

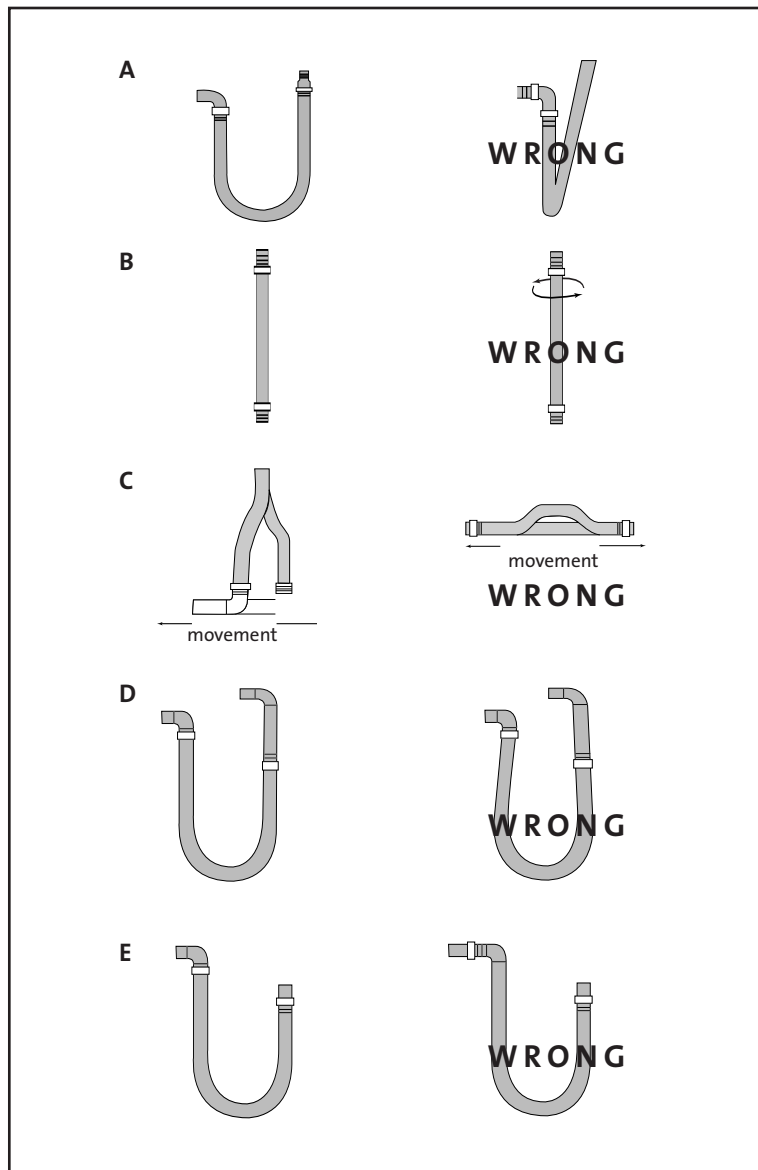
General Hose Installation Guidelines

Prior to Installation

1. Always examine the hose for any obvious damage. **If the hose is damaged, do not use.** Some examples of damage may include slices to the cover, kinks, or crushing of the hose, which can reduce life and pressure rating.
2. Review your application to ensure that the proper selection of hose has been made by examining materials, pressures, chemical compatibility, temperature and application environment.
3. Hose movement should be restricted to a **Single Plane (Drawing B)** to minimize the resultant twisting (torquing). *Note:* The flexing plane should also be the plane in which bending occurs. Excessive bending will induce stress fatigue (**Drawing A**).
4. Axial movement should be eliminated. The hose should not be stretched or compressed along its longitudinal axis when installed in-line (**Drawing C**).

Installation

- **Never use hose below minimum bend radius (Drawing D).** Bend radii (measured to inside radius hose) are given for individual products and sizes (consult factory for specific data). These values represent the minimum bend radius to which the hose can be properly installed. If these values are not maintained, the hose can fail prematurely.



- **Do not allow severe hose bends** — Severe bends can cause kinking in a hose or overstressing of the assembly/material, resulting in damage and ultimate failure. If severe bends cannot be avoided, use elbows designed to accommodate the direction change (**Drawing E**).
- **Do not twist (torque) assembly along centerline during installation** — The likelihood of leakage/failure increases for hoses that are twisted (torqued) during assembly. The proper use of floating flanges and swivel-type fittings (i.e., J.I.C.) can eliminate improper twisting.

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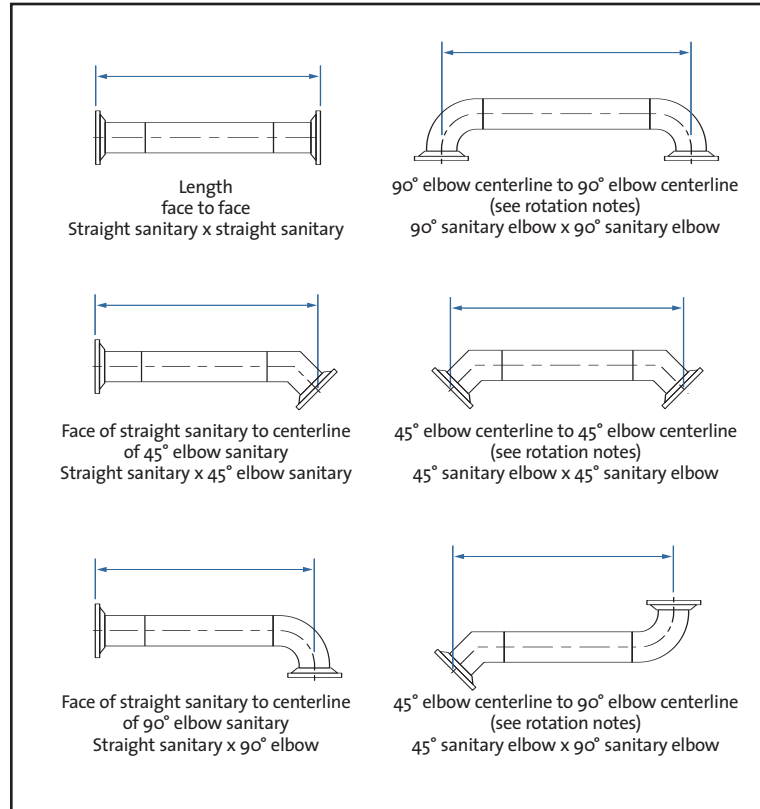
Service Life Factors

The actual service life of the hose assembly is strongly affected by its environment. Some of the factors that may influence service include:

- **Corrosion**
 - General corrosion attack
 - Stress corrosion cracking
 - Intergranular corrosion
 - Pitting corrosion
 - Torsion
- **Vibration**
- **Fatigue** (including)
 - High-cyclic
 - Flexure
 - Pulsation
- **Wear**
- **Proper hose configuration** should be used when hose may be exposed to movements from attached piping (i.e., thermal growth).

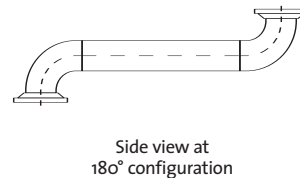
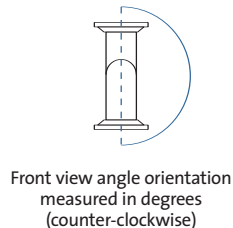
Measuring Hose Assemblies

As part of our continuous effort to become your application partner, we would like to provide you with the following standard of measuring the overall length of a hose assembly with various fitting attachments.



ROTATION NOTES

When ordering double elbow hose assemblies, angular orientation between the elbows is expressed in a decimal. The angle is measured counter-clockwise from the centerline of the nearest fitting when the fitting is positioned at 6 o'clock to the centerline of the other fitting as shown.



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General Hose Installation Guidelines

Common Application Terms

As application experts, Saint-Gobain Performance Plastics has listed some common industry terms to help you determine the right product for your specific application.

BEND RADIUS DEFINITIONS

Bend radius

(silicone hose and all rubber hose)

The radius of a bent section of hose measured to the innermost surface of the curved portion.

Minimum bend radius

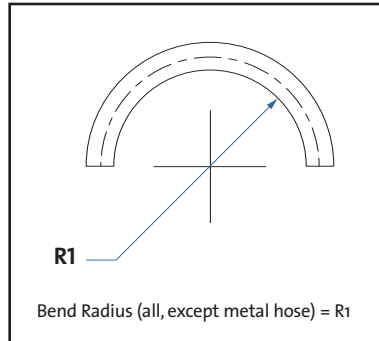
The smallest radius at which a hose can be used.

Dynamic bend radius

The radius at which constant or continuous flexing occurs.

Static bend radius

The smallest fixed radius at which a hose can be subjected.



Force to bend

The amount of stress required to induce bending around a specific radius. Hence, a measure of stiffness.

PRESSURE DEFINITIONS

Maximum rated working pressure

The maximum pressure that the hose should be subjected to on a continuous basis.

Nominal rated burst pressure

The average pressure at which the core or braid will rupture at ambient temperature. This is usually tested at 68°F.

Pulsating or shock pressure

The performance of hose can be greatly reduced under pulsating working pressure. Pressures are normally reduced by 50% in pulsating or shock pressure applications.

Pressure/temperature correction

Silicone and rubber hose pressure capabilities decrease as the temperature increases.

Pressure drop

The measure of pressure reduction or loss over a specific length of hose.