

# Garlock Expansion Joint ABRA-LINE™ Style 404

## Engineered for Abrasive Applications

The ABRA-LINE™ family of products was developed for highly abrasive applications typically found in the power generation, fertilizer, mining and chemical industries. These may include flue gas desulphurization systems, phosphate mining, dry bulk power transfer systems, tailings and slurry applications. Our proprietary urethane formula was designed to reduce wear and extend service life.

Style 404 Expansion Joints are specially designed for full vacuum abrasive service applications. The tube material is a proprietary urethane formulation. Style 404 can be constructed as a single or multiple arch design. It can also connect pipe flanges in concentric or eccentric tapers, to join piping of unequal diameters.



### DESIGN

- » Tube
  - Proprietary urethane formula for abrasive applications
  - Abrupt filled arch configuration provides maximum movement, and pressure and vacuum resistance in slurry application
- » Body
  - Composite fabric construction with welded, treated metal body rings for dimensional stability and pressure/vacuum resistance
- » Cover
  - Wide selection of elastomers available which are resistant to oxidation

### OPTIONAL CONFIGURATIONS

- » Multiple Arch- For higher movements
- » Filled Arch- To eliminate media buildup
- » Oversized Arch- For higher movements
- » Concentric and Eccentric Tapers- To connect piping of unequal diameter
- » Custom Drilling- ANSI, DIN, AWWA, BS, JIS, and special drilling patterns available on request
- » Extended Face-to-face
- » Offsets: lateral, angular, and torsional

### TARGET MARKETS

- » Power Generation
- » Fertilizer
- » Mining

### RETAINING RINGS

- » Required for all applications; provides metal surface to distribute bolt load evenly, preventing flange damage during bolt tightening
- » Standard material: mild steel with corrosion-resistant coating; galvanized or stainless steel also available

### CONTROL UNITS/TIE RODS

- » Recommended on most applications to prevent damage due to excessive pipe movements
- » Standard material: mild steel, galvanized or stainless steel also available

#### GARLOCK

an EnPro Industries family of companies  
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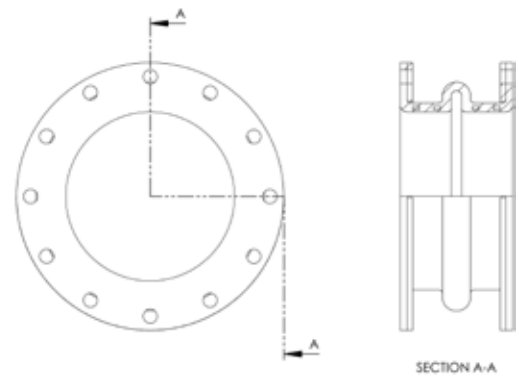
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## SPECIAL COVER MATERIALS

- » CSM
- » Nitrile
- » Fluoroelastomer
- » EPDM
- » Neoprene
- » Chlorobutyl

## TEMPERATURE

- » Standard Chlorobutyl/Polyester +180°F (82°C)

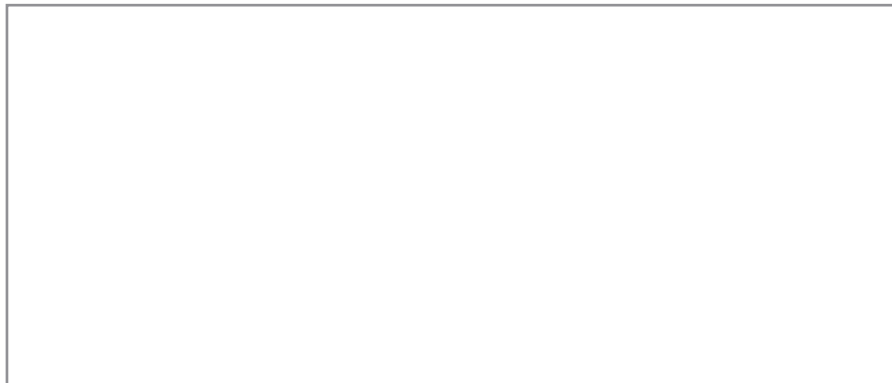


## PRODUCT TABLE

Pipe Size I.D.		Movements					
		Compression		Lateral		Elongation	
inches	mm	inches	mm	inches	mm	inches	mm
1 - 1½	25 - 40	1/8	3	1/8	3	1/16	1.5
2 - 5	50 - 150	1/4	6.5	1/4	6	1/8	3
6 - 18	200 - 450	3/8	9.5	1/4	6	3/16	4.5
20 - 24	500 - 600	7/16	11	1/4	6	7/32	5.5
26 - 40	650 - 1000	1/2	12.5	1/4	6	1/4	6
42 - 120	1050 - 3000	9/16	14	1/4	6	1/4	6

## PRESSURE TABLE

Pipe Size I.D.		Pressure		Vacuum	
		psi	bar	inch Hg	mm Hg
inches	mm				
½ - 4	13 - 100	165	11.3	29.9	750
5 - 12	125 - 300	140	9.6	29.9	750
14	350	85	5.8	29.9	750
16 - 24	400 - 600	65	4.5	29.9	750
26 - 66	650 - 1,650	55	3.8	29.9	750
68 - 96	1,700 - 2,400	45	3.1	29.9	750
98 - 108	2,450 - 2,700	40	2.8	29.9	750
110 - 120	2,750 - 3,000	30	2	29.9	750



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