

Technical Specification for supply of Synthetic Ester Oil

Sl. No.	Property	BHEL Requirement	Vendor Specification	Vendor Comment / Remarks
1 Physical Properties				
1.1	Colour	Max 200 Hazen As per ISO 2211		
1.2	Appearance	Clear Free from water and suspended matter and sediments		
1.3	Density at 20 Degree C (g/cm ³)	Max 1 As per ISO 3675 or ISO 12185		
1.4	Kinetic Viscosity (mm ² /sec) at 40 Degree C	Max 35		
1.5	Flash Point PMCC (Degree C)	Minimum 250 Degree C As per ISO 2719		
1.6	Pour Point (Degree C)	Maximum -45 Degree C As per ISO 3016		
1.7	Fire Point	Minimum 300 Degree C As per ISO 2592		
2 Electrical Properties				
2.1	Dielectric Breakdown (kV)	Minimum 45 kV As per IEC 60156		
2.2	Power factor at 90 Degree C	Max 0.03 As per IEC 60247		
2.3	DC resistivity at 90 Degree C (Giga Ohm meter)	Mimimum 2 As per IEC 60247		

3 Chemical Properties				
3.1	Water Content (mg/kg)	Max 200 As per IEC 60814		
3.2	Acidity (mg KOH/g)	Max 0.03 As per IEC 62021-1 or IEC 62021-2		
3.3	Oxidation Stability (164 hours)	Total Acidity (mg KOH/g) - Max 0.3 Total Sludge (% mass) - Max 0.01 As per IEC 61125C		

4 General				
4.1	Shelf Life	Minimum 01 year from the date of receipt of material at BHEL R & D.		
4.2	Storage guidelines	Vendor shall state the storage guidelines		
4.3	Quantity	600 Litres In case exact 600 litres drum / container is not available then the quantity can have a tolerance upto +/- 5 % of 600 litres.		
4.4	Payment	Payment shall be made for the supplied quantity (in litres) on receipt and acceptance at BHEL R & D, Hyderabad.		
4.5	Warranty	12 months from the date of receipt of item at BHEL R & D, Hyderabad. Warranty certificate to be furnished by the vendor.		
4.6	Delivery	FOR BHEL Corporate R & D, Hyderabad.		

4.7	Manufacturer Test Certificate	Vendor shall furnish the manufacturer test certificate along with the item. Type test shall be carried out as per IS 16081 / IEC 61099.		
4.8	Fire Safety	fire safety certification from reputed fire safety testing and certification agency like FM Global , Underwriters Laboratory (UL) etc.. Fire Safety Test certificate not earlier than 8 years from the date of enquiry shall be furnished along with the offer.		