CALCULATING PEN-SEAL SIZES

Use the following method if you cannot find the correct pipe size or wall sleeve from the Sizing Charts on pages 4 through 7.

Step 1 Calculate the Annular Space

The Annular Space is the space between the Outside Diameter of the pipe and the Inside Diameter of the Wall Sleeve or opening. This is calculated by using the following formula:

$$\textbf{Annular Space} = \frac{\text{Wall Opening I.D. - Pipe O.D.}}{2}$$

Step 2 Selecting the PEN-SEAL Model

Select the proper PEN-SEAL model from the Dimensional Chart (shown below) by comparing the Annular Space to the Neutral State and Expanded State Thickness. The Annular Space calculated must fall between the Neutral State Thickness and the Expanded State Thickness.

Step 3 Calculate the Number of Links Required

First, calculate the Bolt Circle:

$$\textbf{Bolt Circle} = \frac{\text{Wall Opening I.D. + Pipe O.D.}}{2}$$

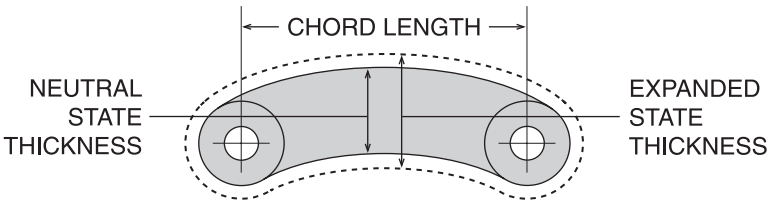
Then, determine the number of links required by using the following formula. Chord Length is found in the PEN-SEAL Dimensional Chart shown below.

$$\textbf{Number of Links} = \frac{\text{Bolt Circle x 3.14 } (\pi)}{\text{Chord Length}}$$

Finally, the number of links determined must be rounded down to the next whole number.

Please Note: PEN-SEAL sets are sold in belts of ten (10) links.

PEN-SEAL Dimensional Chart



SIZE	SEALING RANGE		
	NEUTRAL STATE THICKNESS (Inches)	EXPANDED STATE THICKNESS (Inches)	CHORD LENGTH (Inches)
PS-200	0.500	0.620	1.125
PS-275	0.620	0.780	0.910
PS-300	0.710	0.880	1.510
PS-315	0.820	1.030	1.470
PS-325	0.940	1.180	3.100
PS-400	1.430	1.810	3.625
PS-425	1.130	1.450	3.625
PS-475	1.620	1.900	2.625
PS-500	2.370	2.810	3.860
PS-525	2.180	2.500	3.860
PS-575	1.810	2.350	3.100
PS-600	3.200	4.000	4.000

Materials Guide

TYPE	SEAL MATERIAL	PRESSURE PLATES	BOLTS & NUTS	TEMPERATURE RANGE (°F)	APPLICATIONS*
E	EPDM Black	GLASS REINFORCED PLASTIC	STEEL Zinc Dichromate	-40° to +250°	Suitable for most applications in water, above ground and direct burial. Provides electrical insulation where cathodic protection is required.
ES	EPDM Black	GLASS REINFORCED PLASTIC	STAINLESS STEEL (18-8)	-40° to +250°	Suitable for environments where the corrosion resistance of stainless steel hardware is required.
P	NITRILE	GLASS REINFORCED PLASTIC	STEEL Zinc Dichromate	-40° to +210°	Resistant to most hydrocarbons, oil, gas, jet fuel, and many solvents.
PS	NITRILE	GLASS REINFORCED PLASTIC	STAINLESS STEEL (18-8)	-40° to +210°	Same as above, but with corrosion resistance of stainless steel hardware.
K	SILICONE	STEEL Zinc Dichromate	STEEL Zinc Dichromate	-40° to +400°	High temperature applications.

***For more details and complete chemical compatibility contact PROCO.**