

## IA

### **GUARANTEED TECHNICAL PARTICULARS FOR COMPLETELY SELF**

#### **PROTECTED DISTRIBUTION TRANSFORMERS**

**11/250 V, 16 KVA Al. wound transformer (Level-1 as per amended BIS)**

#### **Sl.No. Description**

1. Name of the manufacturer and place of manufacture
2. Continuous maximum rating as per this specification.
3. Normal ratio of transformer
4. Method of connection HV/LV
5. Maximum current density in Windings :
  1. HV (A/sq mm)
  2. LV (A/sq mm)
6. Maximum hot spot temperature °C. (Ambient air temperature on which above is based) °C.
7. Maximum temperature : °C
  - (a) Maximum observable oil temperature (ambient air temperature on which above is based)
  - b) Maximum winding temperature at an ambient temperature of
8. No-load losses at rated voltage (watt)
9. Full load losses at 75 °C (watt)
10. Total losses at 100% load (watt)
11. Total losses at 50% load (watt)
12. Efficiency at normal voltage :
  - (i) Unity Power Factor
    - (a) At 50% load
    - (b) At 75% load
    - (c) At full load
  - (ii) 0.8 Power Factor
    - (a) At 50% load
    - (b) At 75% load
    - (c) At full load
13. Regulation as percentage of normal voltage :
  - (a) At unity power factor
  - (b) At 0.8 power factor lagging

14. Percentage impedance voltage at normal ratio between HV and LV windings
15. Type of Insulation used in  
HV Windings  
LV Windings
16. Type of insulation used in  
Core bolts  
Core bolt washers  
End plates  
Core lamination
17. Impulse withstand test voltage level (kV)  
HV Windings  
LV Windings
18. Characteristics of transformer oil
19. Total content of oil in litres
20. Whether transformer will be transported with oil?
21. Type of transformer tank
22. Approximate overall dimensions
  - a) Height mm
  - b) Length mm
  - c) Width mm
 Tank dimensions
  - a) Diameter mm
  - b) Height mm
23. Mass of insulated conductor  
HV (minimum) kg  
LV (minimum) kg
24. Mass of core (minimum) kg
25. Mass of complete transformer arranged for transport (kg)

**Schedule IB****ADDITIONAL DETAILS**

<b>Sl. No.</b>	<b>Description</b>	
1.	Core grade	
2.	Core dimensions	mm
3.	Gross core area	cm <sup>2</sup>
4.	Net Core area	cm <sup>2</sup>
5.	Flux density	Tesla
6.	Mass of Core	kg
7.	Loss per kg of core at the specified flux density	watt
8.	Core window height	mm
9.	Center to center distance of the core	mm
10.	No. of LV Turns	
11.	No. of HV turns	
12.	Size of LV Conductor bare/ covered (dia)	mm
13.	Size of HV conductor bare/covered (dia)	mm
14.	No. of parallels	
15.	Current density of LV winding	A/sq mm
16.	Current density of HV winding	A/sq mm
17.	Mass of the LV winding for Transformer	kg
18.	Mass of the HV winding for Transformer	kg
19.	No. of of LV Coils/phase	
20.	No. of HV coils . phase	
21.	Height of LV Windings	mm
22.	Height of HV winding	mm
23.	ID/OD of LV winding HV	mm
24.	ID/OD of LV winding	mm
25.	Size of the duct in LV winding	mm
26.	Size of the duct in HV winding	mm
27.	Size of the duct between HV and LV	mm
28.	HV winding to LV clearance	mm
29.	HV winding to tank clearance	mm
30.	Calculated impedance	%
31.	HV to earth creepage distance	mm
32.	LV to earth creepage distance	mm

## Schedule II

### SOURCE OF MATERIALS/PLACES OF MANUFACTURE, TESTING AND INSPECTION

Sl. No.	Item	Source of Material	Place of Manufacture	Place of testing and inspection
1.	Laminations			
2.	Aluminium/Copper			
3.	Insulated winding wires			
4.	Oil			
5.	Press boards			
6.	Kraft paper			
7.	MS plates/Angles/Channels			
8.	Gaskets			
9.	Bushing HV/LV			
10.	Paints			
11.	Current Transformer			