

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.

Test Method:
EN 13823
EN ISO 11925 - 2

Freefoam products have been independently tested to conform to rigorous fire resistance criteria and have achieved the following classification.

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

| 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 |
| 335536 | Cladding (5mm-8mm) | D-s3.d2/AHM |

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 **Freefoam**
Building Products

www.freefoam.com

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 $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7,5$ MJ | Smoke production ^f and Flaming droplets/particles ^g |
| B | EN 13823 | $FIGRA \leq 120$ W/s and $LFS < \text{edge of specimen}$ 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 $LFS < \text{edge of specimen}$ 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 $LFS < \text{edge of specimen}$, 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.

s1 = $SMOGRA \leq 30$ m²/s² and $TSP_{600s} \leq 50$ m²; s2 = $SMOGRA \leq 180$ m²/s² and $TSP_{600s} \leq 200$ m²; s3 = not s1 or s2

^g 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.

^h 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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