

## PART 1 - GENERAL

### 1.1 REFERENCES

- .1 Canadian Standards Association (CSA)
  - .1 CAN/CSA C22.2 No. 18, Outlet Boxes, Conduit Boxes, and Fittings and Associated Hardware.
  - .2 CSA C22.2 No. 45-M, Rigid Metal Conduit.
  - .3 CSA C22.2 No. 56, Flexible Metal Conduit and Liquid-Tight Flexible Metal Conduit.
  - .4 CSA C22.2 No. 83-M, Electrical Metallic Tubing.
  - .5 CSA C22.2 No. 211.2-M, Rigid PVC (Unplasticized) Conduit.

## PART 2 - PRODUCTS

### 2.1 CONDUITS

- .1 Rigid metal conduit: to CSA C22.2 No. 45, hot dipped galvanized steel threaded.
- .2 Electrical metallic tubing (EMT): to CSA C22.2 No. 83, with couplings with expanded ends.
- .3 Rigid pvc conduit: to CSA C22.2 No. 211.2.
- .4 Flexible metal conduit: to CSA C22.2 No. 56, steel liquid-tight flexible metal.

### 2.2 CONDUIT FASTENINGS

- .1 One hole malleable iron straps to secure surface conduits 50 mm and smaller. Two hole steel straps for conduits larger than 50 mm.
- .2 Beam clamps to secure conduits to exposed steel work.
- .3 Channel type supports for two or more conduits at 1.5 m oc.
- .4 Threaded rods, 6 mm dia., to support suspended channels.

### 2.3 CONDUIT FITTINGS

- .1 Fittings: manufactured for use with conduit specified. Coating: same as conduit.
- .2 Factory "ells" where 90° bends are required for 25 mm and larger conduits.
- .3 Watertight connectors and couplings for EMT. Set-screws are not acceptable.

### 2.4 FISH CORD

- .1 Polypropylene.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- .1 Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass.
  - .2 Conceal conduits except in mechanical and electrical service rooms and in unfinished areas.
  - .3 Use rigid hot dipped galvanized steel threaded conduit except where specified otherwise.
  - .4 Use electrical metallic tubing (EMT) above 2.4 m not subject to mechanical injury.
  - .5 Use rigid PVC conduit in areas subject to water spray.
  - .6 Use flexible metal conduit for connection to motors in dry areas connection to surface or recessed fluorescent fixtures.
  - .7 Use liquid tight flexible metal conduit for connection to motors or vibrating equipment in damp, wet or corrosive locations.
  - .8 Minimum conduit size for lighting and power circuits: 21 mm.
  - .9 Bend conduit cold. Replace conduit if kinked or flattened more than 1/10th of its original diameter.
  - .10 Mechanically bend steel conduit over 19 mm dia.
  - .11 Field threads on rigid conduit must be of sufficient length to draw conduits up tight.
  - .12 Install fish cord in empty conduits.
  - .13 Run 2- 25 mm spare conduits up to ceiling space and 2- 25 mm spare conduits down to ceiling space from each flush panel. Terminate these conduits in 152 x 152 x 102 mm junction boxes in ceiling space or in case of an exposed concrete slab, terminate each conduit in flush concrete type box.
  - .14 Remove and replace blocked conduit sections. Do not use liquids to clean out conduits.
  - .15 Dry conduits out before installing wire.
- 3.2 SURFACE CONDUITS
- .1 Run parallel or perpendicular to building lines.
  - .2 Locate conduits behind infrared or gas fired heaters with 1.5 m clearance.
  - .3 Run conduits in flanged portion of structural steel.
  - .4 Group conduits wherever possible on suspended or surface channels.
  - .5 Do not pass conduits through structural members except as indicated.
  - .6 Do not locate conduits less than 75 mm parallel to steam or hot water lines with minimum of 25 mm at crossovers.
- 3.3 CONCEALED CONDUITS
- .1 Run parallel or perpendicular to building lines.

- .2 Do not install horizontal runs in masonry walls.
  - .3 Do not install conduits in terrazzo or concrete toppings.
- 3.4 CONDUITS UNDERGROUND
- .1 Slope conduits to provide drainage.
  - .2 Waterproof joints (pvc excepted) with heavy coat of bituminous paint.

END OF SECTION