

**Part 1        General****1.1            REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CAN/CSA C22.2 No. 18-98(R2003), Outlet Boxes, Conduit Boxes, Fittings and Associated Hardware, A National Standard of Canada.
  - .2 CSA C22.2 No. 45-M1981(R2003), Rigid Metal Conduit.
  - .3 CSA C22.2 No. 83-M1985(R2003), Electrical Metallic Tubing.
  - .4 CSA C22.2 No. 211.2-M1984(R2003), Rigid PVC (Unplasticized) Conduit.
  - .5 CAN/CSA C22.2 No. 227.3-05, Nonmetallic Mechanical Protection Tubing (NMPT), A National Standard of Canada (February 2006).

**Part 2        Products****2.1            CABLES AND REELS**

- .1 Provide cables on reels or coils.
  - .1 Mark or tag each cable and outside of each reel or coil, to indicate cable length, voltage rating, conductor size, and manufacturer's lot number and reel number.
- .2 Each coil or reel of cable to contain only one continuous cable without splices.

**2.2            CONDUITS**

- .1 Electrical metallic tubing (EMT): to CSA C22.2 No. 83, with couplings.
- .2 Rigid pvc conduit: to CSA C22.2 No. 211.2.

**2.3            CONDUIT FASTENINGS**

- .1 One hole steel straps to secure surface conduits 50 mm and smaller.
  - .1 Two hole steel straps for conduits larger than 50 mm.
- .2 Beam clamps to secure conduits to exposed steel work.

**2.4            CONDUIT FITTINGS**

- .1 Fittings: to CAN/CSA C22.2 No. 18, manufactured for use with conduit specified.  
Coating: same as conduit.
- .2 Ensure factory "ells" where 90 degrees bends for 25 mm and larger conduits.
- .3 Watertight connectors and couplings for EMT.
  - .1 Set-screws are not acceptable.

**Part 3 Execution****3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

**3.2 INSTALLATION**

- .1 Surface mount conduits.
- .2 Use electrical metallic tubing (EMT) inside.
- .3 Use rigid pvc conduit outside.
- .4 Minimum conduit size for lighting and power circuits: 21 mm.
- .5 Bend conduit cold:
  - .1 Replace conduit if kinked or flattened more than 1/10th of its original diameter.
- .6 Mechanically bend steel conduit over 27 mm diameter.
- .7 Field threads on rigid conduit must be of sufficient length to draw conduits up tight.
- .8 Remove and replace blocked conduit sections.
  - .1 Do not use liquids to clean out conduits.
- .9 Dry conduits out before installing wire.

**3.3 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 Do not pass conduits through structural members except as indicated.
- .5 Do not locate conduits less than 75 mm parallel to steam or hot water lines with minimum of 25 mm at crossovers.

**3.4 CLEANING**

- .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

**END OF SECTION**