

IS 16246 : 2015 Elastomer insulated cables with limited circuit integrity when affected by fire – Specification

IS 16246:2015 standard specifies requirements for **Elastomer Insulated Cables** designed to maintain **circuit integrity during fire conditions**, essential for applications like **emergency lighting, fire detection systems, and alarm circuits**. These **fire-resistant cables** are critical for consumers looking for dependable, high-quality cables that ensure the **uninterrupted flow of electricity** during emergencies.

Consumers expect **high-quality elastomer insulated cables** to exhibit **excellent fire resistance, low smoke emission, mechanical durability, and reliable electrical performance** under stressful conditions. To meet these expectations, the IS 16246 standard includes rigorous tests to ensure the cables can perform in demanding environments:

- **Annealing Test for Copper:** Confirms that copper is adequately heat-treated for flexibility and durability.
- **Conductor Resistance Test:** Ensures minimal electrical resistance, enhancing efficiency and reducing power loss.
- **Tensile Strength and Elongation Tests:** Measures insulation and sheath robustness to endure physical stress.
- **Ageing in Air Oven/Bomb:** Assesses longevity at high temperatures, verifying that materials remain stable over time.
- **Hot Set Test:** Validates the cable's ability to withstand high temperatures and mechanical stress without deforming.
- **Oxygen Index and Smoke Density Tests:** Checks for low flammability and minimal smoke, important for visibility and safety during fires.
- **Flame Retardant Test:** Ensures the cable's ability to resist igniting and spreading flames.
- **Water Absorption Test:** Confirms insulation durability in damp environments, ensuring performance in moist conditions.
- **Circuit Integrity Test under Fire Conditions:** Verifies that the cable maintains electrical performance in fire situations, crucial for emergency systems.

These stringent tests ensure that **IS 16246 compliant cables** provide **reliable performance, safety, and fire resistance** in critical environments, offering consumers peace of mind in fire-prone situations.