BS 6387 specifies methods of test for resistance to fire, resistance to fire with water and resistance to fire with mechanical shock. This test aims to assess whether a cable maintains its circuit integrity when exposed to these scenarios. This is particularly important for safety critical systems such as emergency lighting.

BS6387 Test procedure:

Resistance to fire alone - the cables is tested by gas burner flame while passing a current at its rated voltage. Four survival categories are defined Cat A (3 hours at 650°C), Cat B (3 hours at 750°C), Cat C (3 hours at 950°C), and Cat S (20 minutes at 950°C).

Resistance to fire with water spray - a new sample of cable is exposed to flame at 650°C for 15 minutes while passing a current at its rated voltage and then the spray is turned on to give exposure to both fire and water for a further 15 minutes.

A single survival category W is defined if the cables surpassed the testing requirement.

Resistance to fire with mechanical shock - the final requirement is mechanical shock damage. A fresh sample is mounted on a backing panel in an S bend and is exposed to flames while the backing panel is stuck with a steel bar with the same diameter as the cables under test every 30 seconds for 15 minutes. The cables will be tested under the following temperatures: X (650°C/15min), Y (750°C/15min) and Z (950°C/15min).

The highest standard for BS 6387 is CWZ.