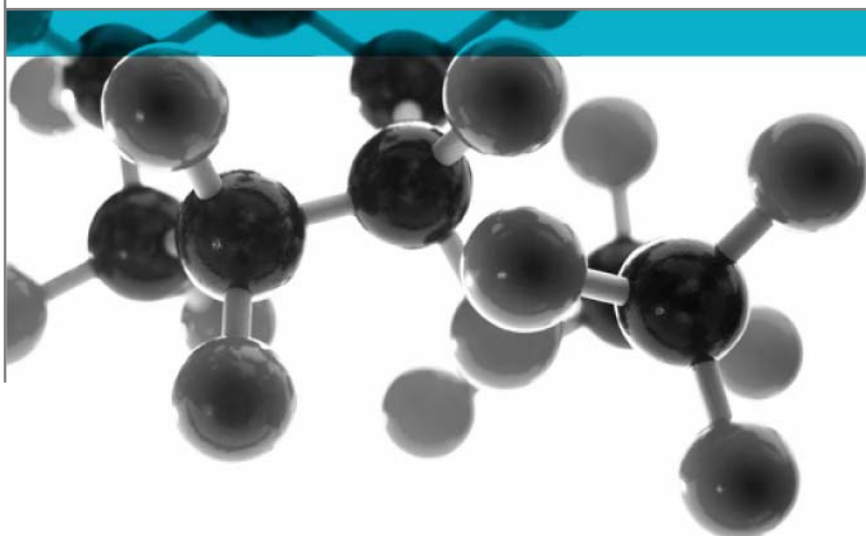


BS 6853: 1999



Summary Test Report:

Table 5 (exterior vertical surfaces)

Table 6 (exterior horizontal prone surfaces)

A Report To: svt Brandschutz Vertriebsgesellschaft mbH International

Document Reference: 327376, 327377 & 327378

Date: 2nd May 2013

Issue No.: 1

Page 1

Testing
Advising
Assuring

Executive Summary


Objective To assess the results of tests to BS 476: Part 7: 1997, BS 6853: 1999: Annex B.2 and BS 6853: 1999: Annex D.8.4, obtained on specimens of a product and to provide an opinion of compliance with the requirements for an Exterior Vertical Surface and Exterior Horizontal Prone Surface, as defined in BS 6853: 1999.

Generic Description	Product reference	Thickness	Weight per unit area or density
Flame retardant grade coated aluminium substrate	Not stated	3mm	Between 6300 and 6600 g/m ²
Individual components used to manufacture composite:			
Coating product (test face)	"Fire Protection Paint"	Between 730 and 770µm	Between 1000 and 1250kg/m ³
Coating product 2	"Anticorrosive Coating"	Between 160 and 180µm	1400kg/m ³
Coating product 3	"Primer"	Between 65 and 70µm	1400kg/m ³
Substrate	"Aluminium sheet"	2mm	Between 5100 and 5300g/m ²
Please see page 5 of this test report for the full description of the product tested			

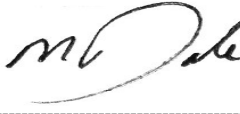
Test Sponsor svt Brandschutz Vertriebsgesellschaft mbH International, Glüsinger Str. 86, 21217 Seevetal, Germany

Opinion We consider the results of the tests as detailed in test report numbers 327376, 327377 and 327378, demonstrate that the product, as tested, complies with the exterior vertical surfaces requirements (detailed in Table 5 of BS 6853:1999) and the exterior horizontal prone surfaces requirements (detailed in Table 6 of BS 6853: 1999) for a Category Ia, Category Ib and Category II Vehicle.

Signatories



Responsible Officer
J. Lucas-Cox *
Technical Officer



Authorised
M. Dale *
Deputy Operations Manager

* For and on behalf of **Exova Warringtonfire**.

Report Issued: 2nd May 2013

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Test Details

Terms Of Reference To assess the results of tests to BS 476: Part 7: 1997, BS 6853: 1999: Annex B.2 and BS 6853: 1999: Annex D.8.4, obtained on specimens of a product and to provide an opinion of compliance with the requirements for an Exterior Vertical Surface and Exterior Horizontal Prone Surface, as defined in BS 6853: 1999.

Introduction Specimens of a product have been tested in accordance with the test methods specified in BS 476: Part 7: 1997 “Surface Spread of Flame Test for Materials”, BS 6853: 1999: Annex B.2 “Determination of Weighted Summation of Toxic Fume” and BS 6853: 1999: Annex D.8.4 “Methods for Measuring Smoke Density, Panel Test”. The results of the tests are fully reported in the **Exova Warringtonfire** test reports No's. 327376, 327377 & 327378.

This summary report has been prepared at the request of the sponsor and relates the results of the tests to the requirements for an exterior vertical surface, as defined in Table 5 of BS 6853: 1999 and the requirements for an exterior horizontal prone surface, as defined in Table 6 of BS 6853: 1999.

This summary should be read in conjunction with, and not accepted as a substitute for the **Exova Warringtonfire** test reports No's. 327376, 327377 & 327378. Those test reports may include additional information, which may be relevant to the assessment of the potential fire hazard of the product.

Face subjected to tests The specimens were mounted in the test positions such that the coated face was exposed to the heating conditions of the tests.

Results of test The following results were obtained for the specimens, which were tested.

BS 476: Part 7: 1997

Class 1 surface spread of flame

**BS 6853: 1999:
Annex B.2**

R = 0.89

**BS 6853: 1999:
Annex D.8.4**

A_o (ON) = 4.19
 A_o (OFF) = 5.30

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

Description of Test Specimens

The description of the specimens given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given. The specimens were supplied by the sponsor of the test. **Exova Warringtonfire** was not involved in any selection or sampling procedure.

General description		Flame retardant grade coated aluminium substrate
Name of manufacturer of composite including substrate		SVT Brandschutz Vertriebsgesellschaft mbH International
Thickness of composite including substrate		3mm (stated by sponsor) 2.98mm (determined by Exova Warringtonfire)
Weight per unit area of composite including substrate		Between 6300 and 6600 g/m ² (stated by sponsor) 6318.7g/m ² (determined by Exova Warringtonfire)
Overall thickness of coating		1mm
Coating (test face)	Generic type	Dispersion based intumescent paint
	Product reference	"Fire Protection Paint"
	Name of manufacturer	SVT Brandschutz Vertriebsgesellschaft mbH International
	Colour reference	"Grey – Black"
	Number of coats	One
	Application thickness per coat	Between 730 and 770µm
	Density	Between 1000 and 1250kg/m ³
	Application method	Spraying
	Trade name of flame retardant	"PYRO-SAFE DG-SKN"
	Generic type of flame retardant	Intumescent
	Amount of flame retardant	See Note 1 Below
	Curing process per coat	Drying at room temperature
Coating 2	Generic type	Epoxy
	Product reference	"Anticorrosive Coating"
	Name of manufacturer	Weilburger Coatings GmbH
	Colour reference	"Grey"
	Number of coats	One
	Application thickness per coat	Between 160 and 180µm
	Density	1400kg/m ³
	Application method	Spraying
	Trade name	"Senosol – 2k – EP – Hydro – Dickschichtlack"
	Flame retardant details	See Note 2 Below
	Curing process per coat	Drying at room temperature

Continued on next page

Coating 3	Generic type	Epoxy
	Product reference	"Primer"
	Name of manufacturer	Weilburger Coatings GmbH
	Colour reference	"Red"
	Number of coats	One
	Application thickness per coat	Between 65 and 70µm
	Density	1400kg/m ³
	Application method	Spraying
	Trade name	"Senosol – 2k – EP – Hydrometallgrund"
	Flame retardant details	See Note 2 Below
	Curing process per coat	Drying at room temperature
Substrate	Generic type	Aluminium
	Product reference	"Aluminium sheet"
	Name of manufacturer	See Note 3 Below
	Thickness	2mm
	Weight per unit area	Between 5100 and 5300g/m ²
	Colour reference	"Silver"
Flame retardant details	The component is inherently flame retardant	
Brief description of manufacturing process		Aluminium sheet cleaned with acetone which is then allowed to dry. It is then coated with primer and allowed to dry. It is then coated with anticorrosive coating and allowed to dry. It is finally coated with fire protection paint and allowed to dry.

Note 1. The sponsor was unwilling to provide this information.

Note 2. The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the component.

Note 3. The sponsor was unable to provide this information.

Classification

Opinion

We consider the results of the tests as detailed in test report numbers 327376, 327377 and 327378, demonstrate that the product, as tested, complies with the exterior vertical surfaces requirements (detailed in Table 5 of BS 6853:1999) and the exterior horizontal prone surfaces requirements (detailed in Table 6 of BS 6853: 1999) for a Category Ia, Category Ib and Category II Vehicle.

Validity of opinion

This opinion is based on the requirements of BS 6853 at the date of this report. If BS 6853 is revised or amended in any way subsequent to that date, care must be taken to ensure that this opinion is not invalidated by those revisions or amendments.

The opinion has been formulated on the assumption that the specimens are representative of the product in practice. **Exova Warringtonfire** was not involved in any sampling or selection procedures which would confirm this or in any audit testing which would provide confidence in the consistency of the product in the tests.

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Revision History

Issue No :	Issue Date:
Revised By:	Approved By:
Reason for Revision:	

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Revised By:	Approved By:
Reason for Revision:	