

SECTION 26 22 1

DISTRIBUTION TRANSFORMERS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Dry Type Two Winding Transformers

1.2 REFERENCES

- A. ANSI/NEMA - ST 1 - Specialty Transformers.
- B. ANSI/NEMA ST 20 - Dry Type Transformers for General Applications.
- C. NEMA TR27 - Commercial, Institutional and Industrial Dry Type Transformers.
- D. NFPA 70 - National Electrical Code.

1.3 SUBMITTALS

- A. Submit product data under provisions of Section 26 00 00 and Division 1.
- B. Include outline and support point dimensions of enclosures and accessories, unit weight, voltage, KVA, and impedance ratings and characteristics, loss data efficiency at 25, 50, 75, and 100 per cent rated load, sound level, tap configurations, insulation system type, and rated temperature rise.
- C. Operation and Maintenance Instructions: Furnish copies of "Installation, Operation, and Maintenance" Instructions for each transformer.

PART 2 - PRODUCTS

2.1 DRY TYPE TWO WINDING TRANSFORMERS

- A. Manufacturers
 - 1. *General Electric.*
 - 2. *Square D.*
 - 3. *Cutler-Hammer.*
 - 4. Substitutions: Or Approved Equal.
- B. Description: ANSI/NEMA ST 20: factory assembled, air cooled dry type transformers; ratings as shown on the Drawings.
- C. Insulation system and average winding temperature rise for rated KVA as follows:

<u>Rating</u>	<u>Class</u>	<u>Rise (degrees C)</u>
1-15	185	115
16-500	220	150

- D. Winding Taps, Transformers less than 15 KVA: Two 5 percent below rated voltage, full capacity taps on primary winding.
- E. Winding Taps, Transformers 15 KVA and Larger: ANSI/NEMA ST 20.
- F. Sound Levels: ANSI/NEMA ST 20.
- G. Sound Levels: Maximum sound levels are as follows:

<u>KVA Rating</u>	<u>Sound Level</u>
1-5	30 db
6-25	40 db
16-150	42 db
151-225	43 db
226-300	47 db
301-500	51 db
- H. Basic Impulse Level: 10 KV.
- I. Efficiency Ratings:

<u>Single Phase</u>		<u>Three Phase</u>	
<u>kVA</u>	<u>% Eff.</u>	<u>kVA</u>	<u>% Eff.</u>
15	97.7	15	97.0
25	98.0	30	97.5
		45	97.7
		75	98.0
- J. Ground core and coil assembly to enclosure by means of a visible flexible copper grounding strap.
- K. Mounting: Transformers 30 KVA and less shall be suitable for wall or floor mounting; transformers larger than 30 KVA shall be suitable for floor mounting.
- L. Coil Conductors: Continuous windings with terminations brazed or welded.
- M. Enclosure: ANSI/NEMA ST 20; Type 1. Provide lifting eyes or brackets.
- N. Isolate core and coil from enclosure using vibration-absorbing mounts.
- O. Nameplate: Include transformer connection data.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set transformer plumb and level.
- B. Use flexible conduit, 2 ft. (0.6 m) minimum length, for connections to transformer case. Make conduit connections to side panel of enclosure.

- C. Provide grounding and bonding in accordance with Section 16450.

3.2 FIELD QUALITY CONTROL

- A. Check for damage and tight connections prior to energizing transformer.
- B. Measure primary and secondary voltage and make appropriate tap adjustments

END OF SECTION