

PART 1 - GENERAL

<u>1.1 Related Sections</u>	.1	Section 26 05 20 - Wire and Box Connectors - 0 - 1000 V.
<u>1.2 References</u>	.1	CSA C22.2 No .0.3-96, Test Methods for Electrical Wires and Cables.
	.2	CAN/CSA-C22.2 No. 131-M89(R1994), Type TECK 90 Cable.
<u>1.3 Product Data</u>	.1	Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
<u>1.4 Waste Management and Disposal, Disposal</u>	.1	Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management And and with the Waste Reduction Workplan.
	.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.
<u>1.5 Wiring Methods</u>	.1	Wiring methods used shall be in accordance with the Canadian Electrical Code, Part 1, CSA Standard C22.1 - latest edition and the requirements of the Electrical Inspection Department of Prince Edward Island. The standards of this specification shall not be reduced to the minimum safety standards of the above.
	.2	All conductors shall be copper; aluminum is not acceptable except for overhead triplex or quadruplex neutral supported cable.
	.3	Service conductors shall be as indicated on the drawings.
	.4	Branch feeders from the service distribution and subdistribution equipment to panels, major equipment, etc. shall be sized as indicated on the drawings. Conductors in conduit shall be used unless otherwise indicated.
	.5	Branch circuit wiring shall be conductors in conduit: where subject to mechanical damage; in concrete; underground; in concrete block walls; in wet locations and where indicated. Armoured cable Type AC90 (BX) may be used for light fixture drops in accessible ceilings and for wiring in stud walls. Fixture drop length not to exceed 3 meters (10 ft.).

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 600V insulation of chemically cross-linked thermosetting polyethylene material rated RW90.
- 2.2 TECK Cable .1 Cable: to CAN/CSA-C22.2 No. 131.
- .2 Conductors:
- .1 Grounding conductor: copper.
- .2 Circuit conductors: copper, size as indicated.
- .3 Insulation:
- .1 Chemically cross-linked thermosetting polyethylene rated type RW90, 600V.
- .4 Inner jacket: polyvinyl chloride material.
- .5 Armour: interlocking aluminum.
- .6 Overall covering: polyvinyl chloride material, Firex II rating.
- .7 Fastenings:
- .1 One hole steel straps to secure surface cables 50 mm (2") and smaller. Two hole steel straps for cables larger than 50 mm (2").
- .2 Channel type supports for two or more cables at 1000 mm (3') centers, or at spacing required to suit loading.
- .3 Threaded rods: 6 mm (1/4") dia. to support suspended channels.
- .8 Connectors:
- .1 Watertight. Approved for TECK cable and environmental application (i.e., wet areas - watertight).
- 2.3 Armoured Cables .1 Conductors: insulated, copper, size as indicated.
- .2 Type: AC90.
- .3 Armour: interlocking type fabricated from aluminum strip.
- 2.4 Control Cables .1 Type LVT: 2 soft annealed copper conductors, sized as indicated, with thermoplastic insulation, outer covering of thermoplastic jacket, and fire rated FT4.

- 2.4 Control Cables (Cont'd) .2 Low energy 300 V control cable: annealed copper conductors sized as indicated, with PVC insulation type TW or TWH and shielding over each conductor and overall PVC jacket, fire rated FT4.

PART 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 In underground ducts in accordance with Section 26 05 44.
 - .3 In trenches in accordance with Section 26 05 44.

- 3.2 Installation of TECK Cable 0 -1000 V .1 Install cables.
- .1 Group cables wherever possible on channels.
 - .2 Terminate cables in accordance with Section 26 05 20 - Wire and Box Connectors - 0 - 1000 V.

- 3.3 Installation of Armoured Cables .1 Group cables wherever possible.
- .2 Terminate cables in accordance with Section 26 05 20 - Wire and Box Connectors - 0 - 1000 V.

- 3.4 Installation of Control Cables .1 Install control cables as indicated on drawings.
- .2 Ground control cable shield.

- 3.5 Installation of Cables and Voltage Drop .1 Any wire or group of wires shall be sized according to the following chart. The voltage drop calculations are based on a 12 amp load on a 15 amp 120 volt circuit as per CEC C22.1 8-102.

Size of Wire	Distance
#12 AWG	0 m to 25 m (0 ft. to 82 ft.)
#10 AWG	25 m to 40 m (83 ft. to 131 ft.)
# 8 AWG	40 m to 63 m (132 ft. to 207 ft.)
# 6 AWG	63 m to 100 m (208 ft. to 328 ft.)
# 4 AWG	100 m to 155 m (329 ft. to 509 ft.)
# 4 AWG	100 m to 155 m (329 ft. to 509 ft.)
# 4 AWG	100 m to 155 m (329 ft. to 509 ft.)