

Exova Warringtonfire
Holmesfield Road
Warrington
WA1 2DS
United Kingdom

T : +44 (0) 1925 655 116
F : +44 (0) 1925 655 419
E : warrington@exova.com
W: www.exova.com



Testing. Advising. Assuring.

Title:

EXTENDED APPLICATION
REPORT IN ACCORDANCE
WITH EN/TS 15117

Notified Body No:

0833

Product Name:

FCD300E, FCP250E, FC170E,
and FC150E Fortex Cladding

Report No:

313058

Issue No:

1

Prepared for:

Freefoam Plastics Limited,
Central Commercial Park,
Centre Park Road, Cork,
Ireland

Date:

28th May 2012

1. Introduction

This report extends the field of application of test results obtained for "Fortex Cladding", a PVC cladding panel product. Extended application is a process which may incorporate calculation procedures which enables the prediction of fire performance, on the basis of one or more test results to the same test standards and enables the classification of product groups and product families.

2. Details of Product Group

A product group is a range of products within defined limits of variability of the product parameters, and, if relevant, end-use parameters, for which the reaction to fire performance remains unchanged (i.e. does not get worse).

The products referenced as "FCD300E, FCP250E, FC170E and FC150E Fortex Cladding", are PVC cladding panels, defined as unplasticized poly(vinyl chloride) (PVC-U) profiles and cellular unplasticized poly(vinyl chloride) (PVC-UE) profiles for interior and exterior wall and ceiling finishes as defined in EN 13245:2008 Incorporating corrigenda November 2009 and August 2010. The product properties which vary within this product are the following:

- Width of the panel
- Surface structure of the panel
- Joining details of the panels
- The composition of the panels is identical with respect to PVC formulation, density and thickness.

These product variations will be assessed to determine their influence on the fire performance of the product when tested in accordance with EN 13823 and EN ISO 11925-2 in relation to their classification in accordance with EN 13501-1.

2.1 Product description

The tested products "FCD300E, FCP250E, FC170E, and FC150E Fortex Cladding", are fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description		posite panel consisting of shiplap PVC cladding mechanically fixed to a timber frame.
Trade name/ product reference		"FCD300E, FCP250E, FC170E, and FC150E Fortex Cladding"
Thickness of cladding		5 - 8 mm (stated by sponsor)
Density of cladding		400-550kg/m ³ (stated by sponsor)
Decorative facing	Product reference	"Freefoam PVC Skin"
	Generic type	PVCu (Unplasticised Polyvinyl Chloride)
	Name of manufacturer	Freefoam Plastics Limited
	Thickness	0.6mm
	Colour	"Cream"
	Flame retardant details	See Note 1
Core	Product reference	"PVC Cellular Material"
	Generic type	PVCuE
	Thickness	4.4 - 7.4 mm
	Name of manufacturer	Freefoam Plastics Limited

	Flame retardant details	See Note 1
Timber frame	Generic type	Softwood timber
	Dimensions	40mm x 40mm
Mounting and fixing details		The PVC cladding panels were mechanically fixed to a timber frame and a calcium silicate backing board was butted up against the reverse face of the timber.
Brief description of manufacturing process		Standard extrusion, co-extrusion and embossing

Note 1: The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the product.

3. Test reports & test results in support of classification

3.1 Test reports

Name of Laboratory	Name of sponsor	Test reports	Test method
Exova Warringtonfire	Freefoam Plastics Limited	WFR 312340, WFR 317738	EN ISO 11925-2
Exova Warringtonfire	Freefoam Plastics Limited	WFR 316410, WFR 316408, WFR 316409, WFR 316411	EN 13823
Exova Warringtonfire	Freefoam Plastics Limited	WFR 313057	EN 13501-1

3.2 Test results

Test method & test number	Parameter	No. tests	Results	
			Continuous parameter - mean (m)	Compliance parameters
EN 13823	Figra _{0.4 MJ} (W/s)	8	486, 321, <u>493</u> , <u>422</u>	Compliant
	THR _{600 s} (MJ)		32.4, 34.4, <u>34.2</u> , <u>30.4</u>	Compliant
	Smogra (m ² /s ²)		346, 173, <u>282</u> , <u>351</u>	Compliant
	TSP _{600 s} (m ²)		1450, 1250, <u>1505</u> , <u>1467</u>	Compliant
	LFS (y/n)		N	Compliant
	Flaming droplets (y/n) <10 s (y/n)		Y	

	>10 s (y/n)		Y	
EN ISO 11925-2 30 s surface exposure	Flame spread (mm)	12	<u>30, 45</u>	Compliant
	Flaming droplets (y/n)		<u>none</u>	Compliant
30 s edge exposure	Flame spread (mm)	12	<u>30, 36</u>	Compliant
	Flaming droplets (y/n)		<u>none</u>	Compliant

The underlined values indicate the average of 3 test results in a full test, the other values are individual results for single tests. The worst values will be used for classification

4. Classification and field of application

4.1 Definition of Limits of Extended Application

The products are defined as unplasticized poly(vinyl chloride) (PVC-U) profiles and cellular unplasticized poly(vinyl chloride) (PVC-UE) profiles for interior and exterior wall and ceiling finishes as defined in EN 13245:2008 Incorporating corrigenda November 2009 and August 2010.

The difference between the products is that the FCD300E is a double board of the FCD150, so there are fewer joints in the final construction when the product is applied in its end-use application.

The FCP250E is flat board with a stippled finish as opposed to a wood grain finish of the other 3 products. The board is slightly thicker, 7 mm nominal compared to 6 mm nominal for the other types.

The FC170E product is a feather edge products, giving a different joint geometry compared to the shiplap edge of the other 3 products.

The composition of the panels is identical with respect to PVC formulation, density and thickness.

4.2 EN ISO 11925-2

The results were well within the limits for a classification B – D. It can therefore be considered that the results will allow a classification B-D for the product variations considered.

4.3 EN 13823

The SBI test measures the following fire parameters, Fire Growth Rate (FIGRA), Total Heat Release (THR_{600s}), Smoke Growth Rate (SMOGRA) and Total Smoke Production (TSP_{600s}). These parameters were evaluated to assess what influence the various product parameters could have on the test results. The available test evidence is graphically represented in the graphs given in the annex.

The FIGRA values were well within the limit for a D-classification. The results for the product types FCD300E, FCP250E and FC170E were not significantly different from the results for product type FCD150E, possibly slightly lower, indicating that the different product properties have not influenced the test results negatively.

The results for the THR are not relevant for a D-classification, but comparison of the values shows that the different product properties have not influenced the test results negatively.

The measured results relating to smoke parameters, SMOGRA and TSP_{600s}, are well above the limit value for s2, and differences are not relevant for the classification. Comparison of the values shows that the different product properties have not influenced the test results negatively.

In all instances were flaming droplets/particles, which kept burning > 10 s, evident during the fire tests.

These results clearly indicate that the products show consistent behaviour in this test.

4.3 Field of application

The tests results are valid for the following end use applications:

- i) Wall, ceiling and facade applications
- ii) Used over any substrate of class A2 or better with density of 870 kg/m³ or higher, with an air gap, mechanically fixed onto a timber (or metal) support frame.

This classification is also valid for the following product parameters:

Colour	any colour
Surface structure	stippled finish, or wood grain finish
Board width	150 mm or more
Joint geometry	shiplap or feather edge
Product thickness	5 - 8 mm
Product composition	No variation allowed

SIGNED

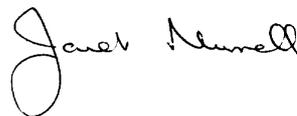


.....

Frans Paap

Certification Engineer
Technical Department

APPROVED



.....

Janet Murrell

Technical Manager
Technical Department
on behalf of **Exova Warringtonfire**

This copy has been produced from a .pdf format electronic file that has been provided by Exova Warringtonfire to the sponsor of the report and must only be reproduced in full. Extracts or abridgements of reports must not be published without permission of Exova Warringtonfire. The original signed paper version of this report is the sole authentic version. Only the original paper versions of this report bear authentic signatures of the responsible Exova Warringtonfire staff.

