
PART 1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 26 05 20 - Wire and Box Connectors - 0 - 1000 V.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA)
 - .1 CSA C22.2 No .0.3, Test Methods for Electrical Wires and Cables.
 - .2 CAN/CSA-C22.2 No. 131, Type TECK 90 Cable.

1.3 PRODUCT DATA

- .1 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan.
- .3 Fold up metal banding, flatten and place in designated area for recycling.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Packaging Waste Management: In accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

PART 2 PRODUCTS

2.1 BUILDING WIRES

- .1 Conductors: stranded for 10 AWG and larger. Minimum size: 12 AWG.
- .2 Copper conductors: size as indicated, with 600 V insulation of chemically cross-linked thermosetting polyethylene material rated RW90.
- .3 Copper conductors: size as indicated, with green thermoplastic insulation type TWH rated at 600 V for bonding and grounding conductors.
- .4 Underground conductors: copper conductors size as indicated with 600 V insulation of chemically cross-linked thermosetting polyethylene material rated RWU90.

2.2 TECK 90 Cable

- .1 Cable: to CAN/CSA-C22.2 No. 131.
- .2 Conductors:
 - .1 Grounding conductor: copper.
 - .2 Circuit conductors: copper and ACM alloy, size as indicated.
- .3 Insulation:
 - .1 Chemically cross-linked thermosetting polyethylene rated RW90, 1000V.
 - .2 Cross-linked polyethylene XLPE.
 - .3 Rating: 600V.
- .4 Inner jacket: polyvinyl chloride material.
- .5 Armour: interlocking aluminum.
- .6 Overall covering: thermoplastic polyvinyl chloride material.
- .7 Fastenings:
 - .1 One hole steel straps to secure surface cables 50 mm and smaller. Two hole steel straps for cables larger than 50 mm.
 - .2 Channel type supports for two or more cables at 1500 mm centers.
 - .3 Threaded rods: 6 mm dia. to support suspended channels.
- .8 Connectors:
 - .1 Watertight and/or type approved for TECK cable, as indicated.

2.3 ARMOURED CABLES

- .1 Conductors: insulated, copper, size as indicated.
- .2 Type: AC90.
- .3 Armour: interlocking type fabricated from aluminum strip.
- .4 Connectors: standard as required, complete with double split rings.
- .5 Use anti-shorts at all terminations.

2.4 CONTROL CABLES

- .1 Type: 600 V stranded annealed copper conductors, sizes as indicated with cross-linked polyethylene type RW90 (x-link) and overall covering of thermoplastic jacket.
 - .1 Insulation: cross-linked polyethylene type RW90 (x-link)
 - .2 Shielding: 100% aluminum foil-polyester over each pair of conductors.

- .3 Overall covering: PVC. Non-Metallic Sheathed Cable

PART 3 **EXECUTION**

3.1 **FIELD QUALITY CONTROL**

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical.
- .2 Perform tests using method appropriate to site conditions and to approval of Owner's Representative and local authority having jurisdiction over installation.
- .3 Perform tests before energizing electrical system.

3.2 **GENERAL CABLE INSTALLATION**

- .1 Terminate cables in accordance with Section 26 05 20 - Wire and Box Connectors - (0-1000 V).
- .2 Cable Colour Coding: to Section 26 05 00 Common Work Results for Electrical.
- .3 Conductor length for parallel feeders to be identical.
- .4 Lace or clip groups of feeder cables at distribution centres, pull boxes, and termination points.
- .5 Wiring in walls: typically drop or loop vertically from above to better facilitate future renovations. Generally wiring from below and horizontal wiring in walls to be avoided unless indicated.
- .6 Branch circuit wiring for surge suppression receptacles and permanently wired computer and electronic equipment to be 2-wire circuits only, i.e. common neutrals not permitted.
- .7 Provide numbered wire collars for control wiring. Numbers to correspond to control shop drawing legend. Obtain wiring diagram for control wiring.

3.3 **INSTALLATION OF BUILDING WIRES**

- .1 Install wiring as follows:
 - .1 In conduit systems in accordance with Section 26 05 34- Conduits, Fastenings and Fittings.
 - .2 Do not paint wires.

3.4 **INSTALLATION OF TECK CABLE 0 -1000 V**

- .1 Install cables.
 - .1 Group cables wherever possible on channels.

- .2 Use channel type cable clamps.
- .2 Terminate cables
- .3 Install cable, securely supported by straps or channel and straps.

3.5 INSTALLATION OF ARMOURED CABLES (AC-90)

- .1 Group cables wherever possible.
- .2 Terminate cables
- .3 Connect luminaires to lighting circuits: through AC90 cable for all luminaire designs except where installed in gypsum board or masonry; maximum length of cable is 2.0 metres horizontal "running" length.
 - .1 Routing of AC90 cable: from junction box of conduit system to luminaire; AC90 between luminaires is NOT acceptable.
 - .2 Routing of AC90 cable to luminaire in gypsum board ceiling or wall is not acceptable.
 - .3 Routing of AC90 cable to luminaire installed in masonry block wall is not acceptable.
 - .4 In areas with wiring methods other than EMT; AC90 cable shall not be used for final connection to lighting.

3.6 INSTALLATION OF CONTROL CABLES

- .1 Install control cables in conduit as indicated.
- .2 Ground control cable shield.

END OF SECTION