



## **IS 14772: 2020- Boxes and Enclosures for Electrical Accessories for Household and Similar Fixed Electrical Installations — General Requirements**

A box or an enclosure is an integral part of an electrical accessory and provides protection for that accessory against external influences e.g., **mechanical impact, ingress of solid objects or water** etc. It is designed to protect equipment from the external environment and even protect people from the equipment, like preventing electric shocks. It acts as a housing for the electrical equipment.

IS 14772: 2020 specifies the **general requirements of boxes and enclosures** for electrical accessories intended for household and similar fixed electrical installations, either indoors or outdoors. It applies to boxes and enclosures for electrical accessories with a rated voltage not exceeding 440 V a.c., for use both indoors and outdoors.

The standard stipulates that boxes and enclosures shall be so designed and constructed that in normal use, their performance is reliable and safety is achieved by reducing risk to a tolerable level (as defined in **IS/ISO/IEC Guide 51**). They are classified based on various factors, including the material they are made of, the **type of installation, the type of inlets (outlets), the clamping means, the minimum temperature during installation and the degrees of protection**. These classifications help users select the appropriate box or enclosure for a given application.

The standard specifies **marking requirements** for boxes and enclosures, including **manufacturer identification, degree of protection, type reference and internal volume**. These markings provide essential information about the product's capabilities and its intended use.

The standard mandates that live parts should not be accessible while installing the boxes and enclosures and that exposed conductive parts must have earthing provisions. The **lids, covers, drain holes, mounting mechanisms, inlets for different types of cables and conduits, knock-outs and screw fixings** shall be so designed as to have adequate space for wiring and components and protect against ingress of solid objects and water.

The standard addresses various aspects like mechanical and thermal strength, electrical and environmental resistance and specifies the categories of tests i.e., type tests, acceptance tests and routine tests to be conducted at different stages of the product lifecycle.

Overall, IS 14772:2020 aims to ensure the safety, reliability and performance of boxes and enclosures used in electrical installations. By specifying requirements and testing procedures, it helps to maintain a high standard of quality and protection in electrical systems.