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Test Report No: ICL/H21/13556

IEC 60695-11-10:2013

Fire hazard testing

**Part 11-10: Test flames - 50 W horizontal and vertical flame
test methods**

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1. **Purpose Of Test**

To determine the performance of a specimen of a product when it is subjected to the conditions of test specified in IEC 60695-11-10 "Fire hazard testing - Test flames - 50 W horizontal and vertical flame test methods"

2. **Scope Of Test**

IEC 60695-11-10 This part of IEC 60695 specifies a small-scale laboratory screening procedure for comparing the relative burning behaviour of vertically or horizontally oriented specimens made from plastic and other non-metallic materials, exposed to a small-flame ignition source of 50 W nominal power.

3. **Description Of Test Specimen**

The description of the specimen given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

The product was a Red oxide silicone coated glass fiber sleeving (nominal diameter 15.5mm) product referenced "LSR 2540" manufactured by : Sleeve It Limited (Preston, UK)

The specimen was supplied by the sponsor of the test and Interscience Fire Laboratory was not involved in the selection process.

The sponsor of the test has not supplied additional information relating to the composition of the product that was tested.

4. **Conditioning Of Specimen**

The specimen was received on 9th March 2021.

The first set of specimens were conditioned for a minimum of 48 hours prior to testing at $23 \pm 2^{\circ}\text{C}$ and $50 \pm 5\% \text{RH}$, before testing. A second set were conditioned for a minimum of 168 hours at $70 \pm 1^{\circ}\text{C}$ before being placed into a drying dessicator for 1 hour at ambient temperature, before testing.

5. Date Of Test

The test was performed on 25th June 2021.

6. Test Procedure

The test was performed in accordance with the procedure specified in IEC 60695-11-10 Clause 9 Test Method A -Horizontal test and this report should be read in conjunction with that Standard.

7. Test Results

The test results relate only to the behaviour of the specimen of the cable under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

The test results relate only to the specimen of the cable in the form in which they were tested. Small differences in the composition or thickness of the cable may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any cable which is supplied or used is fully represented by the specimens which were tested.

The results for specimens conditioned at 23 ± 2 °C and 50 ± 5 % relative humidity for 48 hours are given in table 1:

Table 1
Table 1 (after conditioning to clause 6.1)

Observations	Specimen No		
	1	2	3
Flames reached 25mm mark (yes/ no)	No	No	No
Time to reach 25mm mark (s)	-	-	-
Time to reach 125mm or flameout (s)	-	-	-
Damaged Length (mm)	-	-	-
Cotton indicator ignited by flaming particles or drops	No	No	No

8. Requirements

The material is classified as HB, (HB=Horizontal) in accordance with the following criteria.

- A) It shall not visibly burn with flames after the ignition source is removed.
- B) If the specimen continue to burn with a flame after the removal of ignition source, the flame front shall not pass the 100mm mark
- C) If the flame front passes the 100mm mark, it shall not have a linear burning rate exceeding 40mm/min for a thickness of 3.0mm to 13mm or a burning rate not exceeding 75mm/min for a thickness of less than 3mm.
- D) If the linear burning rate does not exceed 40mm/min for tests with $3.0\text{mm} \pm 0.2\text{mm}$ thickness, it shall automatically be accepted down to 1.5mm thickness.

9. **Conclusion**

The specimen meets the performance requirement for Classification HB given in IEC 60695-11-10:2013 Clause 8.4.

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