

SECTION 230529 - HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

PART 1-GENERAL

1.1 SECTION INCLUDES

- A. Pipe, duct and equipment hangers, supports and associated anchors.
- B. Equipment bases and supports.
- C. Sleeves and seals.
- D. Flashing and sealing equipment and pipe stacks.

1.2 SUBMITTALS

- A. Submit shop drawings and product data per applicable Division I Specification.
- B. Shop drawings are required and shall include product data noting materials, sizes, and types.

PART 2-PRODUCTS

2.1 MANUFACTURERS

- A. PHD
- B. Carpenter and Paterson
- C. Anvil/Grinnell

2.2 PIPE HANGERS AND SUPPORTS

- A. Hangers, supports, and components shall be factory fabricated according to MSS SP-58, the latest edition.
- B. Hangers for piping shall be of a compatible material or coating.
- C. Continuous threaded rod shall be used wherever possible. Chain, wire, or perforated straps shall not be permitted.
- D. Concrete inserts into poured concrete floor systems are not permitted.
- E. Supports from roof decking systems are not permitted.
- F. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch: Carbon steel, adjustable swivel, split ring, and insulation saddle.
- G. Hangers for Pipe Sizes 2 to 4 Inches and Cold Pipe Sizes 6 Inches and Over: Carbon steel, adjustable, clevis, and insulation saddle.

- H. Multiple of Trapeze Hangers: Steel channels with welded spacers and hanger rods.
- I. Wall Support for Pipe Sizes 3 Inches: Carbon steel.
- J. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp.
- K. Vertical Support: Steel riser clamp.
- L. Floor Support for Pipe Sizes to 4 Inches and All Cold Pipe Sizes: Cast iron adjustable pipe saddle, locknut nipple, floor flange, and concrete pier or steel support.
- M. Copper Pipe Support: Carbon steel ring, adjustable, copper plated or plastic coated.
- N. Piping Across Roof: Install on Pate (or equal) equipment support rails with roller supports, all suitable for outdoor installation.

2.3 HANGER RODS

- A. Steel Hanger Rods: Threaded both ends, threaded one end, or continuous threaded.

2.4 INSERTS

- A. Inserts: Malleable iron, case of galvanized steel sheet and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.5 SLEEVES

- A. Sleeves for Pipes Through Non-Fire Rated Floors: Form with 18 gage galvanized steel.
- B. Sleeves for Pipes Through Non-Fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Form with steel pipe or 16 gage galvanized steel.
- C. Sleeves for Pipes Through Fire Rated and Fire Resistive Floors and Walls, and Fireproofing: Prefabricated fire rated sleeves including seals, UL listed.
- D. Sleeves for Round Ductwork: Form with galvanized steel.
- E. Sleeves for Rectangular Ductwork: Form with galvanized steel.
- F. Stuffing or Fire Stopping Insulation: Glass fiber type, non-combustible.

2.6 FABRICATION

- A. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- B. Design hangers without disengagement of supported piping.

2.7 FINISH

- A. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed. Apply two coats of primer and two coats of epoxy to hangers and supports outdoors.

2.8 SPRING HANGERS

- A. All ductwork, equipment, water piping, refrigerant piping, coils, VAV boxes, constant volume controllers and condensate drains running thru or above sound critical rooms is to be supported with spring isolators as a part of the hangers. All new refrigerant piping in building is to be hung with spring hangers.

2.9 DUCTWORK SUPPORTS

- A. Supports for ductwork with lagging to be selected to support entire weight of duct and lagging

PART 3-EXECUTION

3.1 PIPE HANGERS & SUPPORTS

- A. All hangers and supports shall be attached to the building structural steel system.
- B. Support from steel joist panel point is required.
- C. Support horizontal piping as follows:

	Spacing	Rod Size
1/2 to 1-1/4 inch	6'-6"	3/8"
1-1/2 to 2 inch	10'-0"	3/8"
2-1/2 to 3 inch	10'-0"	1/2"
4 to 6 inch	10'-0"	5/8"
PVC - 3/4 to 1 inch	4'-0"	3/8"
PVC - 1-1/4 to 1-1/2 inch	4'-0"	3/8"
PVC - 2 to 2-1/2 inch	4'-0"	3/8"
PVC - 3 to 4 inch	4'-0"	1/2"

- D. Install hangers to provide minimum 1/2-inch space between finished covering and adjacent work.
- E. Place a hanger within 12 inches of each horizontal elbow.
- F. Use hangers with 1-1/2 inch minimum vertical adjustment.
- G. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
- H. Support riser piping independently of connected horizontal piping. Support vertical pipe per code.

3.2 EQUIPMENT BASES AND SUPPORTS

- A. Construct equipment supports of steel angles. Brace and fasten with flanges bolted to structure.

3.3 SLEEVES

- A. Set sleeves in position in formwork. Provide reinforcing around sleeves.
- B. Extend sleeves through floors one inch above finished floor level. Caulk sleeves full depth and provide floor plate.
- C. Where piping or ductwork penetrates floor, ceiling, or wall, close off space between pipe or duct and adjacent work with stuffing or fire stopping insulation and seal air tight. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
- D. Install chrome plated steel escutcheons at finished surfaces.

END OF SECTION 230529