



Metal Hose Installation Guide

Installation Rules and Hints

To obtain maximum service life from metal hose, some IMPORTANT installation rules must be kept in mind:

Do Not Torque

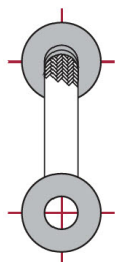
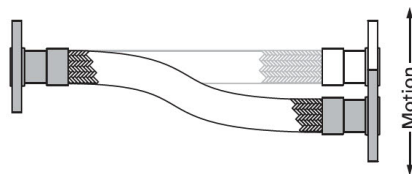
A hose is subjected to torque by:

- A) Twisting in installation. To minimize possible torque damage to a hose, a union or floating flange should be used at one end of the hose assembly. Where flanges are used, the fixed flange end should be bolted into place before the floating flange end. Where a threaded nipple and a union are used, the nipple end should be threaded into place, and then the union tightened into place using two wrenches.
- B) Twisting on flexure. Always install the hose so that flexing takes place in one plane only, and in the plane of bending.

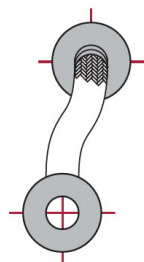
Prevent out-of-plane flexing

Always install the hose so that the flexing takes place in only one plane.

This plane must be the plane in which the bending occurs.

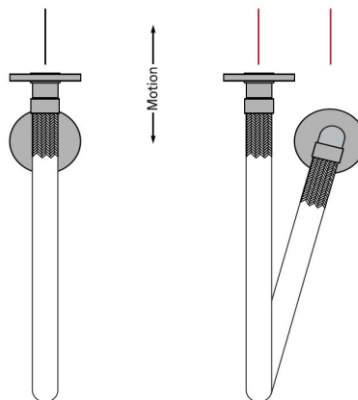
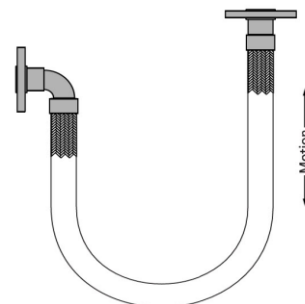


Correct
in plane
flexing



Wrong
out of plane
flexing

In plane traveling loop installation.

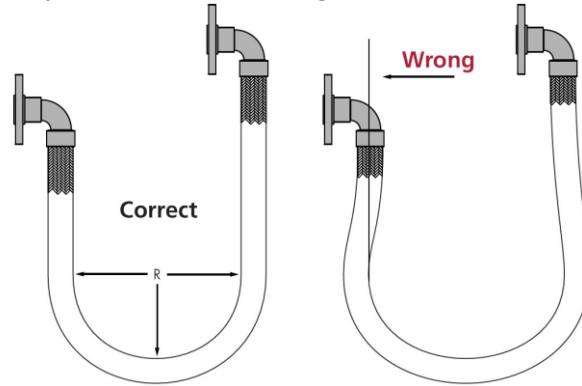


Correct
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Wrong
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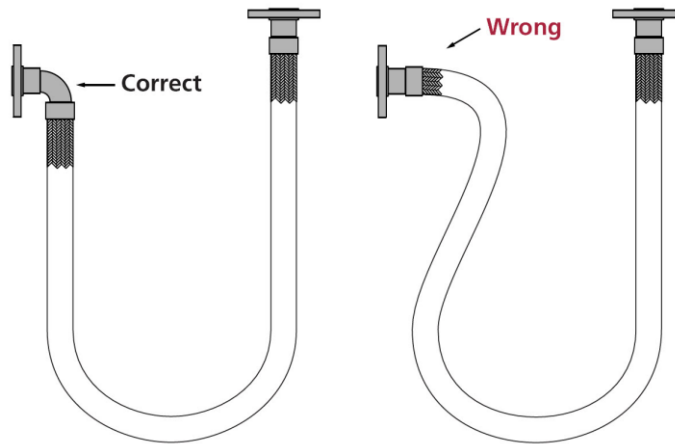
Avoid over bending

The repetitive bending of a hose to a radius smaller than the radius listed in the specification tables for corrugated hose will result in premature hose failure. Always provide sufficient length to prevent over bending and to eliminate strain on the hose.



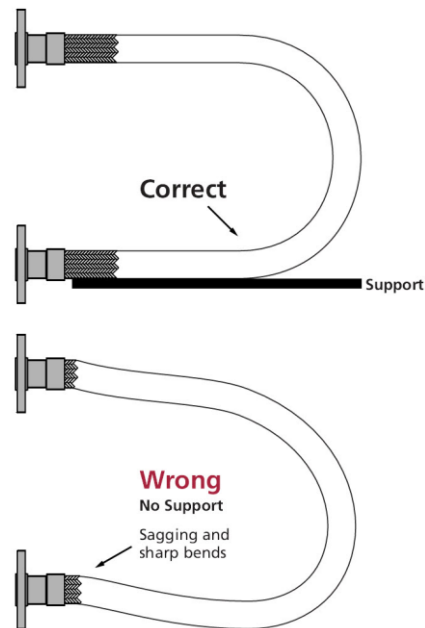
Avoid Sharp Bends

There are many ways a hose can be subjected to recurring sharp bends as a result of improper installation. A few examples are illustrated below. The minimum centerline bend radius for intermittent flexing should never be less than the values specified in the Technical Data Section.



Provide support

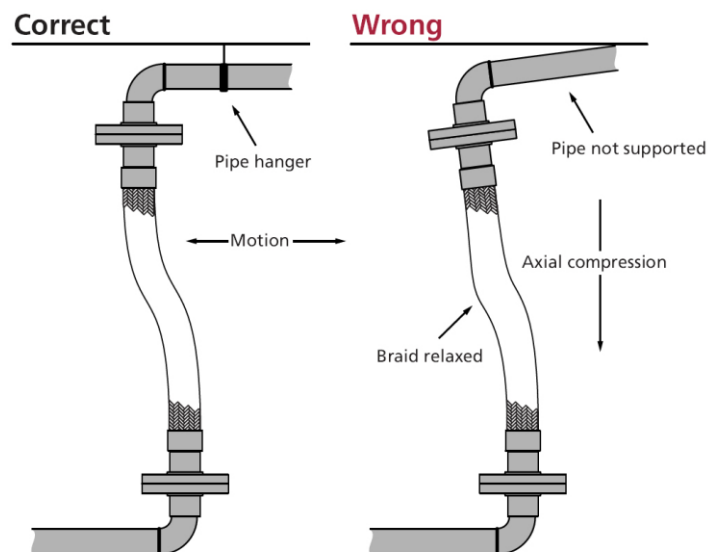
When installing the assembly in a horizontal loop, provide support for the arms to prevent the hose from sagging.



Do not extend or compress axially

A piping system which utilizes metal hose to absorb movement must be properly anchored and/or guided.

Always support the piping to prevent excessive weight from compressing the hose and relaxing the braid tension.



Do's and Don'ts for Metal Hose Installation:

Do...

- Follow any printed instructions included with the flexible connector.

Don't...

- Apply a wrench to a hose, collar or assembly.
- Twist hose assemblies during

- Follow industry-recommended practices and use care in handling and installing flexible connectors.
 - Install flexible connectors so that the bend is as close to the center of the connector as possible.
 - Observe the minimum bend radius as specified by the connector manufacturer.
 - Trial-fit threaded connections by hand, unmake and then make permanent.
 - Use a flexible connector of proper length to suit the installation.
 - Only wrench on the fitting hex flats as provided.
 - Design the installation to allow for ground movement after installation, such as settling or frost heave.
 - Install the proper length connector to allow a 2" straight run of hose at each end fitting.
 - Use pipe wrenches on both mating hexes to avoid twisting the hose.
 - Keep hose free from all objects and debris.
 - Handle and store connectors carefully prior to installation.
 - Check for leaks before covering the installation.
 - Install in such a manner that the connector can be removed.
 - Make sure the pressure rating of the connector is not exceeded.
- installation or when aligning the bolt holes in a flange or when making up pipe threads.
- "Pre-flex" a flexible connector to limber it up. Over-bending could cause damage and result in leakage.
 - Over-bend a flexible connector. A 45°-90° bend should be sufficient to install any flexible connector.
 - Install a flexible connector with the bend next to the end fittings. This could cause damage and result in leakage.
 - Lay the flexible connector on rocks or objects which could puncture the hose and cause leakage.
 - Attempt to stretch or compress a flexible connector to fit an installation.
 - Restrict flexibility by allowing connector to come into contact with other components or equipment during installation.