

## SECTION 230516 - EXPANSION FITTINGS AND LOOPS FOR HVAC PIPING

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Pipe loops and swing connections.

- B. All piping shall be installed in such a manner as to allow for expansion and contraction by means of offsets and loops without causing undue stress in piping or at connections to equipment.

#### 1.2 ACTION SUBMITTALS.

- A. Product Data: For each type of product indicated.

- B. Where pipe offsets or loops are not detailed or dimensioned on drawings, the Contractor is to submit calculations to show that the stress range of the pipe does not exceed 15000 psi. In addition, Contractor shall submit anchoring loads and details.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.

#### 1.4 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Pipe and Pressure-Vessel Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Compatibility: Products shall be suitable for piping service fluids, materials, working pressures, and temperatures.
- B. Capability: Products to absorb 200 percent of maximum axial movement between anchors.

## PART 3 - EXECUTION

### 3.1 PIPE LOOP AND SWING CONNECTION INSTALLATION

- A. Install pipe loops cold-sprung in tension or compression as required to partly absorb tension or compression produced during anticipated change in temperature.
- B. Connect risers and branch connections to mains with at least five pipe fittings, including tee in main.
- C. Connect risers and branch connections to terminal units with at least four pipe fittings, including tee in riser.
- D. Connect mains and branch connections to terminal units with at least four pipe fittings, including tee in main.
- E. Expansion joints for risers shall be installed 18" above the floor and in accordance manufacturer`s standards.
- F. Expansion loops shall be provided on all horizontal and vertical hot water piping with a straight run of 50 linear feet or more.

END OF SECTION 230516