

Transformer Oil

Sheet No.1

Technical specification with GTP

Sr. No.	Characteristics of transformer oil	As per CPRI requirement
1	Appearance	The oil shall be clear transparent & free from suspended matter or sediments.
2	Density Max	0.89 gm/cm ³ at 29.5 ^o C
3	Kinematic viscosity Cst at 27 ^o C	27Cst Maximum
4	Interfacial tension at 27 ^o C Newtons/M	0.04Minimum
5	Flash point Pansky/marten (Closed)	140 ^o C Min.
6	Pour point	--6 ^o C Maximum
7	Neutralization value	
	a) Total acidity mg	0.03mg KOH/gm Max.
	b) Inorganic acidity / Alkalinity	Nil
8	Corrosive Sulphur (In terms of classification of copper strips)	Non-corrosive
9	Electric strength (Break down voltage)	
	a) New untreated oil	30kv Minimum (RMS)
	b) After treatment	60kv Minimum (RMS)
10	Dielectric Dissipation vector (Ten delta) at 90 ^o C	0.002 Max
11	Specific resistance (Resistivity)	
	A) at 90 ^o C	35x10 ¹² Ohm-cm Minimum
	B) at 27 ^o C	1500x10 ¹² Ohm-cm Minimum
12	Oxidation stability	
	a) Neutralization value after oxidation for 164hrs at 100 ^o C	0.40mg KOH/gm maximum
	b) Total sludge after oxidation for 164hrs at 100 ^o C	0.10% by weight maximum
13	Presence of oxidation inhibitor	The oil shall not contain anti-oxidant additives
14	Water content (PPM)	50 PPM Maximum
15	Ageing characteristics after accelerated ageing (open breaker method with copper catalyst)	
	a) Specific resistance (Resistivity)	
	1) at 27 ^o C	2.5x10 ¹² Ohm-cm Minimum
	2) at 90 ^o C	0.2x10 ¹² Ohm-cm Minimum
	b) Dielectric Dissipation vector (Ten delta at 90 ^o C	0.2 Max
	c) Total acidity	0.05mg KOH/gm max
	d) Total sludge value	0.05% by weight maximum

(Signature & Seal of Tenderer)

Sheet No.2

Proforma to be filled in for the confirmation and agreeability in respect of Transformer Oil offered.

Sr. No.	Description of Goods with details of specification	Tenderer should state here agreed /or not agreed /or enclosed as applicable.
1	(i) EHV Grade transformer oil conforming to CPRI specification as per sheet no.1 attached in 209/210 litres non returnable new steel barrels. (Ref Sr. No.4 below) (ii) Quantity offered (Total)	
2a	(i) Laboratory facilities for carrying out test as per IS 335/1983 with latest amendment if any (ii) Copy of 'ISI Mark' license should be attached (iii) ISI Mark License No.	
b	Test certificate got approved in last one year from NTPC, CPRI, REC etc for all test as per IS 335/1983 for EHV Grade oil to be utilized for 400kv/220kv/132kv class power transformer.	
	(i) Please state name (ii) Test certificate No. /date please attached zerox copy for verification.	
c.	The test as per specification sheet no.1 attached must be offered at the time of factory testing before dispatch of oil (i) The oil must be offered within two weeks of demand. (ii) Capacity to offer the oil at a time must be indicated	
3	Please agree for – Quantity verification from the lot received by consignee duly sealed and approved by DGVCL inspector will be selected randomly. Gross weight of said drum will be done. The net weight of the oil will be worked out after deducting the tare weight of the drum. Quantity in litres will be worked out considering the density of the oil at the temperature at the time of weight. The shortage of oil if found during verification will be applicable to the whole lot on pro-rata basis and amount of shortage will be deducted from your bill.	
4	Packing of the transformer oil shall be in sealed barrels. The drum shall confirm to IS-1783 / 1988 part-II type grade B	
5	List of testing instrument / equipment	
6	Brand Name	

(Signature & Seal of Tenderer)