

SECTION 26 22 00 - LOW VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. **KROGER DIRECT BUY PROGRAM:** Owner supplied/Contractor installed.
 - a. The Kroger Company will provide dry type low voltage distribution transformers and oil filled primary transformers (where applicable) as indicted on drawings for transformers.
 - b. Comply with requirements in Division 00 Section "General Conditions."
2. Contractor supplied items:
 - a. Accessories as required for a complete installation.
3. Contractor installed items:
 - a. Transformers as indicated on drawings.
 - b. Equipment pads per the installation requirements in this section. All working clearances around transformer shall be maintained per factory recommendations.

1.2 SUBMITTALS

- A. The Owner will provide the following submittals for the Contractor's review. The Contractor shall review and return submittals as specified in Division 00 Section "General Conditions."
1. Product Data: For each type of transformer, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
 2. Shop Drawings: For each transformer and related equipment.

1.3 QUALITY ASSURANCE

- A. Electrical Components Devices and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction and marked for intended use.
- B. Comply with NFPA 70.
- C. All low voltage distribution transformer insulating rating shall be in accordance with NEMA ST20 Standards for 220 degree C UL component recognized insulation system. Transformers shall be manufactured and tested in accordance with ANSI Standards C57.12.01 and C57.12.91. All transformers shall be UL listed and labeled. Rate for continuous operation at listed KVA.

- D. All primary transformers shall comply with ANSI Standards C57.12.12 for live front application and C57.12.26 for separable insulated high voltage connector applications. Standards C57.12.34 will eventually replace 12 and 26.

PART 2 - PRODUCTS

2.1 TRANSFORMERS

- A. Refer to Division 01 Section "Vendor Contact List" for information on transformers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units on vibration mounts; comply with manufacturer's indicated installation method.
- B. Provide elevated concrete housekeeping pad for each floor-mounted transformer as detailed on the Drawings and complying with Division 03 Section "Cast-in-Place Concrete Slabs."
- C. Install transformers in strict compliance with NEC Article 450. Transformer locations shown on Drawings are shown approximately to scale. It is the responsibility of the electrical installer to provide final coordination between all trades (prior to rough-in) so that code required and factory recommended ventilation and working clearances around all transformer installations are maintained.
- D. Install dry type transformers with hangers from building structure. Support by wall wherever possible.
 - 1. Install hangers to top cord of joists/joist girder at panel points.
 - 2. Where hangers do not align with structure install steel angle or U-channel strut, sized to carry load of light fixture, spanning across a minimum of two structural members resting on top or bolted to the bottom of the top cord of joists/joist girder at panel points.
 - 3. Install hangers as indicated on the Drawings or as submitted and approved by the Owner.
 - 4. Mount transformers on vibration isolating pads suitable for isolating the transformer noise from the building structure.
- E. Make final connections with an accurate torque wrench and tighten to factory published torque values. Submit written documentation. Make final connections to primary and secondary taps as required to fulfill project voltage requirements.
- F. Vacuum and wipe down transformer, enclosure interior and enclosure exterior. From the time of manufacture, through all shipping/storage phases, the transformers shall be kept dry and free of condensation and rapid temperature fluctuation. Transformers shall not be stored outdoors. Transformers shall be maintained at temperatures above ambient while in storage.

3.2 TESTING

- A. Provide testing, and keep written (dated) log, for the following.
1. "Megger", at factory at time of shipping.
 2. "Megger", at job site, immediately prior to final connections.
 3. Phase rotation and turns ratio, at factory at time of shipping.
 4. Phase rotation and turns ratio, at job site, immediately prior to final connections.
 5. Secondary voltage under no load, after installation.
 6. Secondary voltage under full load, after installation.
- B. Upon completion of installation of transformers, energize primary circuitry at rated voltage and frequency from normal power source, and test transformers, including, but not limited to, audible sound levels, to demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units or components, and proceed with retesting.

END OF SECTION 26 22 00

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