IS 2418 Part 2 : 2018

Tubular fluorescent lamps for general lighting service: Part 2 performance requirements

A good-quality tubular fluorescent lamp for general lighting provides bright, even illumination with high energy efficiency, long lifespan, and consistent colour rendering. It should have low flicker, and robust construction for reliable performance. The IS 2418 Part 2, specifies requirements for Tubular fluorescent lamps, and has tests for the following requirements:

1. **Mechanical and Physical Requirements**: Glass tubes for lamps must be defect-free and caps must adhere to specified dimensions, and should be corrosion resistant for secure electrical contact.
2. **Starting Requirements:** It ensures that a lamp shall start fully within the time specified on the relevant lamp data sheet and remain alight.
3. **Burning test:** The lamp is checked for its burning by supplying it with the rated voltage. The lamp shall burn and give uniform light.
4. **Starting characteristics test:** It is specified to test that a lamp start fully within the time specified on the relevant lamp data sheet and remain alight.
5. **Test for electrical characteristics:** It specify tests to measure lamp wattage, lamp voltage.
6. **Test for luminous characteristics:** It specifies test to measure the Luminous Flux of the lamp.
7. **Test for colour characteristics:** The lamp is checked for Colour Characteristics, i.e., chromaticity coordinates to ensure ensures that it provides consistent and accurate colour output as specified.
8. **Life test:** A good quality fluorescent tube should have a lifespan of at least 5,000 hours, reducing the need for frequent replacements.
9. **Visual examination and checking for marking:** The marking clause of the standard prescribes the requirements which help to identify tubular fluorescent lamp for its intended use.

This standard provides the methods of sampling, testing, and inspection to ensure consistent performance and reliability in various operating conditions. Additionally, emphasis is given to construction, wattage operating voltage, and frequency of the tubular fluorescent lamp.

For consumers, IS 2418 Part 2 ensures that tubular fluorescent lamps available in the market are safe, energy-efficient, and long-lasting. By adhering to this standard, manufacturers guarantee that their products are less likely to overheat, flicker, or degrade prematurely, providing consumers with reliable and cost-effective lighting options. Additionally, compliance with IS 2418 Part 2 supports energy conservation efforts, helping consumers reduce electricity bills and environmental impact. This standard ultimately contributes to a safer and more sustainable lighting experience for households.