

SECTION 15070  
PIPE SUPPORTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope

1. Furnish and install pipe hangers, brackets, and supports complete with all necessary inserts, bolts, nuts, rods, washers, and other accessories
2. This section also covers the spacing of expansion joints in piping systems; expansion joint material is specified in Section 15060 - Pipe and Pipe Fittings

B. Additional Requirements Specified Elsewhere

1. Section 01340: Shop Drawings, Product Data and Samples
2. Section 01600: Materials and Equipment

C. Related Requirements Specified Elsewhere

1. Section 02615: Ductile Iron Pipe
2. Section 02617: Steel Pipe
3. Section 02622: Plastic Pipe
4. Section 02641: Valves and Accessories
5. Section 02708: Pressure Pipelines and Appurtenances
6. Section 05501: Anchor Bolts and Drilled-In Anchors
7. Section 15060: Pipe and Pipe Fittings

1.2 QUALITY ASSURANCE

A. Coordination

1. The Contractor shall be responsible for fully coordinating all of the various parts of the Work including work under this section and such other work as it may affect the work of this section, so as to ensure compliance with the Drawings and specifications

1.3 SHIPPING AND HANDLING

- A. All pipe support materials shall be packaged as necessary to ensure delivery in satisfactory condition
- B. Store materials on skids out of direct contact with earth and water

## 1.4 SUBMITTALS

### A. General

1. Prior to installation of cast-in-place concrete, Contractor shall submit to Engineer for review a plan showing proposed routings of all piping systems, conduit, and the locations of all other supported equipment. This plan shall show the locations of all inserts and insert details. This is to ensure proper location of required embedments in structural members

### B. Shop Drawings and Product Data

1. Complete fabrication, assembly, and installation drawings
2. Detailed specifications
3. Data describing all material, parts, devices, accessories, and coatings

### C. In Accordance with Section 01340

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Where applicable, all pipe supports shall comply with Federal Specification WW-H-171D

### 2.2 MATERIALS

- A. Pipe support types and application shall comply with the following

<u>Description or Location</u>	<u>Type</u>	
	<u>Federal Spec</u>	<u>Other</u>
<u>Hangers</u>		
2½" and smaller pipe Split Ring	6	Elcen Fig. 90, Fee & Mason, Fig. 210, Unistrut J-Style
Clevis	12	--
3" through 8" pipe Clevis	1	--
12" and larger pipe	1	--
<u>Beam Clamps</u>		
12" and smaller pipe	21, 28, 29 30, 31	--
<u>Side Beam Bracket</u>	35	--

Wall Supports and Frames

12" and smaller pipe Brackets	33, 34	--
Clamps	--	Galv. 1¼" x ¼" steel with ⅜" bolts

Floor Supports

Steel Pipe	38 (with base)	--
Ductile iron pipe	38 (with base)	--

2.3 LOCATIONS

A. Unless closer spacing is indicated on the Drawings, the maximum spacing for pipe supports and expansion joints shall be

<u>Type of Pipe</u>	<u>Max. Pipe Support Spacing Ft.</u>	<u>Max. Run without Expansion Joint, Loop, or Bend, Ft.</u>	<u>Max. Expansion Joint Spacing Ft.</u>
Ductile Iron	15	80	80
Steel			
1¼" and smaller	7	30	100
1½" to 4"	10	30	100
over 4"	15	80	80
Copper			
1" and smaller	5	50	Not Required
over 1"	7		
PVC <sup>(1)</sup>			
⅛" and ¼"	continuous	20	60
½" to 2"	4	20	60
over 2"	6	20	60
Fiberglass Reinforced Plastic			
3" and smaller	5	60	100
over 3"	8	40	100
Cast Iron Soil	10.5		Not Required

Notes:

<sup>(1)</sup> Hanger and bracket spacing may be increased where PVC pipe is provided continuous support

B. Rubber hose and flexible tubing shall be provided with continuous angle or channel support

## 2.4 EXPANSION JOINTS

- A. Refer to Section 15060 - Pipe and Pipe Fittings and pipe material specifications for product data

## PART 3 - EXECUTION

### 3.1 INSTALLATION

#### A. General

1. In certain locations, pipe supports, anchors, and expansion joints have been shown on the Drawings, but no attempt has been made to indicate every pipe support, anchor, and expansion joint
2. It shall be the Contractor's responsibility to provide a complete system of pipe supports, expansion joints and to anchor all piping in accordance with this section
3. Additional pipe supports may be required adjacent to expansion joints and mechanical couplings

### 3.2 APPLICATION

#### A. Support

1. All piping shall be rigidly supported and anchored so that there is no movement or visible sagging between supports
2. Pipe supports and expansion joints are not required in buried piping unless otherwise indicated on the Drawings, but concrete blocking or other suitable anchorage shall be provided

#### B. Dissimilar Metals

1. Contact between dissimilar metals shall be prevented in supporting copper tubing
2. Those portions of pipe supports which connect tubing shall be copper plated, rubber or vinyl coated, or stainless steel

- C. Unless otherwise indicated on the Drawings or permitted by the Engineer, piping shall be supported approximately 1½" out from the face of walls and at least 3" below ceilings and shall parallel building lines

#### D. Size

1. Pipe supports shall be manufactured for the size and type of pipe to which they are applied
2. Strap hangers will not be acceptable
3. Threaded rods shall have sufficient threading to permit the maximum adjustment available in the support item

#### E. Anchors

1. Anchorage shall be provided to resist thrust due to temperature changes, changes in diameter or direction, or dead ending
2. Anchors shall be located as required to force expansion and contraction movement to occur at expansion joints, loops or elbows, and as required to prevent excessive bending stresses

F. Pipe Guides

1. Pipe guides shall be provided adjacent to bellows type expansion joints and shall be installed as recommended by the manufacturer
2. Pipe guides shall not be used for support
3. Install as recommended by the manufacturer
4. Elcen 411B, Fee & Mason Figure 120, or equivalent

G. Coating

1. Shop prime all ferrous metal surfaces: Tnemec "37H-77", or equivalent
2. Shop coat all mechanical surfaces with rust preventive compound: Houghton "Rust Veto 344", Rust-Oleum "R-9", Tnemec "37H-77" or equivalent
3. Field coat in accordance with Section 09900 - Painting

END OF SECTION