test report

Bodycote

Summary of Bodycote Warringtonfire Test Reports

WF Report Numbers

183853, 184516 & 184921

Date:

22nd July 2009

Test Sponsor:

FP Finnprofiles Oy

Laboratory approved by CERTIFER Railway Certification Agency

warringtonfire global safety TESTING

Summary of WF No's 183853, 184516 & 184921

Including Opinion Of 'I' Classification
In Accordance With NF F-16-101
Railway Rolling-Stock
Fire Behaviour
Choice Of Materials
And Utilising The Guidance Of
RATP Technical Specification STM-S-001

Sponsored By

FP Finnprofiles Oy
Lieksentie 10
Fi-91100 Ii
Finland

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Test Details

Introduction

Investigations into the behaviour of a product under the conditions of tests specified in BS EN ISO 4589 – 2: 1999 "Plastics Determination of Burning Behaviour By Oxygen Index" and BS EN 60695-2-11: 2001 / IEC 60695-2 11: 2000, Fire Hazard Testing Part 2-11: Glowing / Hot-Wire Based Test Methods – Glow-Wire Flammability Test Methods For End-Products" have been conducted.

The results of the tests are fully reported in Test Reports WF No's. 183853, 184516 & 184921.

This summary test report has been prepared at the request of the sponsor and relates the results of the tests to the requirements for 'I' classifications given in NF F 16-101 Table 1 and utilising the guidance of Technical Specification STM-S-001 – "Equipment RATP Technical Specification".

This summary should be read in conjunction with, and not accepted as a substitute for, the Test Reports, WF No's 183853, 184516 & 184921. These test reports may include additional information which may be relevant to the assessment of the potential fire hazard of the product.

Results of Test

The following test results were obtained for the specimens which were tested:-

BS EN ISO 4589-2
Oxygen Index = 32.2%

BS EN 60695-2-11: 2001 / IEC 60695-2 11: 2000

When the results obtained during the investigation are assessed against the aforementioned specifications, the following conclusions can be made:

- **Ignition did occur at a temperature of 960°C.**
- **Ignition did not occur at a temperature of 850°C.**
- **Flame did not persist following removal of glow-wire at a temperature of 850°C.**

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.

General description	Vulcanised LTC silicone profile
Product reference	**See Note 1 below**
Detailed description / composition details	**See Note 1 below**
Name of manufacturer	FP Finnprofiles Oy
Density	**See Note 2 below** 184921 1.21g/cm³ (determined by **Bodycote warringtonfire**) 183853 1.13g/cm³ (determined by **Bodycote warringtonfire**) 184516 1.15g/cm³ (determined by **Bodycote warringtonfire**)
Thickness	184921 4mm (stated by sponsor) 3.64mm (determined by **Bodycote warringtonfire**) 183853 10mm (stated by sponsor) 10.32mm (determined by **Bodycote warringtonfire**) 184516 1mm (stated by sponsor) 1.22mm (determined by **Bodycote warringtonfire**)
Colour	"Black"
Trade name of flame retardant	**See Note 1 below**
Generic type of flame retardant	**See Note 2 below**
Amount of flame retardant	**See Note 1 below**
Brief description of manufacturing process	Extrusion

Note 1. The sponsor of the test was unwilling to provide this information

Note 2. The sponsor of the test was unable to provide this information

Test Results

Classification

According to the values obtained for a material it is classified in one of the six classes, I0 to I4, and NC (1), as defined in Table 1 of NFF 16-101 and reproduced below

CLASS	RESULTS OF TESTS	
	O.N.	GLOW WIRE
I0	≥70	No ignition at 960^{0}C
I1	≥45	No ignition at 960^{0}C
I2	≥32	No ignition at 850^{0}C
I3	≥28	*Ignition does not persist at 850^{0}C after glow wire is withdrawn
I4	≥20	-
NC *(1)*	<20	-
(1) NC: Non-classified		

*This expression means that the flame is extinguished within a period of less than or equal to 2 seconds following the removal of the glow wire. (This point is not indicated in standard NF F 16-101 of October 1988 nor in NF EN 60695-2-10 and NF EN 60695-2-11).

* Note: NF F 16-101 states that during the Glow Wire test to BS EN 60695-2-11: 2001 / IEC 60695-2 11: 2000, when testing at a temperature of 850°C (Class I3 only), ignition is deemed not to have taken place when the resulting flame lasts for two seconds or less.

Conclusion

The results of the tests detailed above demonstrate that the product at a thickness of 1mm and 10mm, can be classified as "I2" in accordance with the requirements of NF F 16-101.

This classification is based on the requirements given in NF F 16-101: October 1988 and utilising the guidance of Technical Specification STM-S-001 – "Equipment RATP Technical Specification" October 2006. If the specification 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.

Validity

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 five 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.

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Signatories

Responsible Officer
I. White *

Approved
T. Mort *
Senior Technical Officer

Authorised
C. Dean *
Operations Manager

* For and on behalf of **Bodycote warrington**fire.

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Bodycote warringtonfire · Head Office · Holmesfield Road · Warrington · Cheshire · WA1 2DS · United Kingdom
Tel: +44 (0) 1925 655 116 · Fax: +44 (0) 1925 655 419 · Email: Info@warringtonfire.net · Website: www.warringtonfire.net