

Rubber Fab

a Garlock Hygienic Technologies company

Bend Radius

Flexibility and minimum bend radius are important factors in hose design and selection if it is known that the hose will be subjected to sharp curvatures in normal use. When bent at too sharp of an angle, the hose may kink or flatten in the cross-section. The reinforcement may also be unduly stressed or distorted and the hose life thereby shortened.

Adequate flexibility means the hose should be able to conform to the smallest anticipated bend radius without over stress. The minimum bend radius is generally specified for each hose in this catalog. This is the radius to which the hose can be bent in service without damage or appreciably shortening its life. The radius is measured to the inside of the curvature.

BEND RADIUS:

For fluoropolymer hose and all rubber hose the radius of a bent section of hose measured to the innermost surface of the curved portion (R1).

For metal hose the radius of a bent section of hose measured to the hose centerline (R2).

MINIMUM BEND RADIUS:

The smallest radius at which a hose can be used.

FORCE TO BEND:

The amount of stress required to induce bending around a specified radius—a measurement of stiffness.

MAXIMUM RATED WORKING PRESSURE:

The maximum pressure hoses should be subjected to on a continuous basis.

MAXIMUM RATED TEST PRESSURE:

The maximum rated pressure is multiplied by 150%.

NOMINAL RATED BURST PRESSURE:

The average pressure at which the core or braid will rupture at ambient temperature.

PRESSURE/TEMPERATURE CORRECTION:

Hose pressure capabilities decrease as the temperature increases. Consult factory to determine pressure rating at elevated temperatures.

BEND RADIUS FORMULA:

Formula to determine minimum hose length given bend radius and degree of bend required.

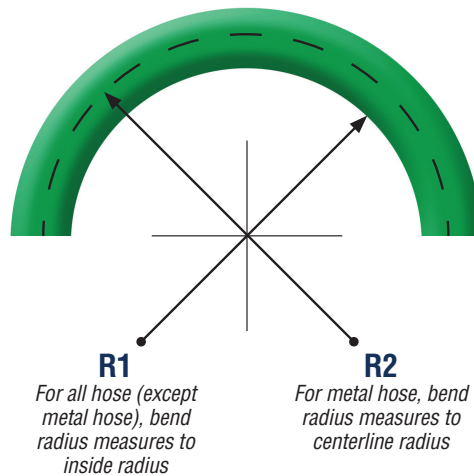
$$L = \frac{A}{360^\circ} \times 2\pi B$$

L = Minimum length of hose to make bend (bend must be made equal along this portion of hose length).

A = Angle of bend

B = Given bend radius of hose

$\pi = 3.14$



Tolerances

The overall length tolerance for hose assemblies are:

+/- 1/4" on assemblies 6 to 24 inches overall length.

+/- 1/2" on assemblies 24 to 60 inches overall length.

Not to exceed +/- 1% on assemblies over 60 inches overall length.

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