

Behaviour of Ultraframe solid roofs in relation to fire.

Ultraframe manufacture two roofing systems UltraRoof380 (synthetic tiles) LivinRoof (either aluminium or Utech panel) which is panel roof with a choice of Aluminium or U-tech panels.

This document below outlines how the LivinRoof and UltraRoof380 perform in the event of a fire.

The statements below indicate that the materials used externally will not accelerate the development of a fire and that the internal finish will withstand fire for 30 minutes as required by building regulations.

Livinroof in relation to fire

Externally the Livinroof is predominantly either an aluminium panel or a Utech polycarbonate panel although glass panels may be fitted and there uPVC trims.

- The aluminium panel used is considered non-combustible and can be taken as having a Class 0 rating (BS476 Part 7: 1997).
- The spread of flame across uPVC trims and the U-Tech (polycarbonate) panel is limited and in a fire it will tend to char and may fall away. Polycarbonate and uPVC are both considered as Class 1 Materials (BS476 Part7:1997)
- The tempered safety glass used can be regarded as a non-combustible material and therefore can be taken as having a Class 0(BS476 part7:1997) performance rating.
- Internally the roof is finished with 12.5mm Plasterboard and a 3mm skim of gypsum plaster. This is rated as 30minute protection and consistent with building regulations.

Ultrarroof380 in relation to fire

Externally the Ultrarroof 380 uses a polypropylene tile with aluminium trims although glass panels may also be fitted.

- Following extensive US testing, pre-compliance tests have been conducted by Exova in the UK giving the product rating of National Class AC.
- The aluminium used is considered non-combustible and therefore can be taken as having a Class 0 (BS476 part7:1997)
- The tempered safety glass used can be regarded as a non-combustible material and therefore can be taken as having a Class 0(BS476 part7:1997) performance rating.
- Internally the roof is finished with 12.5mm Plasterboard and a 3mm skim of gypsum plaster. This is rated as 30minute protection and consistent with building regulations.

Extract from Building Regulations:- see Page 2...

B4 ROOF COVERINGS

ONLINE VERSION

10.7 When used in rooflights, a rigid thermoplastic sheet product made from polycarbonate or from unplasticised PVC, which achieves a Class 1 (National class) rating for surface spread of flame when tested to BS 476-7:1997 (or 1987 or 1971), or Class C-s3,d2 (European class) can be regarded as having an AA (National class) designation or B_{ROOF(t4)} (European class) classification, other than for the purposes of Diagram 11.

Unwired glass in rooflights

10.8 When used in rooflights, unwired glass at least 4mm thick can be regarded as having an AA designation (National class) or B_{ROOF(t4)} (European class) classification.

Thatch and wood shingles

10.9 Thatch and wood shingles should be regarded as having an AD/BD/CD designation or E_{ROOF(t4)} (European class) classification in Table 5 if performance under BS 476-3:2004 (or 1958) or BS EN 1187:xxxx cannot be established.

Note: Consideration can be given to thatched roofs being closer to the boundary than shown in Table 5 if, for example, the following precautions (based on *Thatched buildings. New properties and extensions* [the 'Dorset Model']) are incorporated in the design:

- the rafters are overdrawn with construction having not less than 30 minutes fire resistance;
- the guidance given in Approved Document J *Combustion appliances and fuel storage* is followed; and
- the smoke alarm installation (see Section 1) extends to the roof space.

Table 5 Limitations on roof coverings*

Designation† of covering of roof or part of roof		Minimum distance from any point on relevant boundary			
National Class	European Class	Less than 6m	At least 6m	At least 12m	At least 20m
AA, AB or AC	B _{ROOF(t4)}	●	●	●	●
BA, BB or BC	C _{ROOF(t4)}	○	●	●	●
CA, CB or CC	D _{ROOF(t4)}	○	● ^{(1) (2)}	● ⁽¹⁾	●
AD, BD or CD	E _{ROOF(t4)}	○	● ^{(1) (2)}	● ⁽¹⁾	● ⁽¹⁾
DA, DB, DC or DD	F _{ROOF(t4)}	○	○	○	● ^{(1) (2)}

Notes:

- * See paragraph 10.8 for limitations on glass; paragraph 10.9 for limitations on thatch and wood shingles; and paragraphs 10.6 and 10.7 and Tables 6 and 7 for limitations on plastic rooflights.
- † The designation of external roof surfaces is explained in Appendix A. (See Table A5 for notional designations of roof coverings.)
- Separation distances do not apply to the boundary between roofs of a pair of semi-detached houses (see para 10.5) and to enclosed/covered walkways. However, see Diagram 11 if the roof passes over the top of a compartment wall.
- Openable polycarbonate and PVC rooflights which achieve a Class 1 (National class) or Class C-s3, d2 (European class) rating by test, see paragraph 10.7, may be regarded as having an AA (National class) designation or B_{ROOF(t4)} (European class) classification.
- The National classifications do not automatically equate with the equivalent classifications in the European column, therefore products cannot typically assume a European class unless they have been tested accordingly.

- Acceptable.
○ Not acceptable.
- Not acceptable on any of the following buildings:
 - Houses in terraces of three or more houses.
 - Any other buildings with a cubic capacity of more than 1500m³.
 - Acceptable on buildings not listed in Note 1, provided that part of the roof is no more than 3m² in area and is at least 1500mm from any similar part, with the roof between the parts covered with a material of limited combustibility.