

## **IS 16102 (Part-1): 2012 Self-Ballasted LED Lamps for General Lighting Services (Part 1) – Safety Requirements**

LED is a light emitting diode that emits light in forward direction. LED lamps are constructed by arranging identical light emitting diodes closely to form the shape of a lamp. The visible light thus produced closely resembles day light and is capable of replacing the traditional light bulbs such as incandescent light bulbs and compact fluorescent lamps.

LED lamps have become the preferred choice for lighting in homes, offices, and outdoor spaces due to their energy efficiency, long lifespan, less emission of heat and lower environmental impact, and offer numerous advantages over traditional incandescent and compact fluorescent lights (CFLs). One of the most important aspect of led light bulbs is its availability in many colors. LED bulbs are easy to install and available in various ratings (up to 60 W).

The operational safety of LED lamps is essential. This standard (Part-1) outlines the safety and interchangeability requirements, including with test methods and conditions, required to show compliance of LED lamps for stable operations intended for domestic and similar general lighting purposes. The standard specifies the key requirements namely cap interchangeability, protection against accidental contact with live parts, insulation resistance, electric strength, mechanical strength, cap temperature rise, resistance to heat, resistance to flame and ignition, creepage and clearance distances.

The performance requirements have been covered under IS 16102(Part-2).