

PART 1 - GENERAL

1.1 LOCATION OF CONDUIT

- .1 Drawings do not show all conduits. Those shown are in diagrammatic form only.

1.2 RELATED WORK

- .1 Fastenings and Supports: Section 26 05 29
- .2 Outlet Boxes, Conduit Boxes and Fittings: Section 26 05 32
- .3 Concrete Encased Duct Banks: Section 33 65 73

1.3 REFERENCES

- .1 CSA-C22.2 No.45.1-07(R2012), Rigid Metal Conduit - Steel.
- .2 CSA-C22.2 No. 56-13, Flexible Metal Conduit and Liquid Tight Flexible Metal Conduit.
- .3 CSA-C22.2 No. 83-M1985(R2013), Electrical Metallic Tubing.
- .4 CSA-C22.2 No. 211.2-06(R2011), Rigid PVC (Unplasticized) Conduit.

PART 2 - PRODUCTS

2.1 CONDUITS

- .1 Use liquid tight, flexible metallic conduit for connection to vibrating equipment (electric load bank, generators, transformers). Minimum length will be 508 mm.
- .2 Minimum conduit size for all areas: 21mm.
- .3 Electrical metallic tubing (EMT) with steel set screw couplings: to CSA C22.2 No. 83.

- .4 Flexible aluminum conduit and liquid-tight flexible metal conduit: to CSA C22.2 No. 56.
- .5 Rigid aluminum conduit for exterior installations.

2.2 CONDUIT FASTENINGS

- .1 Use one hole conduit straps to secure surface conduits 50 mm and smaller. Two hole conduit straps for conduits larger than 50 mm.
- .2 Use pipe P-clamps to secure conduits to support channels.
- .3 Refer to specification Section 26 05 29 – Fasteners and Supports, for suspended and surface support systems for conduits.
- .4 Finishes for conduit fastenings as specified for conduit.
 - .1 In areas where EMT is permitted, use zinc plated steel materials.
 - .2 In areas where rigid aluminum conduit is specified, use cast aluminum conduit straps.
- .5 Provide isolators between dis-similar metals as required.

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 Connectors and couplings for EMT: steel set-screws.

2.4 EXPANSION FITTINGS FOR RIGID CONDUIT

- .1 Weatherproof expansion fittings with internal bonding assembly suitable for linear expansion as required.
- .2 Watertight expansion fittings with integral bonding jumper suitable for linear expansion and 19 mm deflection in all directions.
- .3 Weatherproof expansion fittings for linear expansion at entry to building as required.
- .4 Provide expansion fittings at exit point (above-ground) of all underground services, and where indicated on the drawings.

- .5 Where rigid PVC conduit is used indoors or above ground, provide expansion fittings spaced in accordance with manufacturers' instructions and the Canadian Electrical Code.

2.5 FISH CORD

- .1 Polypropylene.

PART 3 - EXECUTION

3.1 CONDUIT INSTALLATION

- .1 General:
 - .1 Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass.
 - .2 Unless otherwise indicated, conduits must be surface mounted. In finished areas, conceal conduits.
 - .3 Use liquid tight flexible metal conduit for connection to vibrating equipment.
 - .4 Bend conduit cold. Replace conduit if kinked or flattened more than 1/10th of its original diameter.
 - .5 Mechanically bend steel conduit over 19 mm dia.
 - .6 Field threads on rigid conduit must be of sufficient length to draw conduits up tight.
 - .7 Install polypropylene fish cord in all empty conduits.
 - .8 Where conduits become blocked, remove and replace blocked section. Do not use liquids to clean out conduits.
 - .9 Dry conduits out before installing wire.
 - .10 Minimum conduit size: 21 mm diameter.
 - .11 Install conduits to prevent low pockets where moisture can accumulate. Install a combination breather and drain fitting at the lowest point of each above-grade conduit system, which is unbroken by sealing fittings on other obstructions.
- .2 Surface conduits:
 - .1 Run parallel or perpendicular to building lines.
 - .2 Group conduits wherever possible on suspended or surface channels.
 - .3 Do not pass conduits through structural members except as indicated.
 - .4 Do not locate conduits less than 75 mm parallel to steam or hot water lines with minimum 25 mm at crossovers.
 - .5 Fasten to flutes of metal roof deck when practical.

**CONDUITS, CONDUIT
FASTENINGS AND CONDUIT
FITTINGS**

- .6 Do not run conduits where they might obstruct lifting devices such as monorails.
- .3 Concealed conduits:
 - .1 Run parallel or perpendicular to building lines.
- .4 Conduits underground: slope conduits to provide drainage.
- .5 Supply and install pull string in each spare conduit. Cap and seal conduit at each end.
- .6 Use EMT throughout the interior of the building.
- .7 Convert EMT conduit to rigid aluminum conduit prior to exiting the building.
- .8 Where rigid PVC conduits are used in an underground ductbank, convert to rigid aluminum for final 1 meter prior to exiting the ground.

END OF SECTION