
	उत्पाद मानक संधारित अभियांत्रिकी निर्देश	PRODUCT STANDARD CAPACITOR ENGG. INSTRUCTION	CR 90105 Page 1 of 3		
Title CAPACITOR OIL					
1.0	GENERAL : This specification governs the quality of unused, pure, clear, synthetic electrical insulating liquid used for Capacitor Impregnation.				
	The liquid shall be stable, chemically and physically on heating and compatible with capacitor grade PP film, other materials used in capacitor insulation system such as cable paper, tissue paper etc. the liquid shall contain min, 35 % of Benzyle toluene.				
2.0	APPLICATION : It is used as liquid dielectric and insulating medium in capacitors.				
3.0	COMPLIANCE WITH NATIONAL STANDARD : There is no Indian Standard covering this type of material. However assistance has been taken from IS : 13067 – 1991.				
4.0	TEST METHOD : The test shall be conducted in accordance with method indicated against each clause.				
5.0	TEST SAMPLE : 5 Litre sample drawn from each manufacturing batch shall be supplied for testing at BHEL lab.				
6.0	SAMPLING: The sampling shall be done in accordance with IS : 6855. Dissipation factor and Resistivity shall be done on all individual samples drawn as per IS : 6855 and all other tests shall be done on composite sample.				
7.0	PHYSICAL PROPERTIES:				
7.1	SPECIFIC GRAVITY AT 27⁰c : 0.95 TO 1.01 (IS : 335).				
Rev. 02 Date: 01.03.2019		Distribution CPE-I QCX-I CPM (P)-1	Approved By (M.Kurre) Prep. By: Sukhvir singh Issued By. CPE /STD. Date 01.03.2019		

	उत्पाद मानक संघारित अभियांत्रिकी निर्देश	PRODUCT STANDARD CAPACITOR ENGG. INSTRUCTION	CR 90105
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7.2	FLASH POINT, COC °C : 130 °C Minimum (Annex. C of IS 13067) or 140 °C Minimum. (Pensky Marten's Apparatus IS : 1448 Part 21).		
7.3	KINEMATIC VISCOSITY: AT 37.8 °C : 2.4 to 3.2 cST. (IS:1448 Part 25).		
7.4	WATER CONTENT: 100 ppm Max. (IS 335).		
7.5	REFRACTIVE INDEX : 1.56 ± 0.02 (ASTM D 1218), This is a typical characteristics of the oil and testing is only for reference.		
8.0	CHEMICAL PROPERTIES:		
8.1	NEUTRALISATION VALUE (TOTAL ACIDITY): 0.01 mg KOH/gm. Max. (ASTM D 974).		
8.2	ACTIVE EPOXIDE CONTENT: 0.4 TO 0.8 0/0 by Wt. (Titrate against NIIO Hydrobromic Acid Solution)/ 1 TO 2.4 mg HCL/g (as per ASTM D 1651).		
8.3	TOTAL CHLORIDE: 3ppm max (ASTM D 4929).		
9.0	ELECTRICAL PROPERTIES:		
9.1	DIELECTRIC STRENGTH (BDV) 2.5 mm GAP : 55 kV Min. (IS : 6792).		
9.2	DIELECTRIC CONSTANT 50 Hz / 100 Hz at 90°C: Min. 2.37 (IS 6262)		
9.3	DISSIPATION FACTOR AT 50 Hz / 100 Hz AT 90°C: 0.4% Max. (IS : 6262).		
9.4	RESISTIVITY AT 90°C : 25 X 10 ¹² Ohm-cm Min. (IS : 6103)		
9.5	POUR POINT: This is a typical test and shall be conducted once for every 10 batches of supply. The limiting value shall be -50°C (ASTM D 97).		
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10.0

TEST CERTIFICATE

Three copies of test certificate shall be supplied with each consignment giving the following information.

BHEL ORDER NO. BATCH /
LOT NO.

Test values obtained for compliance of all properties given in Clause 7 to 9.

11.0

PACKING AND MARKING

The Capacitor oil shall be delivered in perfectly clean steel drums of 200 litres nominal capacity with flat or dished ends conforming to Grade A or B of IS 1783. Inside surface of drums shall be coated with suitable coating (i.e. metal phosphate, epoxy lacquer) resistant to Capacitor oil. Outside surface of drums shall be coated with suitable primer and finishing paint or hot dip galvanised to IS : 4759 for protection against atmospheric corrosion. Before filling the Capacitor oil, the drum shall be fully purged with pure nitrogen gas.

When stated on the order, Capacitor oil shall be delivered on road tankers specially reserved for the purpose and shall be suitably sealed so as to exclude ingress of moisture.

CR 90105 Rev.Oi	:	Capacitor Oil
BHEL ORDER NO.	:	
MANUFACTURER'S & SUPPLIER'S	:	
NAME AND GRADE	:	
BATCH / LOT NO.	:	
DATE OF MANUFACTURE	:	
NET WEIGHT / GROSS WEIGHT	:	
NO. OF DRUMS	:	
QUANTITY IN LITRES	:	

Rev.02

Dt:01.03.2019