Transformer oil — used for both insulating and cooling purpose in T/F

→ Params in which oil — electrical

(a) Dielectric strength — known as Breakdown voltage strength
Transformer oil have high BDV means > 70KV/mm

(b) specific Resistance — This properties The oils ability to resist electrical current flow. value in ohms.

(c) Dielectric dissipation factor :
It quantifies the energy loss due to dielectric loss in the oil the value of tan δ is less than 0.005

(2) chemical properties —
(a) water content → The amount of water content affect its insulating properties. This water content is test by BDV test
(b) Acidity! - T/F oil should be low acidic which prevent degradation of insulation insulating material and Transformer core and Body

(c) Sludge content: Sludge content formation impact oil insulating and increase heat formation in oil.

(3) Physical properties

(a) Interfacial Tension: This props Relate to the oil's ability separate from water. or affect the oil's ability.

(b) Viscosity → viscosity influence the heat transfer and flow characteristics.

(c) Flash point: The temp. at which the oil vapour ignites when exposed to an open flame.

(d) Pourpoint: The lowest temp at which oil flows

⇒ • Rank on parameters in which IIT determined

(a) insulating properties like

(b) ~~Physical properties~~ chemical properties

(c) physical properties