SECTION 15060CP – HANGERS, SUPPORTS, AND SLEEVES

PART 1 CRITERIA

1.1 All insulated piping systems shall have shields at all hangers and supports.

1.2 FIRE PROTECTION PIPING:
   A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.
   B. Hangers for Pipe Sizes 2 inches and over: Carbon steel, adjustable, clevis.
   C. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
   D. Wall Support for Pipe Sizes to 3 inches: Cast iron hooks.
   E. Wall Support for Pipe Sizes 4 inches and over: Welded steel bracket and wrought steel clamp.
   F. Vertical Support: Steel riser clamp.
   G. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   H. Copper Pipe Support: Carbon-steel adjustable ring, copper or copper plated.

1.3 PLUMBING PIPING - DWV:
   A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.
   B. Hangers for Pipe Sizes 2 inches and over: Carbon steel, adjustable, clevis.
   C. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
   D. Wall Support for Pipe Sizes to 3 inches: Cast iron hook.
   E. Wall Support for Pipe Sizes 4 inches and over: Welded steel bracket and wrought steel clamp.
   F. Vertical Support: Steel riser clamp.
   G. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
   H. Copper Pipe Support: Copper-plated, carbon-steel adjustable, ring.
1.4 PLUMBING PIPING - WATER:

A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.

B. Hangers for Cold Pipe Sizes 2 inches and over: Carbon steel, adjustable, clevis.

C. Hangers for Hot Pipe Sizes 2 to 4 inches: Carbon steel, adjustable, clevis.

D. Hangers for Hot Pipe Sizes over 4 inches: Adjustable steel yoke, cast iron roll, double hanger.

E. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.

F. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 inches and over: Steel channels with welded spacers and hanger rods, cast iron roll.

G. Wall Support for Pipe Sizes under 4 inches: Cast iron hook.

H. Wall Support for Pipe Sizes 4 inches and over: Welded steel bracket and wrought steel clamp.

I. Wall Support for Hot Pipe Sizes 6 inches and over: Welded steel bracket and wrought steel clamp with adjustable steel yoke and cast iron roll.

J. Vertical Support: Steel riser clamp.

K. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

L. Floor Support for Hot Pipe Sizes to 4 inches: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

M. Floor Support for Hot Pipe Sizes over 4 inches: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.

N. Copper Pipe Support: Copper-plated, Carbon-steel ring.

1.5 HYDRONIC PIPING:

A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.

B. Hangers for Cold Pipe Sizes 2 inches and over: Carbon steel, adjustable, clevis.

C. Hangers for Hot Pipe Sizes 2 to 4 inches: Carbon steel, adjustable, clevis.

D. Hangers for Hot Pipe Sizes over 4 inches: Adjustable steel yoke, cast iron roll, double hanger.
E. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.

F. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 inches and over: Steel channels with welded spacers and hanger rods, cast iron roll.

G. Wall Support for Pipe Sizes under 4 inches: Cast iron hooks.

H. Wall Support for Pipe Sizes 4 inches and over: Welded steel bracket and wrought steel clamp.

I. Wall Support for Hot Pipe Sizes over 4 inches: Welded steel bracket and wrought steel clamp with adjustable steel yoke and cast iron roll.

J. Vertical Support: Steel riser clamp.

K. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

L. Floor Support for Hot Pipe Sizes to 4 Inches: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

M. Floor Support for Hot Pipe Sizes over 4 inches: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.

N. Copper Pipe Support: Copper-plated, carbon steel ring.

1.6 STEAM AND STEAM CONDENSATE PIPING:

A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.

B. Hangers for Pipe Sizes 2 to 4 inches: Carbon steel, adjustable, clevis.

C. Hangers for Pipe Sizes over 4 inches: Adjustable steel yoke, cast iron roll, double hanger.

D. Multiple or Trapeze Hangers for Pipe Sizes to 4 inches: Steel channels with welded spacers and hanger rods.

E. Multiple or Trapeze Hangers for Pipe Sizes 6 inches and over: Steel channels with welded spacers and hanger rods; cast-iron roll and stand.

F. Wall Support for Pipe Sizes to 3 inches: Cast iron hooks.

G. Wall Support for Pipe Sizes over 3 and under 6 inches: Welded steel bracket and wrought steel clamp.

H. Wall Support for Pipe Sizes 6 inches and over: Welded steel bracket and wrought steel clamp; adjustable steel yoke and cast iron roll.

I. Vertical Support: Steel riser clamp.
J. Floor Support for Pipe Sizes to 4 inches: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

K. Floor Support for Pipe Sizes over 4 inches: Adjustable cast iron roll and stand steel screws, and concrete pier or steel support.

L. Copper Pipe Support: Copper ring or copper-plated carbon-steel ring.

1.7 REFRIGERANT PIPING:

A. Channel-mounted clamp-type hangers with resilient inserts are permitted up to 2 inches nominal pipe size.

B. For uninsulated pipe, hanger and support clamp face materials shall match pipe.

C. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Carbon steel, adjustable swivel, split ring.

D. Hangers for Pipe Sizes 2 inches and over: Carbon steel, adjustable, clevis.

E. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.

F. Wall Support for Pipe Sizes to 3 inches: Cast iron hook.

G. Wall Support for Pipe Sizes 4 inches and over: Welded steel bracket and wrought steel clamp.


I. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

J. Copper Pipe Support: Copper-plated carbon-steel ring.

1.8 HTHW HANGERS, SUPPORTS, AND SLEEVES

A. Hangers and supports for HTHW piping shall be roller type only.

B. Hangers, supports, and sleeves for HTHW systems locations, spacing, and selection shall accommodate system expansion due to thermal and seasonal shut-down changes in operating temperature.

C. All hangers, supports, and sleeves shall be as approved by the Central Heat Plant Chief Engineer and confirmed in writing by the Brown Project Manager.

1.9 ACCESSORIES

A. Hanger Rods: Mild steel threaded both ends, threaded on one end, or continuous thread.
1.10 INSERTS

A. Inserts: Malleable iron case of galvanized steel shell 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.

PART 2 PERFORMANCE REQUIREMENTS

2.1 FLASHING

A. Flashing shall comply with requirements of Section 07600, shall be compatible with roofing system, and shall be performed by roofing contractor to prevent voiding roof warranty.

B. Caps: Steel, 22 gage minimum; 16 gage at fire resistant elements.

2.2 SLEEVES

A. Sleeves shall be of sufficient size to permit continuous insulation through penetration.

B. Sleeves for Pipes Through Non-fire Rated Floors: 18 gage thick galvanized steel.

C. Sleeves for Pipes Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage thick galvanized steel.

D. Sleeves for Pipes Through Fire Rated and Fire Resistive Floors and Walls, and Fire Proofing: Prefabricated fire rated sleeves including seals, UL listed.

E. Sleeves for Round Ductwork: Galvanized steel.

F. Sleeves for Rectangular Ductwork: Galvanized steel or wood.

G. Fire-stopping Insulation: Glass fiber type, non-combustible.

H. Sealant: Acrylic.

END OF SECTION