

# Corrosion Resistance Reference Table (cont'd)

	BRONZE	MONEL	CARBON STEEL	304L/321 STAINLESS	316 STAINLESS
Sulfuric Acid, 95-100%	B	B	B	A	A
Sulfuric Acid, 80-95%	B	B	C	B	B
Sulfuric Acid, 40-80%	C	C	C	C <sup>1</sup>	C <sup>1</sup>
Sulfuric Acid, 40%	C	C	C	C <sup>1</sup>	C <sup>1</sup>
Sulfurous Acid	B	B	C	C <sup>1,4</sup>	C <sup>1,4</sup>
Tall Oil	C	B	B	B	B
Tannic Acid	B	B	C	B	B
Tar	A	A	B	A	A
Tartaric Acid	C	B	C	B	B
Tetraphosphoric Acid	C	C	C	B	B
Toluene	A	A	A	A	A
Trichloroacetic Acid	C	B	C	C <sup>3,4</sup>	C <sup>4</sup>

	BRONZE	MONEL	CARBON STEEL	304L/321 STAINLESS	316 STAINLESS
Trichloroethane - Dry	A	A	A	A	A
Trichloroethane - Moist	C	B	C	C <sup>4</sup>	C <sup>4</sup>
Trichloroethylene - Dry	A	A	A	A	A
Trichloroethylene - Moist	C	B	C	C <sup>4</sup>	C <sup>4</sup>
Turpentine	A	A	B	A	A
Varnish	A	A	B	A	A
Vinegar	B	B	C	A	A
Water, Potable	A	A	C	A	A
Xylene	B	A	B	A	A
Zinc Chloride - Dry	C	A	C	A	A
Zinc Chloride - Moist	C <sup>4</sup>	B	C	C <sup>3,4</sup>	C <sup>3</sup>
Zinc Sulfate	B	B	C	B	A

## INSTALLING FLEXIBLE HOSE

### IMPORTANT THINGS TO REMEMBER WHEN INSTALLING ANACONDA METAL HOSE ASSEMBLIES.

There are three fundamental points to remember in installing corrugated flexible metal hose assemblies, ALL of equal importance:

1. Hose should not be bent below the minimum recommended bend radius.
2. Always install without twist. Twists develop torsional strain - harmful to hose.
3. Always install so that flexing takes place in one plane.

### TYPICAL INSTALLATIONS

#### MISALIGNMENT (NON-MOVING)

For misalignment and ease of installation where there is no significant motion or vibration, consult Offset Chart on Page 25, and "Minimum C/L Permanent Bend Radius" columns in specifications, for each type and size of corrugated hose.

#### OFFSET MOTION (INTERMITTENT FLEXURE)

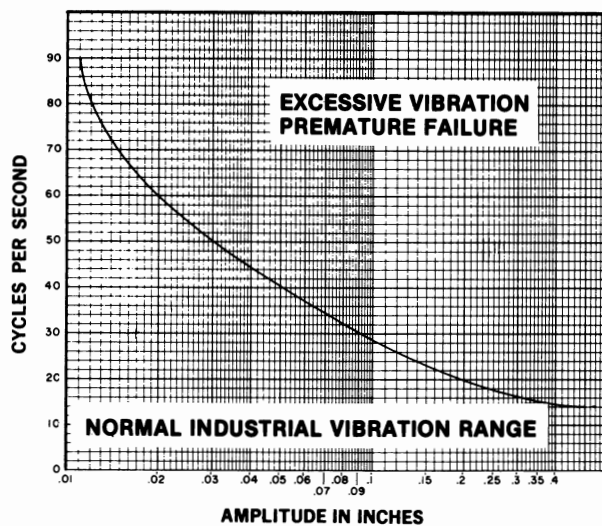
For intermittent offset motion consult the charts on Page 26 and the Constant Flexure Minimum C/L Bend Radius columns in specifications for each type and size of corrugated hose.

#### VIBRATION

Normal vibration encountered in average industrial applications is illustrated in the chart at the right. Under these conditions the exposed length of hose (Dimensions F, drawing at right), should never be shorter than length given in "Minimum Length for Normal Vibration" in specifications for each type and size of corrugated hose.

#### DEFINITIONS

Amplitude equals lateral displacement from C/L of hose. Double amplitude equals lateral displacement on both sides of hose or 2 times the amplitude.



# INSTALLING FLEXIBLE HOSE

## TYPICAL INSTALLATIONS (Cont'd.)

### EXPLANATION OF FORMULA

- A = Bend Diameter ("Minimum C/L Bend Radius - Flexing Bend" x 2).
- B = Factor including the length of fittings and an allowance for straight sections of flexible tubing beyond each fitting.
- T = Travel.

I.D. of Hose	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
B	9"	11"	12"	14"	16"	18"	20"	22"

I.D. of Hose	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"
B	24"	26"	30"	33"	36"	40"	46"	52"	60"

### VERTICAL LOOP - For Maximum VERTICAL TRAVEL

The illustration at the right shows the proper method of installing hose in vertical loops. The formula below and the table above will aid in determining the overall length of an assembly.

**Formula:** Overall Length = B + 1.57A + 1/2T

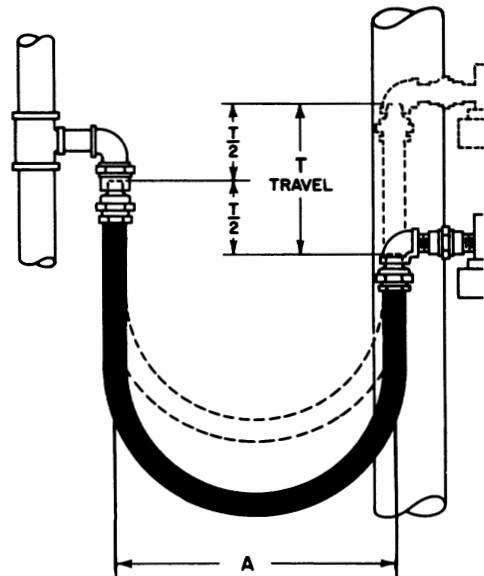
**Example:** Using 3/4" Type BW721-1H hose with fittings attached.

A = 7" x 2 ("Minimum C/L Bend Radius - Flexing Bend").

B = 14" (From table above.)

T = 8"

Overall Length = 14 + 1.57 (14) + 1/2(8)  
Overall Length = 39.98" or approx. 40"



### VERTICAL LOOP - For SHORT HORIZONTAL TRAVEL

The formula below and the table above will aid in determining the overall length for an assembly when installed as illustrated in the drawing at the right.

**Formula:** Overall Length = B + 1.57(A + T)

$$C = \frac{1.57T + B + A}{2}$$

**Example:** Using 1" Type S-1 with fittings attached.

A = 8 x 2 ("Minimum C/L Bend Radius - Flexing Bend")

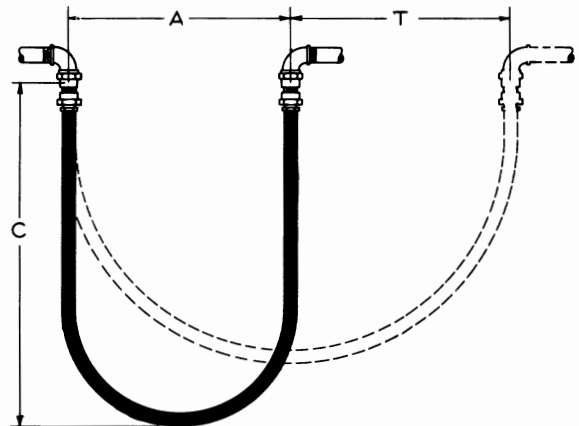
B = 16" (From table above).

T = 15"

Overall Length = 16 + 1.57 (16 + 15)  
Overall Length = 64.67" or approx. 65"

$$C = \frac{1.57(15) + 16 + 16}{2}$$

C = 27.77 or approx. 28"



## TYPICAL INSTALLATIONS (Cont'd.)

### HORIZONTAL LOOP - For Maximum HORIZONTAL TRAVEL

The illustration at the right is another illustration of a typical installation of hose in which the movement is horizontal. The purpose of the support is to prevent the hose from sagging and causing failure near the fittings.

**Formula:** Overall Length =  $B + 1.57A + 1/2T$

**Example:** Using 1/2" Type BW621-1S hose with fittings attached.

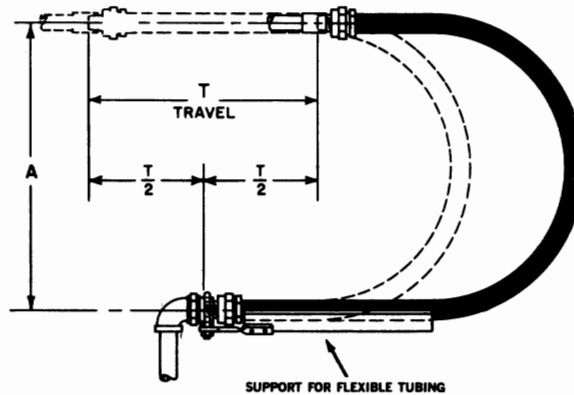
$A = 7" \times 2$  (\*Minimum C/L Bend Radius - Flexing Bend\*  $\times 2$ ).

$B = 12"$  (From table on Page 32.)

$T = 18"$

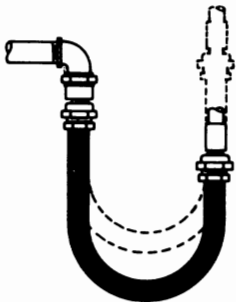
Overall Length =  $12 + 1.57(14 + 1/2(18))$

Overall Length = 42.98" or approx. 43"



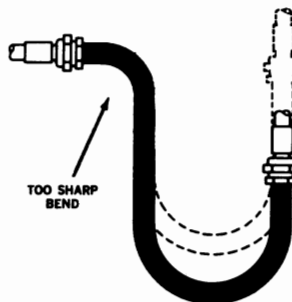
## AVOID SHARP BENDS AND TORSIONAL TWISTS

### RIGHT



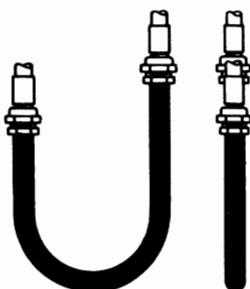
The drawing illustrates the correct way to install hose in loop form. Note the free bend of the hose and that there are no sharp turns near either of the fittings.

### WRONG



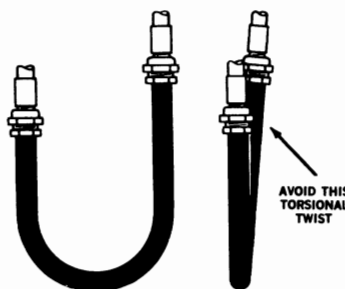
An installation of this type is incorrect because there is a sharp bend near the upper fitting. If hose is installed in this manner, fatigue failure may result near the fitting.

### RIGHT



The drawing demonstrates the manner of installing hose so that the hose during all movement will be in one plane. Note also that there are no sharp bends near either fitting.

### WRONG



Hose should never be installed like this when it will be required to move. Note that the fittings are not in line and that there is torsional twist in the hose. When installed in this manner the twist in the hose may cause premature fatigue failure.