SECTION 26 12 19.03

SINGLE-PHASE PADMOUNT TRANSFORMER – FR3 FILLED

PART 1  GENERAL

1.1 DESCRIPTION:

Single-Phase Padmount Distribution Transformer and High-Fire-Point Liquid Insulated Fluid (FR3)

1.2 INCORPORATED DOCUMENTS:

Latest applicable NEMA and ANSI standards for single-phase padmount, dead front, FR3 filled distribution transformers. Including:

NEMA TP-1 Guide for Determining Energy Efficiency for Distribution Transformers


C57.12.22-1993 American National Standard for Transformers- Pad-Mounted, Compartmental-Type, Self-Cooled Three-Phase Distribution Transformers…

10CFR431 Part III, ENERGY EFFICIENCY PROGRAM FOR CERTAIN COMMERCIAL AND INDUSTRIAL EQUIPMENT

1.3 SUBMITTALS:

A. Submit shop drawings containing information of dimensions, weight, sound level, impedance, voltage regulation, efficiency, and fabrication details.

B. Submit manufacturers’ test report of the transformer furnished

PART 2  PRODUCTS

2.1 GENERAL DESCRIPTION:

Padmount, Self-cooled, Single-Phase Distribution Transformer, ANSI Type 1, as manufactured by ABB (Maxi-Pak), Cooper Power Systems (MaxiShrub), or approved equal.

2.2 ELECTRICAL CHARACTERISTICS:

A. Self cooled rating: ____________ KVA, 1-Phase, 60 Hz.
B. Insulating Liquid: FR3, Low-Fire-Point Liquid

C. Primary Voltage: [4160 or 12470], Two Bushing

D. Secondary Voltage: 240/120, 3-terminal center tap. Removable neutral grounding strap.

E. Impedance: ANSI Standard.

F. Taps: Two - 2.5% full capacity above and below normal; externally operable no-load tap changer.

G. Temperature rise: 65 ºC.

2.3 PRIMARY TERMINATION AND EQUIPMENT

A. Configure the primary for loop feed and provide four (4) (or two (2) for radial) externally clamped 200 Amp bushing wells and parking stands, ANSI Type 1 configuration (straight up feed). The face of the parking stand shall extend from the tank wall a minimum of 1.75-inch

B. Provide three (3), OFF-ON (or one (1) OFF-ON for radial), 200 Amp LBOR switches (feed left, feed right and isolate transformer) with eyes for hot stick operation in the primary section

C. Provide primary protection by bay-o-net fuses with internal current-limiting backup fuses. Interlock the bay-o-net fuses so that transformer switch (“MAIN”) must be in the off position before the bay-o-net fuses can be removed. Fuses shall be Cooper Power System or approved equal. Spare bay-o-net fuses, in their original carton, shall be provided with the transformer, in a metal pocket on the inside of the primary compartment door

2.4 LOW VOLTAGE TERMINATION AND EQUIPMENT

Low voltage connections shall be by 4 hole spade terminals with NEMA standard hole spacing.

2.5 CONSTRUCTION:

A. Construction shall be dead front primary, ANSI Type 1, Vertical Feed

B. The doors shall be tamperproof, secured by a pentahead bolt and padlock arrangement.

C. The high and low voltage compartments shall have doors that open independently of one another.

D. Provide lugs, attached to the main body of the transformer, for bolting the transformer to the pad.
E. Provide the following accessories:

1. Pressure relief valve.
2. Drain valve/sampling device.
3. Liquid level/fill plug.
4. Ground pad.
5. NEMA standard padmount warning label on door.
7. Engraved nameplate.

F. Finish the transformer according to ANSI standards for surface preparation, primer, and paint durability. Exterior color: Kelly Moore DTM 5725 569 Wrought Iron Black.

2.6 FACTORY TESTS:

A. Perform factory tests on each transformer according to ANSI C57.12.90 and submit certified test reports to the Owner prior to shipment of the transformer.

B. Include the following test results in the report:

1) Winding-to-winding and winding-to-ground resistance
2) Ratio tests on rated voltage and all tap connections
3) Polarity and phase relation test on rated voltage connection
4) No load loss
5) Exciting Current
6) Impedance and load loss at full load
7) Applied potential test
8) Induced potential test
9) Impulse test (one full wave, QC on all units)
10) Pressure leak test.

PART 3 EXECUTION

3.1 SHIPPING AND DELIVERY:

A. Ship the transformer on a flat-bed truck and secured to a pallet suitable for unloading by forklift.

B. Notify the Owner 24 hours prior to delivery at the phone number provided in the Purchase Order.

3.2 WARRANTY

The manufacturer shall warrant the product for a period of not less than eighteen (18)
months from the date of shipment or twelve (12) months from the date of energization, whichever occurs earliest.

END OF SECTION