

SECTION 23 05 16 {15127}

EXPANSION FITTINGS AND LOOPS FOR HVAC PIPING

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This section includes fittings and practices used to compensate for thermal expansion and other movements in piping systems for HVAC piping systems such as hot water, chilled water, steam, and refrigerant systems.

Manufacturers listed in this section were identified as representative and not as an endorsement for meeting this specification. For additional product information, visit 4Specs at www.4specs.com, ARCAT at www.arcat.com, First Source at www.reedfirstsource.com, SpecSource at www.specsource.com, and Sweets Network at products.construction.com.

This section includes performance, proprietary, and descriptive type specifications. Edit to avoid conflicts among requirements.

Contact the CSRF Support Center at supportcenter@csrf.org to submit comments or suggestions for improvements to this specification. Visit the SPECTEXT web site at www.spectext.com for current product announcements.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Flexible pipe connectors.
2. Expansion joints.
3. Expansion compensators.
4. Pipe alignment guides.
5. Swivel joints.
6. Pipe anchors.

B. Related Sections:

1. Section 23 05 29 - Hangers and Supports for HVAC Piping and Equipment: Product and installation requirements for piping hangers and supports.
2. Section 23 05 48 - Vibration and Seismic Controls for HVAC Piping and Equipment: Product and installation requirements for vibration isolators used in piping systems.
3. Section 23 21 13 - Hydronic Piping: Product and installation requirements for piping used in hydronic heating and cooling systems.
4. Section 23 22 13 - Steam and Condensate Heating Piping: Product and installation requirements for piping used in steam systems.
5. Section 23 23 00 - Refrigerant Piping: Product and installation requirements for piping used in refrigeration systems.
6. Section 23 24 16 - Internal-Combustion Engine Exhaust Piping: Product and installation requirements for piping used in engine exhaust systems.

C. Related Sections:

1. Section 15061 - Hangers and Supports for HVAC Piping and Equipment: Product and installation requirements for piping hangers and supports.
2. Section 15072 - Vibration and Seismic Controls for HVAC Piping and Equipment: Product and installation requirements for vibration isolators used in piping systems.
3. Section 15180 - Hydronic Piping: Product and installation requirements for piping used in hydronic heating and cooling systems.
4. Section 15181 - Steam and Condensate Heating Piping: Product and installation requirements for piping used in steam systems.
5. Section 15182 - Internal-Combustion Engine Exhaust Piping: Product and installation requirements for piping used in engine exhaust systems.
6. Section 15184 - Refrigerant Piping: Product and installation requirements for piping used in refrigeration systems.

1.2 REFERENCES

List reference standards included within text of this section. Edit the following for Project conditions.

A. American Society of Mechanical Engineers:

1. ASME B31.1 - Power Piping.
2. ASME B31.5 - Refrigeration Piping.
3. ASME B31.9 - Building Services Piping.
4. ASME Section IX - Boiler and Pressure Vessel Code - Welding and Brazing Qualifications.

B. American Welding Society:

1. AWS D1.1 - Structural Welding Code - Steel.

1.3 DESIGN REQUIREMENTS

Use this article carefully; restrict statements to identify system performance requirements or function criteria only.

Indicate methods for controlling expansion in piping systems on Drawings. Include this article when contractor or manufacturer performs calculations, sizes, and selects method for pipe expansion.

- A. Provide structural work and equipment required for expansion and contraction of piping. Verify anchors, guides, and expansion joints provide and adequately protect system.

Edit the following for the applicable system type to be included.

B. Expansion Compensation Design Criteria:

1. Installation Temperature: [50] [_____] degrees F ([10] [_____] degrees C).