

Summary of IS 1180 (Part 3): 2021

The document outlines the specifications for outdoor and indoor type liquid immersed distribution transformers with capacities up to 2500 kVA and voltage ratings of 33 kV. This standard specifically addresses the transformers that utilize natural or synthetic organic ester liquids for insulation and cooling, emphasizing their advantages over traditional mineral oil, particularly in terms of fire safety and environmental impact.

The standard establishes critical requirements for the design, construction, and performance of these transformers. One of the key features is the specification of a higher fire point, which is greater than 300 °C, significantly reducing the risk of fire hazards associated with transformer operation. Additionally, the standard defines various energy efficiency levels, categorized from 1 to 5, to promote the use of energy-efficient transformers in electrical systems.

It also permits the use of both natural and synthetic esters, providing flexibility in material selection based on application needs and environmental considerations. The document includes detailed technical parameters, service conditions, and testing requirements to ensure that transformers meet the necessary performance and safety standards.

Furthermore, It has references of several Indian and International Standards, ensuring that the transformers comply with established norms and practices in the industry. This comprehensive approach aims to enhance the reliability, safety, and efficiency of liquid immersed distribution transformers, ultimately contributing to improved performance in electrical distribution systems.

Overall, IS 1180 (Part 3): 2021 serves as a crucial guideline for manufacturers and users of liquid immersed transformers, ensuring that they meet updated energy efficiency and safety standards while accommodating applications of natural or synthetic organic ester liquids for insulation and cooling in power distribution transformers to address fire safety and environmental impact and to strengthen the country's electrical infrastructure.