

## SECTION 26 22 00 - LOW-VOLTAGE TRANSFORMERS

### PART 1 - GENERAL

#### 1.1 DESIGN PERFORMANCE

- A. Size transformers based on calculated load plus 20% spare capacity.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptance Manufacturers: Subject to compliance with requirements, provide products by the following:
  - 1. Cutler Hammer
  - 2. Siemens
  - 3. General Electric
  - 4. Square D

#### 2.2 MATERIALS, GENERAL

- A. Description: Transformers shall be NEMA ST 20, factory assembled, air cooled, altitude corrected, copper wound dry-type distribution transformers of sizes, characteristics and ratings indicated, designed to supply a 100% nonlinear load. Winding taps per NEMA ST 20.
- B. Transformers shall have 220 degree C, Class H insulation. All transformers shall be rated for 115 degree C maximum temperature rise above 40 degrees C ambient.
- C. Provide ventilated drip-proof, conventional type metal housings for indoor service. Provide all necessary supports, rods, and hangars to properly and securely support transformer in location indicated.
- D. All windings shall be of high quality copper.
- E. Winding Taps:
  - 1. Transformers Less than 15 kVA: Two 5% below rated voltage, full capacity taps on primary winding.
  - 2. Transformers 15 kVA and Larger: NEMA ST 20.
  - 3. Transformers shall have 480 volt, 3 phase, 3 wire primary and 120/208 volt, 3 phase, 4 wire, 60 hertz, wye connected secondary unless otherwise noted.
- F. Sound Levels: Maximum sound levels are as follows: NEMA ST 20.
- G. Basic Impulse Level: 10 kV for transformers.
- H. Ground core and coil assembly to enclosure by means of a visible flexible copper-grounding strap.
- I. Mounting: Mount on 4" housekeeping pad.
- J. Coil Conductors: Continuous windings with terminations brazed or welded.
- K. Enclosure: NEMA ST 20; Type 1, ventilated. Provide lifting eyes or brackets.
- L. Transformers shall be supplied with factory installed internal vibration absorbing isolators to isolate core and coil from enclosures.

- M. Nameplate: Include transformer connection data and overload capacity based on rated allowable temperature rise.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION, GENERAL

- A. Install transformer in accordance with manufacturer's instructions.
- B. Set transformer on house keeping pad plumb and level. Suspended transformers are prohibited without prior approval from the University Project Manager.
- C. Use flexible conduit, under the provisions of Section 26 05 33 2ft (0.6 M) minimum length, for connections to transformer case. Make conduit connections to side panel of enclosure, bottom entry is not acceptable.
- D. Mount transformers on vibration isolating pads suitable for isolating the transformer noise from the building structure.
- E. Bond transformer according to Article 250 of the NEC.

**END OF SECTION 26 22 00**