

## SSL TEST SPECIFICATION

### SAMPLE TESTING OF SMOKE DETECTORS DAMP HEAT TEST

#### SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE** This specification covers the procedure for testing the stability of point type smoke detectors under damp heat conditions.

**1.2 APPLICATION** The specification applies to point type smoke detectors that have been submitted for testing in accordance with FTS-111.

#### 1.3 REFERENCE DOCUMENTS

##### STANDARDS

AS 1603:Part 2-1997 - Point Type Smoke Detectors

##### SSL TEST SPECIFICATIONS

FTS-111 Sampling and Testing of Fire Detectors

FTS-118 Sensitivity Testing of Smoke detectors - Smoke Detector Test Tunnel

#### SECTION 2 TESTING

**2.1 REQUIREMENTS** The smoke detector shall not enter an alarm or fault state during exposure to the specified environmental conditions. If a smoke detector enters a fault or alarm state during the test then the device identified shall be deemed to have failed to meet the test requirements. If no alarms or faults are monitored then the device shall be deemed to have passed the test requirements.

#### 2.2 APPARATUS

**2.2.1 Environmental chamber** - a suitable controlled environmental chamber that can control temperatures within  $\pm 1^\circ\text{C}$  of set temperature and relative humidity to within + 3%, -2% of set relative humidity.

**2.2.2 Control and Indicating Equipment** - a General Purpose Indicating Panel (GPIP) or specific panel nominated by the detector supplier.

**2.3 PROCEDURE** The procedure shall be as follows:

- (a) Mount the actuating device in its normal orientation inside a suitable test chamber, and connect the leads to the appropriate monitoring equipment.
- (b) Energize the actuating device and allow it to stabilize for a period of not less than 10 min.
- (c) Expose the smoke detectors to the specified temperature and relative humidity in using the following steps:

Step No.	Status	Temperature (°C)	RH (%)	Set Duration
1	steady	23	30 <sup>#</sup>	30 min.
2	ramp	40	30 <sup>#</sup>	20 min
3	steady	40	30 <sup>#</sup>	30 min.
4	ramp	40	92	60 min.
5	steady	40	92	12 hours
6	ramp	40	30 <sup>#</sup>	30 min.
7	ramp	23	30 <sup>#</sup>	20 min.
8	steady	23	30 <sup>#</sup>	99 hours <sup>*</sup>

# The value of 30% RH is a **nominal** set point only to ensure a low moisture content and hence minimise the possibility of condensation. It is acceptable for the chamber to not achieve this value provided a significant reduction in RH occurs.

\* The final time of 99 hours is to ensure controlled conditions until the samples are removed from the chamber. Samples may be removed anytime within this period.

**2.4 RESULTS** The following shall be reported within the Sample Test Report:

- (a) Information identifying each smoke detector.
- (b) Whether each individual smoke detector passed or failed the test (refer clause 2.1).
- (c) Reference to this test specification.

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