

“STANDARD FLEXIJOINT[®] SPECIFICATION”

1.0 SCOPE

- 1.1 This specification provides information for the procurement of expansion joint, flexible couplings and bellows made of PTFE Fluorocarbon resin by forming.
- 1.2 The subjects covered are material, construction, tests and packaging.
- 1.3 Safety – always specify safety shields to protect against serious personal injury in the event of expansion joint failure.

2.0 MATERIALS

- 2.1 The bellows component shall be pure white virgin PTFE Isostatic resin conforming to ASTM D4894, without pigments, lubricants, hydrocarbons or additives of any kind.
- 2.2 Unless otherwise specified, the flange alloy and reinforcing rings shall conform to ASTM 60-45-12. Composite flanges and reinforcing rings shall have a nominal tensile strength of 50,000 psi per ASTM D638 or 358 Mpa and ASTM D256 or 1760 J/M for notched Izod impact strength of 30 ft. lb/inch.
- 2.3 Unless otherwise specified, all flanges and T-Bands shall be coated with an electrostatically applied epoxy.
- 2.4 Unless otherwise specified, all materials subject to atmospheric corrosion shall be zinc phosphate treated or PureFlex Durcor-62™ advanced composites.

3.0 CONSTRUCTION

- 3.1 Unless otherwise specified, flange diameter shall conform to ANSI B16.5. Bolt holes shall be tapped.
- 3.2 When external band reinforcement is required, each reinforcing element shall be one piece without welding or pins and shall reinforce the full length of the convolution sidewall as well as the convolution root.
- 3.3 The PTFE wall thickness shall be no less than .077". It shall be uniformed within 5% of the nominal wall thickness measured at any point on the convolution sidewall, crest or root.
- 3.4 When mechanical limiting to a maximum extended length or to a minimum retracted length is required, the means by which such limiting is accomplished shall not interfere with freedom to adjust angular, parallel or rotary misalignment.

4.0 TESTING

- 4.1 No leakage shall occur after 100,000 minimum cycles (200,000 strokes) of the maximum rated axial travel, 10 cycles per minute, at room temperature.
- 4.2 Each expansion joint shall be subjected to a minimum pressure of 100 psi.
- 4.3 The PTFE component shall have a minimum ultimate tensile strength of 4,000 psi and a minimum ultimate elongation of 300% by ASTM D1708 and a minimum specific gravity of 2.14 by ASTM D792.
- 4.4 The PTFE components shall be free of scratches, tool marks, dents, pits, tears, inclusions or any other defects which occupy or penetrate 20% or more of the PTFE wall thickness.
- 4.5 All units will be subjected to a high intensity light to test for imperfections and inclusions.
- 4.6 The entire surface of each finished unit shall withstand a 10,000 volt spark test without arcing through.

5.0 PACKAGING

- 5.1 Each unit shall be packed in a separate container, clearly marked externally to show the pipe size, the number of convolutions and the manufacturer.
- 5.2 All containers shall be readily reclosable with retaping.
- 5.3 Each unit shall bear a nameplate or other marking to show pipe size and the manufacturer.
- 5.4 An instruction sheet showing recommended installation procedure, bolt tightening torque, maximum extended length, neutral length, and minimum retracted length shall be enclosed in each expansion joint container.

6.0 HAZARDOUS SERVICE WARNING LABEL

- 6.1 Each unit shall be shipped with a minimum of one warning label stressing the absolute urgency of using a suitable safety shield in hazardous service and using a liner in abrasive service or where sharp edged solids are or may be present.