

Double insulation symbols for LED lighting fixtures



Certification to the ANSI/UL 8750 Standard commonly used in North America can also provide the double insulated (DI) symbol for luminaires that comply with both IEC and UL standards.

ANSI/UL 8750, the Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products, includes an independent appendix Supplement SK. This appendix uses UL 2097, the Reference Standard for Double Insulation Systems for Use in Electronic Equipment, to evaluate the double insulation of LED lighting devices. UL 8750 makes it possible for LED lighting devices to include the double insulation symbol.

Previously, double insulation (or reinforced insulation) symbols were more common in IEC lighting standards such as IEC 60598-1 and IEC 61347-1 but rarely appeared in North American lighting standards. The United States Electrical Law National Electric Code® (NEC®) 2017 edition — and previous versions — includes mandatory grounding requirements for lighting devices. The NEC 2020 edition of the Electrical Law (Chapter 410.42) has been revised to allow lighting equipment with a double insulation symbol not to require grounding. In response to this change, UL 8750 has been amended so LED lighting devices can include the double insulation symbol.

UL's certification service mainly evaluates the following aspects:

- Thickness or other qualities of insulation material
- Electric clearance
- Safety isolation transformer
- Power cable
- Pressure test
- Safety isolation transformer overload test

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