

## SECTION 16190

### SUPPORTING DEVICES

#### PART 1 - GENERAL

##### 1.01 WORK INCLUDED

- A. Furnish and install all necessary hangers, supports, bases and connections for properly installing all electrical equipment and materials.

##### 1.02 REFERENCE DOCUMENTS

- A. The Special Provisions for Electrical Work are hereby made a part of this Section of the Work. Refer to Section 16010.

#### PART 2 - PRODUCTS

##### 2.01 MATERIALS

- A. Provide hot-dipped galvanized malleable iron one-hole pipe straps, beam clamps, or hand-on-steel rod hangers for single runs of conduit to be fastened to the structure. Rod hangers shall be selected for weight supported but shall not be smaller than No. 8.
- B. Rod hangers and adjustable "J" pipe hangers shall be equal to Kindorf Type C-149 for conduits. Conduits two inches (2") and smaller may be fastened with pipe hangers equal to Kindorf Type 6H.
- C. Caddy spring steel clamps and hangers and steel one-hole snap straps may be used in lieu of above to fasten single runs of conduit up to one inch (1") size to steel structures and support rods where this conduit is run within the ceiling space.
- D. Continuous channel inserts or trapeze hangers made of steel framing channel and fastened with single bolt channel pipe straps shall be provided to support multiple runs of conduit and other raceways.
- E. Galvanized U-bolts or Kindorf C-210 riser pipe clamps on channel iron bearing plates at intervals of at least one clamp per joint shall be provided for support of vertical runs of conduits of more than twelve feet (12').
- F. Suitable angle iron or framing channel supports shall be used to support all panelboards, cabinets, junction and pull boxes. Where indicated as not mounted to the building structure.

#### PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Securely fasten and support conduits and raceways of all types and all electrical boxes, devices, and equipment from the main building structure except as specifically indicated otherwise. Support conduits within three feet (3') of each end of each bend, of each termination and at intervals along the run that will maintain true raceway alignment, without sag or deformation either during pull-in of conductors or after conductors are in place. On exposed raceways, provide supports at a minimum of six feet (6') on centers and on each side of each bend. Vertical conduits shall be supported at not more than 10' on center in addition to the above.
- B. Maintain horizontal and vertical alignment of raceways so as not to adversely effect the building structure in strength or appearance. Cable, strap, or wire hangers or fasteners shall not be used.
- C. Place conduits on spacers when running exposed on or adjacent to walls after wall surface is installed to allow wall to be painted after conduit is installed.
- D. Support cabinets and boxes to the floor and to the structure above independent of all raceways entering the boxes. Structural walls or columns may be used to support these cabinets or boxes only after specific approval is given.
- E. Fasten cabinets, boxes, panelboards, disconnects, motor controls and similar devices indicated other than at walls on channel iron racks mounted to floor and structure above. Three-fourths inch (3/4") thick plywood backboards painted to match the equipment finish may be used as part of the rack.
- F. Support outlet boxes and junction boxes 100 cubic inches and smaller as specified for raceways. Locate outlet and junction boxes above accessible ceilings so they will not interfere with the installation of a lay-in type lighting fixture in any space in the ceiling.
- G. Rust inhibit all supports by galvanizing or other approved means. Supports shall be on site rust inhibited at all cuts, breaks, welds, or other points where rust inhibitor coating is broken.

**END OF SECTION**