



Indian Standard IS 302-2-21: 2018 - Guide to Safe and Reliable Electric Water Heaters

Electric water heaters are designed to heat and store water for various domestic, commercial, or industrial uses. Using electric heating elements, they raise the water temperature and maintain it within an insulated storage tank.

When purchasing a water heater, consumers value safety, efficiency, and longevity. They expect reliable heating performance and safety features that prevent risks like electrical shocks, overheating, or mechanical failures. Durability and energy efficiency are also key considerations, along with easy installation.

IS 302-2-21: 2018 standard addresses these consumer concerns by implementing strict safety requirements for electric water heaters. It provides protection against electrical, thermal, mechanical, and fire hazards. The standard mandates the use of thermal cut-outs to prevent overheating by ensuring water temperatures do not exceed 99°C, thereby reducing the risk of scalding. Additionally, it requires pressure-relief devices to avoid excessive pressure build up, ensuring the appliance does not rupture or leak under normal conditions.

To ensure durability, the standard recommends the use of corrosion-resistant materials such as copper or stainless steel, particularly for the inner tanks. It also requires secure mounting systems to prevent installation-related accidents and ensure long-term safety.

Furthermore, IS 302-2-21: 2018 outlines clear labelling requirements for water heaters, including the rated pressure, voltage, and instructions for proper installation. These markings help users choose and operate the appliance safely. The inclusion of warnings in the manual regarding pressure-relief devices and thermal controls enhances user safety.

The standard ensures that electric water heaters manufactured in compliance with IS 302-2-21: 2018 meet the highest safety and performance standards. The **BIS mark**, displayed on compliant products, assures consumers that the appliance has undergone stringent testing and meets the safety criteria outlined in the standard. This provides peace of mind, ensuring that the product they are purchasing is both safe and reliable for long-term use.