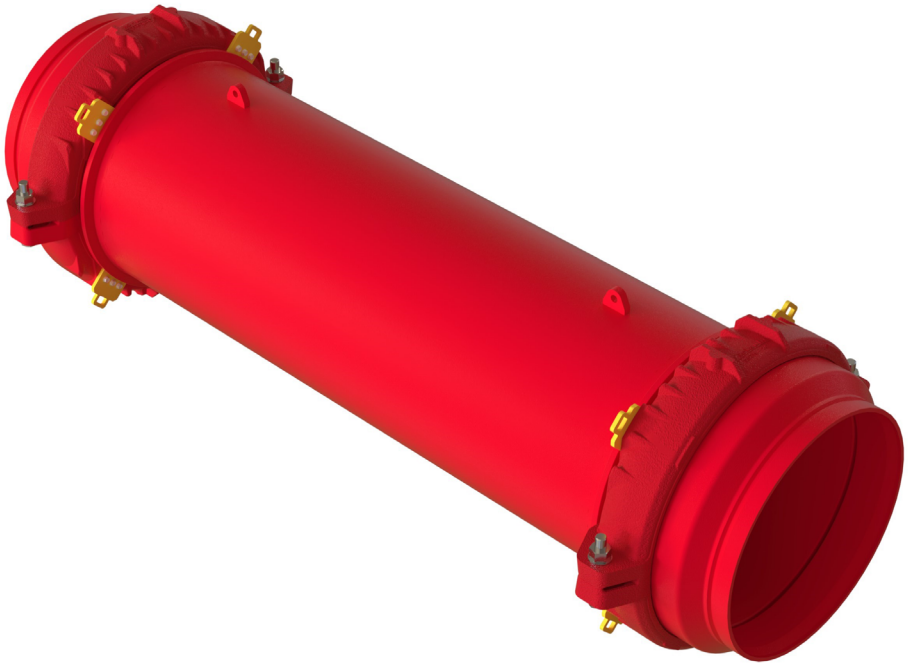
Victaulic® Style W257N Dynamic Movement Joint



2" MOVEMENT
W257N DYNAMIC MOVEMENT JOINT

4" MOVEMENT
W257N DYNAMIC MOVEMENT JOINT

IMPORTANT INFORMATION

⚠ WARNING

- **Read and understand all instructions before attempting to install any Victaulic products.**
- **Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.**
- **Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.**
- **Wear safety glasses, hardhat, and foot protection.**

Failure to follow these instructions could result in death or serious personal injury and property damage.

NOTE: THE SYSTEM DESIGNER OR THEIR REPRESENTATIVE is responsible for ensuring that the installation site is prepared in accordance with national and local codes and standards for the jobsite with regard to dielectric/cathodic protection of the piping system, compaction, drainage, etc.

FOR BURIED APPLICATIONS: THE SYSTEM DESIGNER OR THEIR REPRESENTATIVE is responsible for identifying / specifying the following:

- Appropriate pipe wall thickness for the application
- Hardware material requirements
- Maximum allowable working pressure
- Maximum allowable test pressure
- Soil backfill type, modulus, and density
- Effects of live loads on the W257N
- Effects of earth loads on pipe ovality
- Distance of the Dynamic Movement Joint from structures

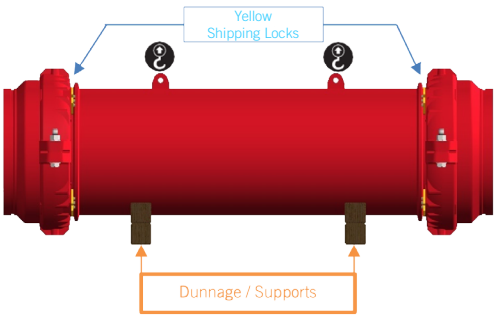
The maximum allowable direct burial depth for the W257N is 15 feet/4.6 meters from the spring line (centerline of the pipe) or as specified on project specific W257N submittals. The trench bed shall be prepared to ensure that continuous support is provided under the pipe ends and the entire length of the W257N center spool.

1.0 RECEIVING THE VICTAULIC W257N DYNAMIC MOVEMENT JOINT

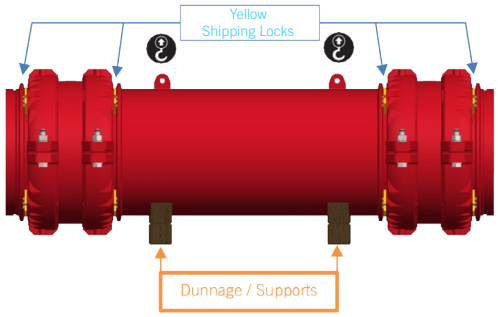
⚠ WARNING

- **Strap(s) and crane must be rated for the weight of the Victaulic Dynamic Movement Joint.**
- **Use caution to prevent damage to the field piping and coatings during any handling.**
- **Lift W257Ns ONLY by the designated lifting lugs located on the center spool or as indicated in this instruction manual. Refer to product submittal, 20.37.**
- **Proper rigging techniques must be used when lifting during installation.**
- **DO NOT remove the Shipping Locks until installation is complete.**
- **DO NOT pressurize W257Ns with Shipping Locks installed. Shipping Locks shall be removed prior to pressurization or system commissioning.**

Failure to follow all instructions and warnings could result in death or serious personal injury and property damage.

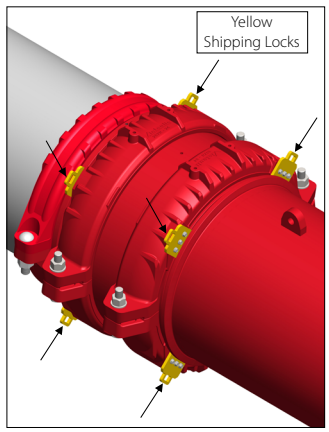


2" Movement
W257N Dynamic Movement Joint



4" Movement
W257N Dynamic Movement Joint

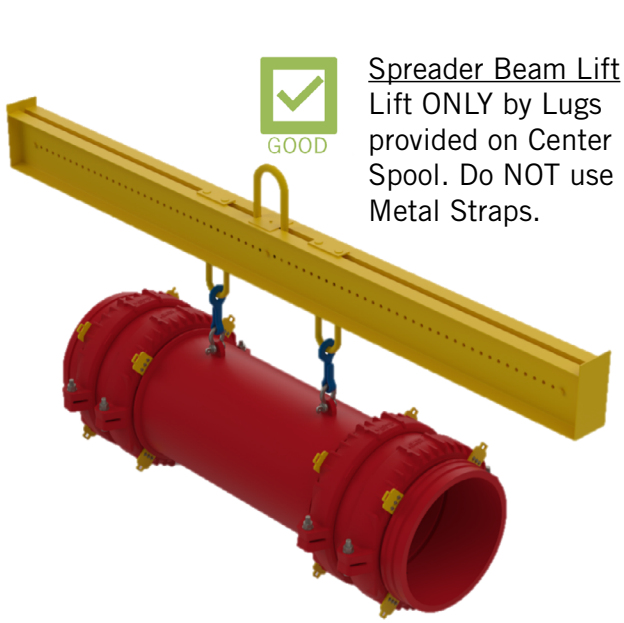
End couplings are shipped separately (not shown in the above images)

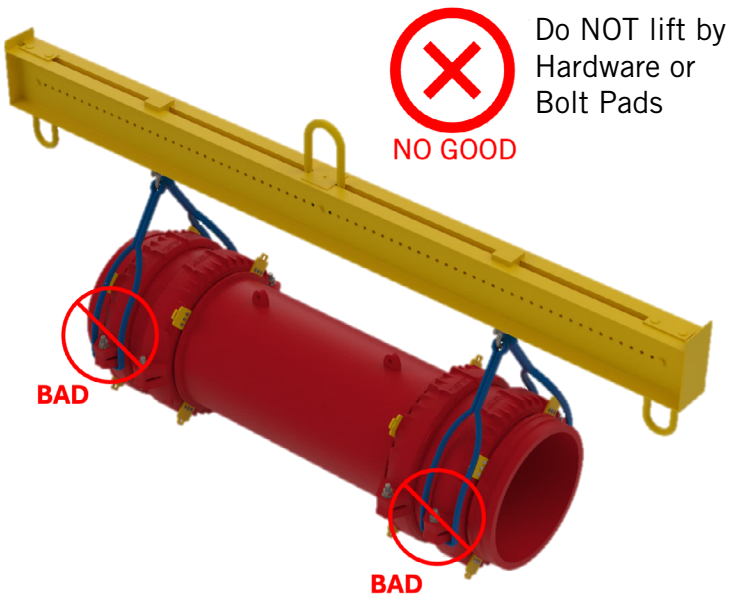


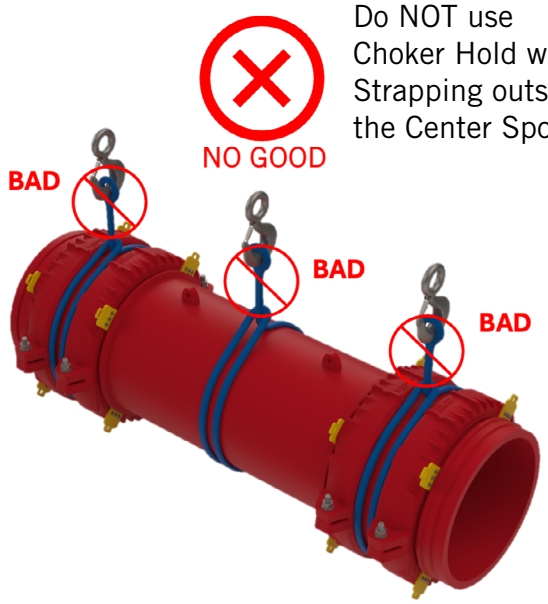
1. Upon receipt, and immediately prior to installation, visually inspect the W257N. All components shall be free from damage, including coatings and linings.
2. For standard W257Ns, the end connection couplings are shipped separately and are not shown in this document. These couplings shall be installed in accordance with the appropriate Installation Method section of this document and the installation instructions provided with the couplings.
3. Verify that selected straps and crane are rated for the weight of the W257N being lifted. Refer to product submittal 20.37 for W257N weights.
4. The W257N must always be supported on dunnage under the center spool, as shown above, during unloading, storage, and installation. Setting the W257N directly on the ground may alter starting alignment of the unit, reducing in-service movement capability.

2.0 LIFTING AND HANDLING THE W257N

1. Use caution during lifting and handling of the W257N to prevent damage to the pipe and/or coatings.
2. To unload the W257N, lift **ONLY** from the designated lifting lugs located on the center spool, as shown below. **DO NOT** use any other features for lifting the W257N. A spreader bar or lifting beam may be used to balance the weight. **DO NOT** use metallic strapping. Refer to the images below for proper and improper lifting techniques.
3. **DO NOT** remove the **Shipping Locks** until installation and any appropriate anchoring is complete (refer to Post Installation, Section 6.0). The shipping locks are designed to support the W257N's ends, and maintain both the overall length and the required position of the joint on each end during shipping and installation.







3.0 STORAGE

Until the time of installation, the **W257N** and the end connections couplings that are shipped loose, with its gaskets, and hardware shall be stored in typical warehouse conditions, where components are protected from outside environmental factors such as: sun exposure, ozone exposure, extreme temperatures, and extreme relative humidity (or as specified by national and local codes and standards for the jobsite). The W257N must be stored on dunnage at all times, and its ends must remained capped until the W257N is in position. **NOTE:** The joint shall be kept free from all debris such as rock, mud, etc. until installation is complete.

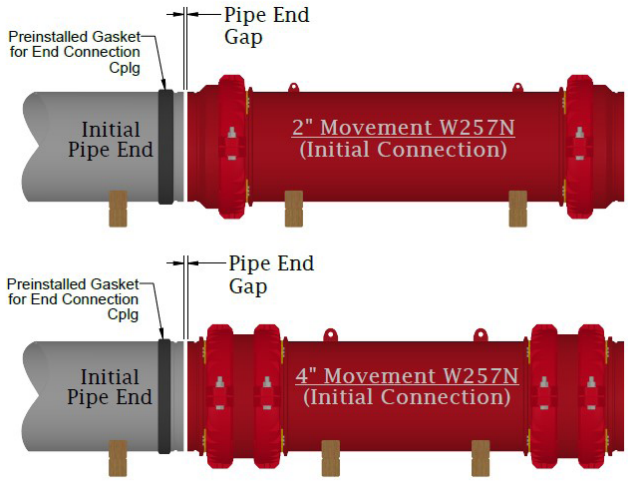
4.0 IN-SERIES INSTALLATION METHOD (PREFERRED)

4.1 POSITIONING

1. The initial pipe end connection shall be supported prior to placement and positioning of the W257N.
2. Pre-install the end coupling gasket onto the end of the initial field piping end connection per the appropriate coupling installation instructions.
3. Temporary dunnage or supports shall be positioned to support the center spool once the W257N is positioned for installation. DO NOT use any other features to support the W257N in position. Shipping locks are not designed to support the entire W257N or surrounding piping during installation. Dunnage is required under the center spool.

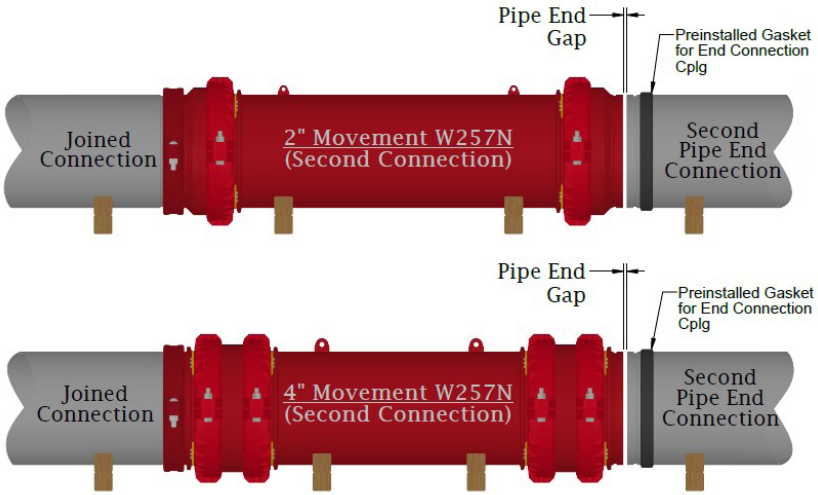
4.2 INSTALLATION

NOTE: The W257N includes shipping locks designed to support the W257N's ends and maintain the overall length of the joint during shipping, installation, and any appropriate anchoring or backfilling. DO NOT remove the Shipping Locks until the W257N is fully installed (see Section 6.0).



Once the conditions listed in Section 4.1 are met:

1. Lift the W257N slowly and guide it into position, onto the prepared temporary dunnage or supports, next to initial pipe end. Be sure that the weight of the W257N remains balanced as it is lifted and moved into position. Refer back to Section 1.0 or Section 2.0 of this document for proper lifting techniques. **NOTE:** Be careful during lifting and positioning of the W257N to NOT allow the W257N to impact any object or pipe end connection.
2. Verify that the Pipe End Gap is appropriate for the initial end coupling being installed.
3. Install the end connection coupling per the installation instructions supplied with the coupling. See QR code.
4. Pre-install End Coupling gasket to the second pipe end connection, then lift and position the second pipe end connection as previously done for the initial pipe end connection coupling. See illustrations below.
   NOTE: Be careful during positioning of the second pipe end connection to NOT allow any impact with the W257N.
5. Verify the second pipe end gap is appropriate for the end coupling being installed.
6. Install the second end connection coupling per the installation instructions supplied with the coupling.



Installation Instructions for Victaulic Couplings

Scan QR code to access the I-W100 Field Installation Handbook

5.0 DROP-IN INSTALLATION METHOD

⚠ CAUTION

- **As shown below, "Installed Length" is the distance between the field pipe ends. The dimension is unit specific and is found stenciled on the W257N center spool. The length is nominal, to which the tolerance in Table 1 below is to be applied.**
- **Verify the distance between existing pipe ends prior to installation of the W257N.**
- **Verify that the two field-installed pipe ends are concentric and colinear to each other along their centerline before, during and after installation.**

Failure to follow these instructions will decrease the ability of the joint to deflect.

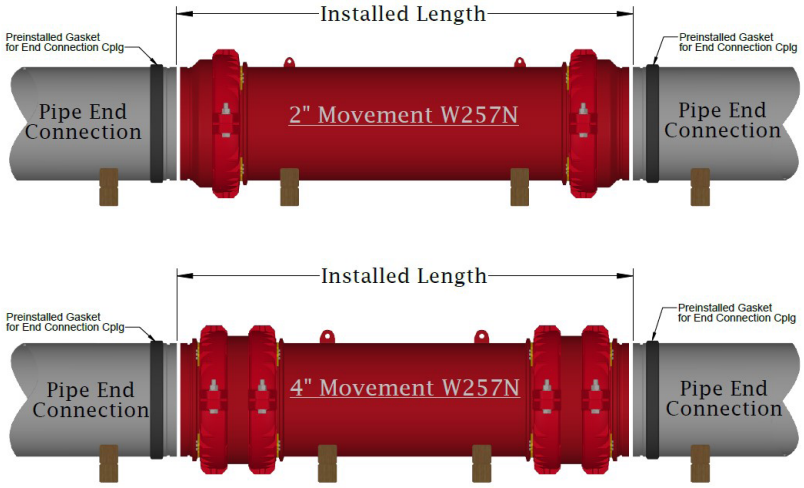
5.1 POSITIONING

1. Verify that the distance between pipe ends matches the 'Installed Length' noted on the center spool of the W257N, and within the tolerances for the appropriate size listed in the chart below. **NOTE:** A pipe-to-pipe opening NOT within the allowed tolerances listed below will result in poor or improper end coupling installation.

Table 1: Installed Length Tolerances / End Coupling Installation QR Code

Victaulic Coupling Style Number	Actual Pipe Diameter inches/mm	'Installed Length' Field Tolerance (+/-) inches/mm	
W77	14 - 24 355.6 - 609.6	3/16 4.8	**NOTE:** For Non-standard configurations, consult the customer/project specific Victaulic Dynamic Movement Joint Submittal.
W77/W77B	26 - 88 660.4 - 2235.2	3/8 9.5	
W77B	94 - 100 2387.6 - 2540.0	7/8 22.2	

2. Verify that the pipe end connections are concentric and colinear to each other along their centerline.
3. Pipe end connections shall be supported prior to placement and positioning of the W257N.
4. Pre-install the gasket from each end coupling onto each pipe end connection per the appropriate coupling installation instructions.
5. Temporary dunnage or supports shall be positioned to support the center spool once the W257N is positioned for installation. DO NOT use any other features to support the W257N in position. Shipping locks are not designed to support the entire W257N or surrounding piping during installation. Dunnage is required under the center spool.



Installation Instructions for Victaulic Couplings

Scan QR code to access the I-W100 Field Installation Handbook

5.2 INSTALLATION

NOTE: The W257N includes shipping locks that are designed to support the W257N's ends and to maintain the overall length of the joint during shipping, installation, and any appropriate anchoring. DO NOT remove the Shipping Locks until the W257N is fully installed. (See Section 6.0)

Once the conditions listed in Section 5.1 are met:

1. Lift the W257N slowly and guide it into position, onto the prepared temporary dunnage or supports, between pipe ends. Be sure that the weight of the W257N remains balanced as it is lifted and moved into position. Refer back to Section 1.0 or Section 2.0 of this document for proper lifting techniques. **NOTE:** Be careful during lifting and positioning of the W257N to NOT allow the W257N to impact any object or the pipe end connections.
2. Verify that the pipe end connections and the W257N are concentric and colinear to each other and that the pipe ends are square to the W257N.
3. Verify that the Pipe End Gaps on both ends of the W257N is appropriate for the end couplings being installed.
4. Install the end connection couplings per the installation instructions supplied with the coupling.

6.0 POST INSTALLATION

⚠ WARNING

- **All system components shall be supported in a manner representative of in-service conditions in the "free state".**
- **DO NOT brace or jack piping components into place that would result in initial residual forces or stress being applied to the W257N.**
- **DO NOT pressurize W257N with Shipping Locks installed. Shipping Locks shall be removed prior to pressurization or system commissioning.**

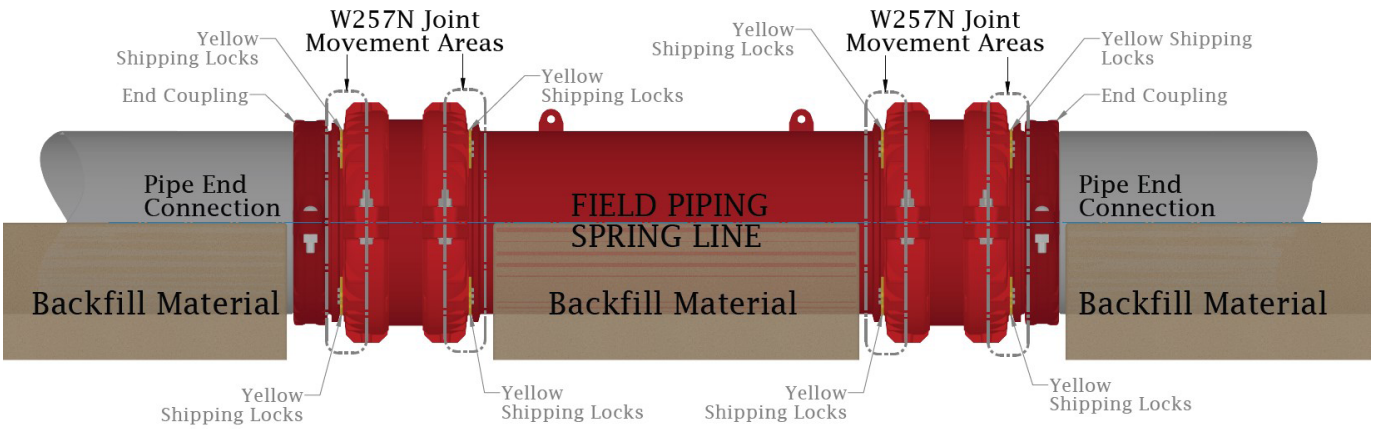
Failure to follow these instructions could result in death or serious personal injury and property damage.

Fully Installed Checklist					
	For Exposed Applications	Section		For Buried Applications	Section
1	W257N is properly positioned within field piping system.	4.1 or 5.1	1	W257N is properly positioned within field piping system.	4.1 or 5.1
2	End Connection Cplg installed per installation instructions.	4.2 or 5.2	2	End Connection Cplg installed per installation instructions.	4.2 or 5.2
3	Field Piping supported as applicable	6.2	3	Center Spool is fully supported between joint movement areas.	6.1

6.1 FOR BURIED APPLICATIONS

Haunching material, which is found in the area between the bedding and the underside of the pipe ends, shall be worked in and compacted before continuing backfill. Haunching shall have no voids under pipe ends, and the backfill material shall NOT be contaminated with debris or other foreign materials that could damage the pipe or cause loss of support. **All backfill shall be consistent and meet application-site specifications. Protection shall be implemented to prevent aggregate from entering the grooves adjacent to the joint movement.**

Backfill areas between the Joint Movement Areas on W257N to fully support center spool and pipe ends prior to removing Shipping Locks. Verify that ALL Shipping Locks are removed before completing backfill. Protective measures shall be taken in the areas defined as Joint Movement Areas to prevent aggregate from inhibiting joint movement.



6.2 FOR EXPOSED APPLICATIONS

W257Ns shall be supported per guidelines provided in Victaulic Design Data (Section 26 publications) and Victaulic Field Installation Handbooks. Placement of thrust supports, if applicable, shall be consistent with relevant product guides.

6.3 SHIPPING LOCKS REMOVAL

⚠ WARNING

- **DO NOT pressurize W257N with Shipping Locks installed. Shipping Locks shall be removed prior to pressurization or system commissioning.**
- **Keep hands clear of Pinch Points adjacent to housings when removing Shipping Locks.**

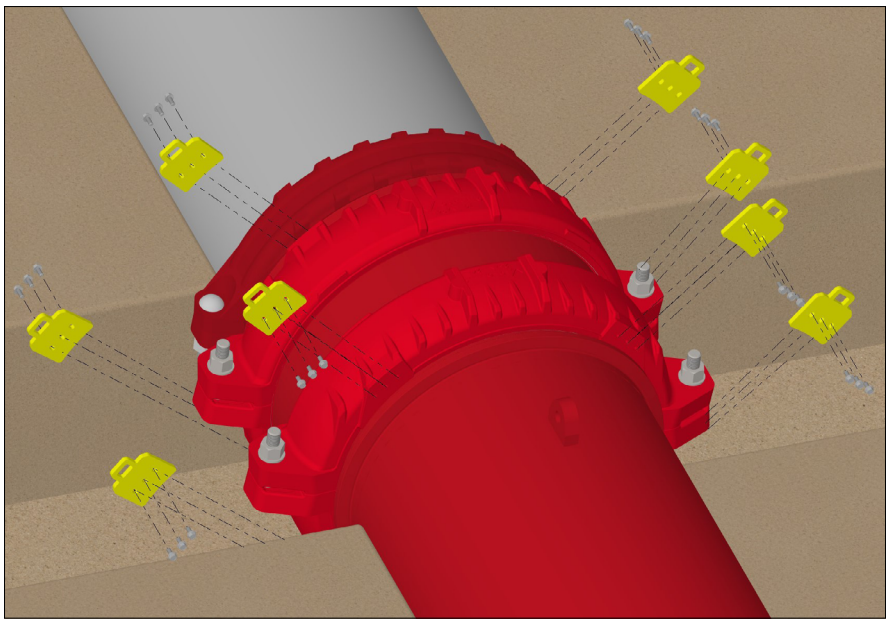
Failure to follow these instructions could result in death or serious personal injury and property damage.

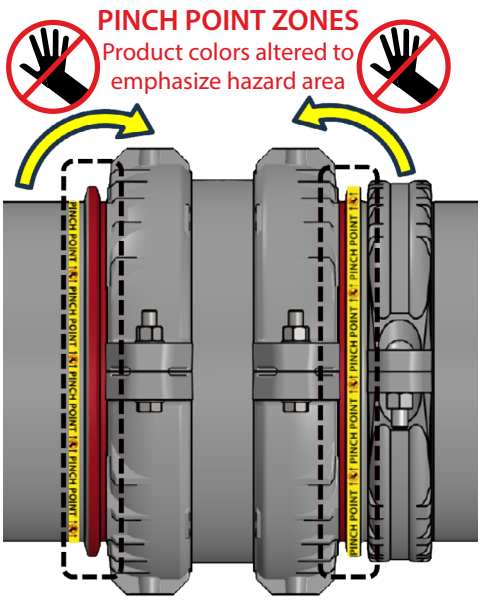
Once the W257N has been fully installed with end connections secured ALL shipping locks shall be carefully removed:

1. Use caution during the lock removal process to prevent any coating damage to the installed W257N.
2. Remove the shipping lock fasteners.
3. The shipping locks may then be removed by pulling the top loop on the lock. This will keep hands free of potential pinch points. If prying is required, take precautions to prevent any coating damage to installed W257N.
4. Verify that ALL shipping locks have been removed from each housing on the W257N prior to pressurization or system commissioning. The locks are spaced evenly around the diameter of each housing.
5. Pressurization or commissioning of the system shall ONLY be performed after ALL shipping locks have been removed.

WARNING: Be careful not to lean or rest hands in the areas adjacent to the housings when removing the shipping locks.

NOTE: Shipping Locks shall be removed prior to pressurization or system commissioning, or a loss of function will result.





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