



IS 302-2-25: 2014 Safety of Household and Similar Electrical Appliances Part 2 Particular Requirements Section 25 Microwave ovens, including combination microwave ovens

1. Product Definition

IS 302-2-25:2014 is an Indian Standard specifying **safety requirements for microwave ovens** used in households and similar environments, with a rated voltage of 250V or less. This includes **combination microwave ovens** (microwaves with additional heating functions) and ovens designed for use on ships. It defines safety measures to prevent hazards such as **electrical shocks, mechanical injuries, radiation exposure, and fire risks**.

2. Quality Parameters

This standard establishes essential safety protocols and performance criteria for microwave ovens:

- **Protection Against Radiation:** Standards ensure that microwave leakage does not exceed 50 W/m², protecting users from harmful radiation exposure.
- **Structural Durability:** Microwave doors and interlock systems are rigorously tested for endurance with 50,000 cycles to verify they securely contain microwave energy and prevent accidental operation with an open door.
- **Moisture and Corrosion Resistance:** Tests for moisture resistance and salt mist exposure simulate kitchen and maritime conditions, ensuring the oven remains functional in humid and salty environments.
- **Mechanical and Thermal Safety:** Standards specify limits for external surface temperatures, with protective measures to prevent accidental burns. Additionally, appliances undergo tests for vibration resistance (for shipboard use) and stress under potential impacts.
- **Marking and Instructions:** Clear instructions and warning labels on radiation, safe usage, and cleaning are mandated to reduce misuse and accidents.

3. Keywords

Microwave Oven, Radiation Protection, Safety Standards, Door Interlock, Radiation Leakage, Moisture Resistance, Combination Microwave, Thermal Safety, and Mechanical Durability.

This standard provides a comprehensive framework for manufacturers to ensure that microwave ovens meet safety expectations, thereby safeguarding household and light commercial users against various operational risks.