

SPECIAL SPECIFICATION

SECTION 15121S

EXPANSION COMPENSATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Flexible pipe connectors, expansion joints (compensating), pipe loops, offsets and swing joints.

1.02 RELATED SECTIONS

- A. Section 13085S – Seismic Protection
- B. Section 15051S – Piping Systems**
- C. Section 15310- Automatic Sprinklers and Water Based Fire Protection Systems
- D. Section 15210S - Process Air and Gas Piping.

1.03 SYSTEM DESCRIPTION

- A. Base expansion calculations on 50 degrees F installation temperature to 250 degrees F for steam, 210 degrees F for hot water heating and 140 degrees F for domestic hot water, plus 30 percent safety factor.

1.04 SUBMITTALS

- A. Include maximum allowable temperature and pressure rating, overall face-to-face length, live length, hose wall thickness, hose convolutions per foot and per assembly, fundamental frequency of assembly, braid structure, total number of wires in braid in flexible pipe connector, and maximum expansion compensation in expansion joint.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Adscos Manufacturing.
- B. Badger Industries.
- C. Keflex.
- D. Senior Flexonics, Inc.
- E. Triflex.

2.02 FLEXIBLE PIPE CONNECTIONS

- A. Steel Piping: Stainless steel inner hose and braided exterior sleeve.
- B. Copper Piping: Bronze inner hose and braided exterior sleeve.
- C. Construct spool pieces to exact size for insertion of flexible connection.

2.03 EXPANSION JOINTS

- A. Steel Piping 3 Inch and Under: Provide stainless steel bellows type with anti-torque device, limit stops, and internal guide.
- B. Steel Piping over 3 Inch: Provide external ring controlled type with hydraulically formed stainless steel bellows.
- C. Copper Piping: Provide bronze type with two-ply bronze bellows, anti-torque device limit stops, internal guides, and solder joint end.

2.04 CONNECTIONS

- A. Provide flexible pipe connections and expansion joints suitable to connect to adjoining piping as specified for pipe joints. Use pipe sized units.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine piping layout and notify A/E of additional anchors required to adequately protect system.

3.02 INSTALLATION

- A. Install flexible pipe connectors on pipes connected to equipment supported by vibration isolation.
- B. Accomplish structural work and provide equipment required to control expansion and contraction of piping, loops, pipe offsets, and swing joints, and provide corrugated bellows type expansion joints where required.
- C. Install flexible connectors at right angles to displacement. Install one end immediately adjacent to isolated equipment and anchor other end.
- D. Rigidly anchor pipe to building structure where necessary. Provide pipe guides so that movement takes place along axis of pipe only.

3.03 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide inspection services of flexible pipe manufacturer's representative for final installation and to certify installation is in accordance with manufacturer's recommendations and that connectors are performing satisfactorily.

END OF SECTION