ABSTRACT: A regenerable electrical condenser is disposed in a can-type housing having a lid tightly sealed thereto to prevent leakage. The condenser includes a mechanically operable fuse therein secured to the can and to the lid, and the can has corrugations for expansion upon a buildup of gas to cause separation of the fuse element. The lid is welded to the can to maintain a liquid-tight seal both before and after operation of the fuse.
FLUID SEALED HOUSING FOR AN ELECTRICAL COMPONENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a metal housing for an electrical component, and is more particularly concerned with metal housings for electrical components wherein the housings undergo a structural change upon a buildup of gas therein to operate a disconnect fuse.

2. Description of the Prior Art

It is well recognized in the art that deformable or stretchable corrugations may be provided in a housing for an electrical component or in the cover for the housing for separating a fuse element upon an internal pressure buildup. However, prior art devices which utilize such a structural change of the housing to separate the internal fuse element have proven to be ineffective in applications which require a fluid seal. This is particularly true in the case of oil-impregnated regenerable electrical condensers.

SUMMARY OF THE INVENTION

According to the invention a metal housing having corrugations and effective to operate a disconnect fuse upon an internal pressure buildup is provided as a fluid-tight structure both before and after operation of the fuse. The housing includes a can-type structure, preferably of aluminum. The cover may be metal or a ceramic material having a metal periphery for welding to the remainder of the housing.

BRIEF DESCRIPTION OF THE DRAWING

Other objects, features and advantages of the invention will be readily apparent from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawing, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts disclosed, and in which the single figure is an elevational view of an oil-impregnated regenerable electrical condenser shown in cross section.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the drawing, the electrical component is illustrated as having had the fuse operated. The fuse may be provided as a weakened point in one of the connecting wires of an oil-impregnated regenerable electrical capacitor coil which is mounted in a can-type housing so that the lower end of the wire is substantially fixed in relation to the housing.

The connecting wire is guided through a sealed insulating member in the cover of the device. The cover is welded to the upper edge of the housing, to provide a fluid-tight seal. The upper edge of the housing may, as shown in the drawing, embrace the cover or the cover may have at its lower edge a peripheral groove into which the housing edge is inserted and sealed.

The housing is provided with at least one corrugation which by elongation due to the buildup of gas above maximum admissible internal pressure causes separation of the fuse, in this case wire.

Preferably the housing and the cover are made of aluminum. The cover also may be made of insulating material, such as a ceramic, whereby the outer edge of the material carries a metal ring sealed thereto. As a result of the tightly welded, solid connection between cover and housing a safe fluid-tight seal results. This is also applicable to housings where the fuse is operated by bulging the housing cover.

Generally then there has been described the provision of a metal housing for an electrical component, particularly an electrical condenser, with a disconnect fuse which is operated upon reaching a maximum admissible internal pressure due to the buildup of gas, by a structural change of the housing, the housing being sealed by a cover and remaining sealed even after operation of the fuse.

We claim:

1. In an electrical component having a housing comprising means for producing a structural change in response to a change of internal pressure and a disconnect fuse means operable in response to said structural change, said housing having a cup portion and a cover portion, the improvement comprising means for maintaining a fluid-tight seal between said cup portion and said cover portion.

2. The improvement according to claim wherein the cup portion is metal and at least the periphery of the cover portion is metal and said means for providing a fluid-tight seal comprises a weld.