

REACTION TO FIRE PERFORMANCE In Accordance with EN-13501

Flammability of Extruded Freefoam PVC Product



Freefoam is a leading manufacturer of a wide range of innovative PVC-U and PVC-UE roofline, rainwater and cladding products for the building industry in Ireland, the UK and Mainland Europe.

Tested by:
Exova
Warringtonfire
Holmesfield Road,
Warrington,
WA1 2DS

Freefoam products have been independently tested to conform to rigorous fire resistance criteria when tested to EN 13501-1:2007 and EN 13245:2008.

Exova Fire Certificate Report Number	Product	Classification
331764	Hollow Soffit	D-s3.d2/AHM
337579	Roofline White and all Colours(8mm – 25mm)	D-s3.d2/AHM
349834	Cladding (5mm-9mm)	D-s3.d2/AHM

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FIRE RESISTANCE

European fire resistance classification explained.

Products are tested and measured against a series of classifications to gain a certain level of performance, namely A1, A2, B,C,D,E or F. Classifications are used and accepted throughout Europe. See chart below.

Table 1 — Classes of reaction to fire performance for construction products excluding floorings and linear pipe thermal insulation products

Class	Test method(s)	Classification criteria	Additional classification
A1	EN ISO 1182 ^a	$\Delta T \leq 30$ °C; and $\Delta m \leq 50$ %; and $t_f = 0$ (i.e. no sustained flaming)	-
	and EN ISO 1716	$PCS \leq 2,0$ MJ/kg ^a and $PCS \leq 2,0$ MJ/kg ^{b,c} and $PCS \leq 1,4$ MJ/m ² ^d and $PCS \leq 2,0$ MJ/kg ^e	-
A2	EN ISO 1182 ^a	$\Delta T \leq 50$ °C; and $\Delta m \leq 50$ %; and $t_f \leq 20$ s	-
	or EN ISO 1716	$PCS \leq 3,0$ MJ/kg ^a and $PCS \leq 4,0$ MJ/m ² ^b and $PCS \leq 4,0$ MJ/m ² ^d and $PCS \leq 3,0$ MJ/kg ^e	-
	and EN 13823	$FIGRA \leq 120$ W/s and $LFS <$ edge of specimen and $THR_{600s} \leq 7,5$ MJ	Smoke production ^f and Flaming droplets/particles ^g
B	EN 13823	$FIGRA \leq 120$ W/s and $LFS <$ edge of specimen and $THR_{600s} \leq 7,5$ MJ	Smoke production ^f and Flaming droplets/particles ^g
	and EN ISO 11925-2 ^h ; Exposure = 30 s	$F_s \leq 150$ mm within 60 s	
C	EN 13823	$FIGRA \leq 250$ W/s and $LFS <$ edge of specimen and $THR_{600s} \leq 15$ MJ	Smoke production ^f and Flaming droplets/particles ^g
	and EN ISO 11925-2 ^h ; Exposure = 30 s	$F_s \leq 150$ mm within 60 s	
D	EN 13823	$FIGRA \leq 750$ W/s	Smoke production ^f and Flaming droplets/particles ^g
	and EN ISO 11925-2 ^h ; Exposure = 30 s	$F_s \leq 150$ mm within 60 s	
E	EN ISO 11925-2 ^h ; Exposure = 15 s	$F_s \leq 150$ mm within 20 s	Flaming droplets/particles ^h
F	No performance determined		

^a For homogeneous products and substantial components of non-homogeneous products.
^b For any external non-substantial component of non-homogeneous products.
^c Alternatively, any external non-substantial component having a $PCS \leq 2,0$ MJ/m², provided that the product satisfies the following criteria of EN 13823: $FIGRA \leq 20$ W/s, and $LFS <$ edge of specimen, and $THR_{600s} \leq 4,0$ MJ, and s1, and d0.
^d For any internal non-substantial component of non-homogeneous products.
^e For the product as a whole.
^f In the last phase of the development of the test procedure, modifications of the smoke measurement system have been introduced, the effect of which needs further investigation. This may result in a modification of the limit values and/or parameters for the evaluation of the smoke production.
^g s1 = $SMOGR_A \leq 30$ m²/s² and $TSP_{600s} \leq 50$ m²; s2 = $SMOGR_A \leq 180$ m²/s² and $TSP_{600s} \leq 200$ m²; s3 = not s1 or s2
^h d0 = No flaming droplets/ particles in EN 13823 within 600 s;
d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s;
d2 = not d0 or d1.
Ignition of the paper in EN ISO 11925-2 results in a d2 classification.
ⁱ Pass = no ignition of the paper (no classification);
Fail = ignition of the paper (d2 classification).
^j Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.

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