

Part 1 General**1.1 RELATED SECTIONS**

- .1 Section 01 00 10 – General Instructions.
- .2 Section 01 79 00 – Demonstration and Training.
- .3 Section 01 91 13 – General Commissioning (Cx) Requirements.
- .4 Section 26 05 00 - Common Work Results for Electrical.
- .5 Section 26 05 28 - Grounding – Secondary.

1.2 SHOP DRAWINGS

- .1 Refer to Section 01 00 10 – General Instructions.

1.3 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-C22.2 No.47-M90 (R2007), Air-Cooled Transformers (Dry-Type).
 - .2 CSA C9-02 (R2007), Dry-Type Transformers.
- .2 National Electrical Manufacturers Association (NEMA).

1.4 PRODUCT DATA

- .1 Submit product data in accordance with Section 01 00 10 – General Instructions.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 00 10 – General Instructions.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal all packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal and wiring materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Fold up metal banding, flatten and place in designated area for recycling.

Part 2 Products**2.1 TRANSFORMERS**

- .1 Use transformers of one manufacturer throughout the project.

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- .2 Design:
- .1 Three-phase step-down transformers shall have the following characteristics:
1. Three phase - 600-Volt delta connected primary (high-voltage) and Wye connected secondary windings, voltage as indicated on the drawings.
- .2 The secondaries shall be brought out to the terminal board for connection of the grounded neutral on the 3-ph, 4-wire systems.
- .3 All transformers shall be distribution class and shall comply with the following parameters:
- .1 Type: ANN.
 - .2 C.S.A.: C9, C22.2 No.47.
 - .3 Insulation: Class H.
 - .4 Design: 150°C design temperature rise by resistance.
 - .5 kVA Ratings: as indicated on drawings.
 - .6 Voltage Class: 1.2 kV.
 - .7 BIL Rating: 10 kV.
 - .8 Windings: copper.
 - .9 Magnetizing Inrush: maximum - 12 times rms F.L. value.
 - .10 Taps: 4 - 2½% (2FCAN, 2FCBN)
 - .11 Sound Level: 45 dBA maximum.
 - .12 Enclosure: ventilated, EEMAC 2, removable metal front panel.
 - .13 Finish: ASA 61 grey air dry.
 - .14 Mounts: anti-vibration between core coil frame and the enclosure frame.

2.2 EQUIPMENT IDENTIFICATION

- .1 Provide equipment identification in accordance with Section 26 05 00 – Common Work Results for Electrical.
- .2 Label Size: 7
- .3 Refer to drawings for nameplate wording designations. Example as follows:
- .1 Transformer T-EPPA 30 kVA 600 volts to 120/208 volts fed from DP-EA feeding BP-EPPA.

Part 3 Execution

3.1 INSTALLATION

- .1 Mount dry-type transformers on wall, mount where shown on the drawings.
- .2 Ensure adequate clearance around transformer for ventilation.
- .3 Install transformers in level upright position.
- .4 Remove shipping supports only after transformer is installed and just before putting into service.

- .5 Loosen isolation pad bolts until no compression is visible.

3.2 CONNECTIONS

- .1 Make primary and secondary connections shown on the drawings with liquid-tight flexible metal conduits.
- .2 Energize transformers immediately after installation is completed, where practicable.

END OF SECTION