

PART 1      GENERAL

1.1    RELATED SECTIONS

- .1    Division 01.
- .2    Section 26 05 01 - Common Work Results  
      - Electrical.

1.2    REFERENCES

- .1    Canadian Standards Association, (CSA)
- .2    Insulated Cable Engineers Association,  
      Inc. (ICEA)

PART 2      PRODUCTS

2.1    MARKERS

- .1    Warning tape run entire length of  
      trench 200 mm below surface.

PART 3      EXECUTION

3.1    CABLE INSTALLATION  
      IN DUCTS

- .1    Install cables as indicated in ducts.
  - .1    Do not pull spliced cables inside  
      ducts.
- .2    Install multiple cables in duct  
      simultaneously.
- .3    Use CSA approved lubricants of type  
      compatible with cable jacket to reduce  
      pulling tension.
- .4    To facilitate matching of colour coded  
      multiconductor control cables reel off  
      in same direction during installation.
- .5    Before pulling cable into ducts and  
      until cables are properly terminated,  
      seal ends of lead covered cables with  
      wiping solder; seal ends of non-leaded  
      cables with moisture seal tape.
- .6    After installation of cables, seal  
      duct ends with duct sealing compound.

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3.2 MARKERS

- .1 Install 200 mm below surface. See drawings for details.

3.3 FIELD QUALITY CONTROL

- .1 Perform tests in accordance with Section 26 05 01 - Common Work Results - Electrical and Division 01.
- .2 Perform tests using qualified personnel. Provide necessary instruments and equipment.
- .3 Check phase rotation and identify each phase conductor of each feeder.
- .4 Check each feeder for continuity, short circuits and grounds. Ensure resistance to ground of circuits is not less than 50 megohms.
- .5 Pre-acceptance tests.
  - .1 After installing cable but before splicing and terminating, perform insulation resistance test with 1000 V megger on each phase conductor.
  - .2 Check insulation resistance after each splice and/or termination to ensure that cable system is ready for acceptance testing.
- .6 Acceptance Tests
  - .1 Ensure that terminations and accessory equipment are disconnected.
  - .2 Ground shields, ground wires, metallic armour and conductors not under test.
  - .3 High Potential (Hipot) Testing.
    - .1 Conduct hipot testing at 100% of original factory test voltage in accordance with manufacturer's recommendations.
  - .4 Leakage Current Testing.

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INSTALLATION OF CABLES IN  
TRENCHES AND IN DUCTS

Section 26 05 43.01

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- .1 Raise voltage in steps from zero to maximum values as specified by manufacturer for type of cable being tested.
- .2 Hold maximum voltage for specified time period by manufacturer.
- .3 Record leakage current at each step.
- .7 Provide Departmental Representative list of test results showing location at which each test was made, circuit tested and result of each test. Include results in Commissioning Manual.
- .8 Remove and replace entire length of cable if cable fails to meet any of test criteria.

END OF SECTION