



Confidential Report

Our Ref: 27/03302B/09/14

Notified Body
for PPE Directive,
Construction Products
Regulation & Marine
Equipment Directive
I.D. No. 0338 & 0339

Fire Technology Services
A division of BTTG T & C Ltd
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**FIRE
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SERVICES**

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21 October 2014

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Client: Intumescent Systems Ltd
Envirograf House
Barfrestone
Dover
Kent
CT15 7JG

Job Title: **Fire Test on One Sample of Polystyrene (white)**

Clients Order Ref: M2857

Date of Receipt: 29 September 2014

Description of Sample: One sample of polystyrene (white), referenced: **Orac Décor Duropolymer - OC158 coated with Envirograf Product 42 HW01. The coating was applied to the front face as edges with two coats of Envirograf HW01 intumescent paint at 8m sq per litre per coat.**

Work Requested: Fire Technology Services were requested to carry out a fire test on the sample supplied to BS 476 Part 7 (loose laid).





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FIRE TESTS ACCORDING TO BS 476:PART 7:1987 (AS AMENDED) (Method for classification of the surface spread of flame of products)

Date of Test: 20/10/14

Conditioning

The sample was conditioned to constant mass at a temperature of $23\pm 2^{\circ}\text{C}$ and a relative humidity of $50\pm 10\%$ and maintained in this condition until required for testing

Procedure

The test was carried out in accordance with BS 476: Part 7: 1987(1993). The sponsor sampled the material and the specimens were cut from the sample to the dimensions set out in the standard by FTS. The specimens were tested loose laid onto 12mm calcium silicate board

The following were recorded:-

- the time at which the flame front crosses each vertical reference line;
- the maximum extent of flame spread during the first 1.5 min from the start of the test;
- the maximum extent of flame spread during the whole test i.e. 10 min or less (if applicable)
- 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.

Requirements

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

	Flame spread at 1.5 min (mm)	Final flame spread (mm)
Class 1	165 (+25)	165 (+25)
Class 2	215 (+25)	455 (+45)
Class 3	265 (+25)	710 (+75)
Class 4	Exceeding Class 3 limits.	

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



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Results

The test results relate only to the behaviour of the test 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.

Time for flame spread to reach (s) (mm)					Flame spread at 1.5 min (mm)	Maximum flame spread (mm)	Time to reach maximum flame spread (s)
165	215	265	455	710			
--	--	--	--	--	60	60	60
--	--	--	--	--	60	60	60
--	--	--	--	--	60	60	60
--	--	--	--	--	60	60	60
--	--	--	--	--	70	70	60
--	--	--	--	--	70	70	60

Observations

Flashing occurs. Melts.

Specimen 1 Splits and falls below reference line at 240s
Specimen 2 Splits and falls below reference line at 220s
Specimen 3 Splits and falls below reference line at 225s
Specimen 4 Splits and falls below reference line at 206s
Specimen 5 Splits and falls below reference line at 220s
Specimen 6 Splits and falls below reference line at 231s

Classification

The results indicate that the sample met the performance requirements of Class 1Y.

A suffix Y is added to the classification if any softening and/or any other behaviour that may affect the flame spread occurs. The Y suffix was added to this classification due to specimen softening and slumping within the holder after the initial first minute of testing.

An estimation of uncertainty of measurement has not been taken into account when making a judgement to any pass/fail criteria.





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Reported by: *B. Marsden* B Marsden (Mrs), Fire Technician

Countersigned by: *[Signature]* P Doherty, Operational Head

Enquiries concerning this report should be addressed to Customer Services.

