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Test Report: ICL/H17/7960

BS 476: Part 7 :1997 (2016) Method for classification of the surface spread of flame of products

Sponsored By LP Technology Ltd Albert Works Stanley Street Coline BB8 9AE

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1 Purpose of Test

To determine the surface spread of flame characteristic of a sheet product

2 Description of Test Specimen

The description of the specimen given below has been prepared from information provided by the sponsor of the test and Interscience Communications Ltd was not involved in any selection or sampling procedure.

The product was a 31mm thick sheet coated with a black paint.

The sponsor of the test did not provide further details relating to the composition of the sheet , the composition of the paint and rate and method of application.

3 Conditioning of Test Specimens

The specimens were received on 11^h August 2017.

The sample was conditioned to constant mass at a temperature of $23\pm2^{\circ}C$ and a relative humidity of $50\pm10\%$ and maintained in this condition until required for testing.

4 Date of Test

The test was performed on 18th September 2017.



5 Test Procedure

The test was carried out in accordance with BS 476: Part 7: 1996(2016) The following were recorded:-

a) the time at which the flame front crosses each vertical reference line;

b) the maximum extent of flame spread during the first 1.5 min from the start of the test;

c) the maximum extent of flame spread during the whole test i.e. 10 min or less (if applicable);

d) the time (and distance) at which maximum flame spread is reached.

The flame spread at 1.5min and the final flame spread results were compared with the standard class limits and a classification was assigned.

Note: This test was subcontracted to another UKAS accredited test laboratory.

6 Test Results

The test results relate only to the burning behaviour of the specimens of the product 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 specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results.

| Specimen No | Flame spread at 1.5mins (mm) | Maximum flame spread (mm) | Time to reach maximum flame spread (Sec) |
|----------------|------------------------------|------------------------------|---|
| 1 | 60 | 60 | 68 |
| 2 | 60 | 60 | 64 |
| 3 | 60 | 60 | 63 |
| 4 | 60 | 60 | 60 |
| 5 | 60 | 60 | 63 |
| 6 | 60 | 60 | 63 |

BS 476 Part 7 Surface spread of Flame test results:



| Specimen | | Time to reach each reference point (mm) in Minutes-sec | | | | | | | | | | | |
|----------|----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No | 75 | 165 | 190 | 215 | 240 | 265 | 290 | 375 | 455 | 500 | 525 | 600 | 710 |
| 1 | - | | | | | | | | | | | | |
| 2 | - | | | | | | | | | | | | |
| 3 | - | | | | | | | | | | | | |
| 4 | - | | | | | | | | | | | | |
| 5 | - | | | | | | | | | | | | |
| 6 | - | | | | | | | | | | | | |

Observations

Specimen 1 reignited at 248 seconds at 60mm.

7 Requirements

The class limits for flame spread, detailed in BS 476: Part 7: are set out below:

| Classification | Flame spread at 1.5mins (mm) | Final flame spread (mm) |
|----------------|---------------------------------|--------------------------|
| 1 | 165 (+25) | 165 (+25) |
| 2 | 215 (+25) | 455 (+45) |
| 3 | 265 (+25) | 710 (+75) |
| 4 | Exceeding class 3 limits | Exceeding class 3 limits |

Note: A definitive classification is based on a sample of six specimens and the figure in brackets gives the tolerance by which one specimen in six may exceed the class limit assigned.

8 Conclusion

The test results show that the product meets the requirements of Class 1.

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