



COSINE DEVELOPMENTS

LEADERS IN LIGHTING TECHNOLOGY

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Enclosures for Emergency Lighting Control Gear

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We have noticed that some of our customers fit remote emergency packs into flimsy enclosures. These fragile items are then installed in ceiling cavities and similar areas which are accessible by maintenance personnel. Occasionally, excess pressure on these items from standing on, elbows or hands have caused electrical short-circuits and, in some cases, the external connecting wiring melts. This can be dangerous and this type of enclosure is illegal where mains voltages are present (SANS/IEC 60670-1 excerpt below):

SANS/IEC 60670-1 BOXES AND ENCLOSURES FOR ELECTRICAL ACCESSORIES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS. Part 1: General requirements

“12.12.5 Boxes intended for mounting in a finished structure. The supporting means of a box intended for installation in a finished structure shall not break nor shall the face of the box be permanently displaced more than 3,2 mm plane of the face of the test surface when measured 1 minute after the test load is removed.”

“Test: Six boxes intended for use in walls or eight boxes intended for use in ceilings...Following installation, a force of 222 N shall be applied for 5 min consecutively to each box in a direction normal to the plane of the face of the test surface along the center of the box, and tending to push the box into the opening.”

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*“15 **Mechanical strength.** Boxes and enclosures shall have adequate strength to withstand the mechanical forces occurring during installation and normal use.”*

*“15.3 **Impact test for boxes and enclosures.** The specimens are subjected to blows by means of an impact test apparatus as described in Annex D of IEC 60068-2-75. The specimens are checked by applying blows by means of the pendulum hammer apparatus as described in IEC 60068-2-75 (test EHA).”*

Therefore, flexible heat-shrink or nylon-sock type enclosures are not strong enough to survive the tests as listed above and are thus illegal.

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