

Expansion Joints Technical Guidelines



Garlock

SEALING TECHNOLOGIES®

an EnPro Industries company

ANSI Standard
125 & 150 Lb.

Garlock Expansion Joints

In service to world industries since 1887, Garlock has lead the production and implementation of the latest Expansion Joint Technology for over fifty years.

Just a few of the “firsts” developed by Garlock:

- Development of high temperature elastomers to the levels now considered the industry standard
- Developing the patented construction with bonded rectangular body rings
- Creation of fused FEP liners designed specifically for chemical use
- Abilities to combine fabric, FEP and elastomers effectively
- Design of spool type joints to over 10 foot (120" or 3m) I.D.'s
- Development of the flowing arch design



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Introduction

An expansion joint is a specially engineered product inserted in a rigid piping system to achieve one or more of the following:

- Absorb movement
- Relieve system strain due to thermal change, load stress, pumping surges, wear or settling
- Reduce mechanical noise
- Compensate for misalignment
- Eliminate electrolysis between dissimilar metals

At Garlock, the range of our engineering emphasis extends from the selection of the fabric used for reinforcement to the choice of materials used in actual expansion joint construction.

Rigid laboratory and field tests of Garlock expansion joints are what back up our assurances of long life and reliable service. An important word on safety: all Garlock expansion joints carry safety ratings **exceeding** product specifications in such areas as temperature and pressure.

Garlock nonmetallic expansion joints and flexible couplings are ideally suited for hundreds of applications in a wide range of industries, including:

- Power generating stations
- Pulp and paper
- Chemical and industrial process piping
- Waste water and sewage disposal
- Marine applications
- Heating, ventilating and air conditioning

Joint Selection

To select the proper expansion joint, consider:

- Pipe size
- Pumped medium: type of liquid, gas, or vapor in system
- Temperature range
- Pressure/vacuum range
- Movements needed
- Environment: degree of exposure to:
 - Weathering
 - Sunlight
 - Liquids
 - Gases
 - Vapors
 - Oil
 - Open flame
 - Chemicals
 - Other
- Installed face-to-face dimensions
- Degree of pipe misalignment
 - If greater than 0.125" (3.2 mm), correct or use a special joint
- Drilling: if other than standard 125 lb. ANSI, determine:
 - Flange O.D.
 - Bolt circle
 - Number of bolt holes
 - Diameter of hole
- Need for retaining rings
- Need for control units
 - Recommended for use with most expansion joints
 - Must be used in cases of insufficient pipe support
- Need for special construction

Garlock Recommendations

	200	200HP	204, 204HP	206	207, 208	214, 215	306	7706-S	8100	9394	8400
Standard Piping— High Pressure		★	★	★					★		
Standard Piping— Low Pressure					★					★	★
Chemical Piping	★	★				★	★				
Standard Ducts										★	★
Nuclear			★	★	★						
Naval and Coast Guard			★	★				★	★		