Australian Standard™

AS 2362.13

Fire detection, warning, control and intercom systems—Methods of test

Method 13: Corrosion test

1 SCOPE

This Standard sets out the method for subjecting an actuating device to a corrosive atmosphere. (See performance requirements in the appropriate device Standard.)

2 PRINCIPLE

An actuating device is exposed to a specified corrosive atmosphere. The actuating device is subsequently checked for changes in sensitivity and insulation resistance.

3 APPARATUS

A corrosion apparatus which consists of an exposure chamber made from suitable impervious material (e.g. glass) containing appropriately sealed holes for gas inlet, gas outlet and fan shaft, etc. as required. The dimensions of the chamber shall be appropriate to the apparatus under test but are not critical, provided the gas concentrations are maintained as specified.

The gas supply to the chamber shall be from compressed gas cylinders of commercial grade SO_2 and CO_2. The gas supply lines shall include valves to control flow. Gas shall be supplied through flowmeters and a suitable timing device shall be used to measure gas volume.

A platform made of suitable plastic material such as PVC shall be used in the chamber to support the actuating device at a distance of 30 ±5 mm above the water level. A fan shall provide air movement in the chamber.

4 PROCEDURE

The procedure shall be as follows:

(a) Connect leads of approximately 100 mm length to each terminal and mount the actuating device in its normal orientation inside the exposure chamber.

NOTE: The leads are intended for subsequent testing, and their ends may be sealed to prevent deterioration.

(b) A small amount of water (approximately 10 mL/0.003 m^3 of chamber volume) is to be maintained in the bottom of the chamber for humidifying the atmosphere.

(c) Expose the actuating device to a moist carbon dioxide-sulfur dioxide-air mixture in the closed chamber for a period of 240 h at temperature 23 ±5°C as follows:

(i) On the first through fourth and seventh through tenth days, an amount of carbon dioxide equivalent to 1.0 ±0.1% of the chamber volume plus an amount of sulfur dioxide equivalent to 0.5 ±0.05% of the chamber volume is to be introduced. Prior to each introduction of new gas-air mixture, the chamber shall be thoroughly purged and the water level checked.