
WIRES AND CABLES (0-1000 V)

1. GENERAL

1.1 References

- .1 CSA C22.2 No. .0.3, Test Methods for Electrical Wire and Cables.
- .2 CAN/CSA-C22.2 No. 131, Type TECK 90 Cable.
- .3 CSA-C282, Emergency Electrical Power Supply for Buildings.

1.2 Product Data

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

2. PRODUCTS

2.1 Emergency Power Cables

- .1 All equipment, systems, and associated wiring necessary to supply reliable electrical power shall be separated from the remainder of the building by a fire separation having a fire-resistance rating of not less than 2 hours.

2.2 Building Wires

- .1 Conductors: stranded for 10 AWG and larger. Minimum size: 12 AWG.
- .2 Copper conductors: size as indicated, with 1000 V insulation of cross-linked thermosetting polyethylene material rated RW90.
- .3 Copper conductors: size as indicated, with thermoplastic insulation type TWU rated at 600 V.

2.3 Teck 90 Cable

- .1 Cable: to CAN/CSA-C22.2 No. 131.
- .2 Conductors:
 - .1 Grounding conductor: copper.
 - .2 Circuit conductors: copper.
- .3 Insulation:
 - .1 Ethylene propylene rubber.
 - .2 Chemically cross-linked thermosetting polyethylene rated type 1000V.
- .4 Inner jacket: polyvinyl material.
- .5 Armour: interlocking and galvanized steel.

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- .6 Overall covering: 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 6.4 mm.
 - .2 Threaded rods: 6 mm diameter to support suspended channels.
- .8 Connectors:
 - .1 Watertight approved for TECK cable.

2.4 VFD Drive Cable

- .1 Cable: to CAN/CSA-C22.2 No. 131.
- .2 Conductors:
 - .1 Sectored Grounding conductors: three (3) bare copper.
 - .2 Circuit conductors: copper, size as indicated.
- .3 Insulation:
 - .1 Type: ethylene propylene rubber.
 - .2 Chemically cross-linked thermosetting polyethylene rated 1000 V.
- .4 Inner jacket: polyvinyl chloride material.
- .5 Armour: heavy wall, continuously corrugated aluminum.
- .6 Overall covering: thermoplastic polyvinyl chloride material.
- .7 Fastenings:
 - .1 One hole aluminum straps to secure surface cables 50 mm and smaller. Two hole aluminum straps for cables larger than 50 mm.
 - .2 Channel type supports for two or more cables at 1000 mm centers.
 - .3 Threaded rods: 9 mm dia. to support suspended channels.
- .8 Connectors:
 - .1 Watertight, approved for TECK cable.
 - .2 Explosion-proof approved for TECK cable, in hazardous locations.

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2.5 Control Cables

- .1 Type: LVT: 2 soft annealed copper conductors, sized as indicated, with thermoplastic insulation, outer covering of thermoplastic jacket.
- .2 Low energy 300 V control cable: solid annealed copper conductors sized as indicated, with PVC insulation type polyethylene insulation with shielding of tape coated with paramagnetic material, wire over each pair over all conductors and overall covering of PVC jackets.
- .3 600V type: stranded annealed copper conductors, sizes as indicated with PVC insulation type RW90 (x-link) ethylene-propylene rubber insulation type RW90 (EP) with shielding of magnetic tape wire over each pair of doctors and overall covering, thermosetting jackets and jacket over sheath of PVC thermosetting compound.

3. EXECUTION

3.1 Installation of Building Wires

- .1 Install wiring as follows:
 - .1 In conduit systems in accordance with Section 26 05 34.
 - .2 Use Hangers and Supports in accordance with Section 26 05 29.

3.2 Installation of Teck Cable 0-1000 V

- .1 Install cables.
- .2 Group cables wherever possible on channels.
- .3 Use Hangers and Supports in accordance with Section 26 05 29.
- .4 Terminate cables in accordance manufacturer's recommendations. Connector shall be water tight type.

3.3 Installation of VFD Drive Cable

- .1 Install drive cable between VFD output and motor load.
- .2 Install cables.
 - .1 Group cables wherever possible on channels.
- .3 Use Hangers and Supports in accordance with Section 26 05 29.
- .4 Use approved connectors
- .5 Terminate cables in accordance with Section 26 05 20 - Wire and Box Connectors - 0-1000 V.

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3.4 Installation of Control Cables

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

END OF SECTION