BS 476: Part 3: 2004 test on Filon GRP laminate – sample R

Prepared for:
Filon Products Limited
Unit 3 Ring Road
Zone 2
Burntwood Business Park
Burntwood
Staffs
WS73JQ

Test report number 236980

UKAS TESTING

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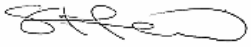
Date 25/07/2007



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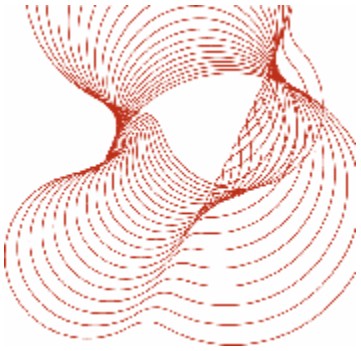


1 Objective

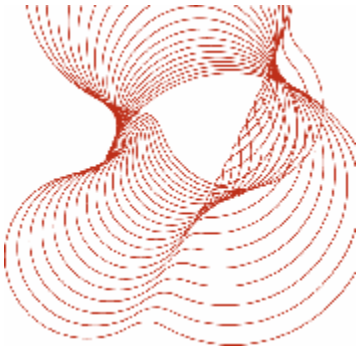
To classify the sample specified in Section 2 according to its capacity to resist penetration by fire and its spread of flame characteristics, as shown by the external fire exposure roof test and criteria of BS 476: Part 3: 2004[1].

2 Sample

The test samples were supplied by the client. BRE were not involved in the sample selection process and therefore cannot comment upon the relationship between samples supplied for test and the product supplied to market.

Unless otherwise stated all measurements are nominal.

Test Sponsor	Filon Products Limited Unit 3 Ring Road Zone 2 Burntwood Business Park Burntwood Staffs WS73JQ
Manufacturer of sample	As above
Sample name/reference	Filon GRP laminate – sample R
Sample description (as provided by test sponsor/manufacturer)	The samples are nominally 1.0mm thick and weigh around 1.83kg/m^2. Filon grade G300, the formulation employed, consists of 90 parts by weight of a flame retardant polyester resin. The mix is reinforced with approximately 32% by weight of randomly distributed chopped glass roving fibres and the laminate cured on the FILON process. The laminate is surfaced with a 20 micron UV resistant polyester film on the external weather face only. Further details of the sample have been given and are recorded on a confidential file. Jointed samples include lap joints with Laplox stitch fixings and 6mm bead butyl mastic. Horizontal joints were additionally fixed to a purlin across the joint.



Description of sample (as received)	Profile sheet, 1.25mm thick, 20mm high profiles at 200mm centres.	
Sample receipt date	1 May 2007 and 9 July 2007	
Test face	External polyester film face	
Test format	The test was carried out in the sloping position	
Date of test	Preliminary ignition test Penetration test Spread of flame test	31 May 2007 13, 18 June and 12 July 2007 13 June 2007

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3 Conditioning

The specimens were conditioned as required by the standard.

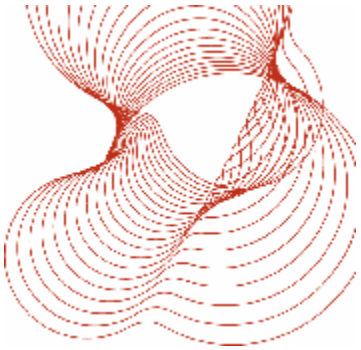
4 Results

4.1 Preliminary ignition test

Specimen reference	Joint	Flame spread mm	Flame duration After test flame removed min:s	Penetration min:s
2	None	None	0:00	None

4.2 Spread of flame test

Specimen reference	Joint	Flame spread mm	Flame duration min:s
5	None	None	3:00
8	None	None	3:54
10	Vertical	None	3:03



4.3 Penetration test

Specimen reference	Joint	Penetration min:s	Observations
4	None	None	No sustained flaming
3	None	None	No sustained flaming
E 505/4	Horizontal	None	No sustained flaming

4.4 No dripping of material occurred from the underside of any specimen tested, nor was any mechanical failure, or development of holes, observed.

5 Designation of Specimens

5.1 The designation of specimens subject to conditions of external fire shall be according to both the time of penetration and the distance of spread of flame along their external surface.

5.2 Each category designation shall consist of two letters, e.g. AA, AC, BB, these being determined as follows:

First letters:

A. Those specimens which have not been penetrated within 1 hour.

B. Those specimens which are penetrated in not less than ½ hour.

C. Those specimens which are penetrated in less than ½ hour.

D. Those specimens which are penetrated in the preliminary flame ignition test.

Second letters:

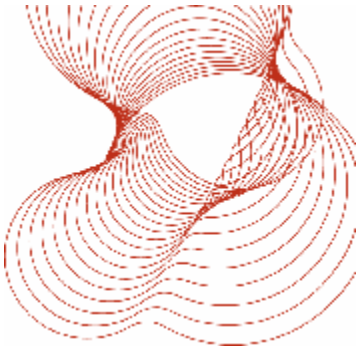
A. Those specimens on which there is no spread of flame.

B. Those specimens on which there is not more than 533mm spread of flame.

C. Those specimens on which there is more than 533mm spread of flame.

D. Those specimens which continue to burn for 5 minutes after the withdrawal of the test flame or spread more than 381mm across the region of burning in the preliminary test.

5.3 Attention shall be drawn to dripping from the underside of the specimen, any mechanical failures, and any development of holes, by adding a suffix 'X' to the designation to denote that one or more of these took place during the test.



5.4 When it is required to indicate test results obtained on the sample by designation, the following method shall be used:

The designation letter for penetration shall be given followed by that for spread of flame and preceded by the letters EXT.F. or EXT.S. according to whether the flat or inclined test has been made and when necessary the suffix 'X' shall be added. Thus, for example:

EXT.F.AA; EXT.F.ACX;

EXT.S.BA; EXT.S.CCX.

6 Conclusions

A sample as described in this report, when tested in accordance with BS 476 : Part 3 : 2004, achieved the designation of EXT.S.AA.

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over 5 years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.

7 Reference

1 Fire tests on building materials and structures. Part 3. Classification and method of test for external fire exposure to roofs. British Standard 476 : Part 3 : 2004. British Standards Institution, London, 2004.

report ends