

Fire Ratings of Trilite GRP Rooflights

UK Regulations for fire safety in buildings

Building Regulations Approved Document B volume 2 (2006 edition, amended 2007) sets out the fire safety rules for buildings other than dwellings, which can be met by achieving specific fire ratings to either British (BS476) or European (BS EN 13501) standards.

Section B2 - Internal fire spread (linings)

This section covers internal fire spread and applies to the linings of both roof and wall. In general these are surface spread of flame requirements to BS476 Part 7 or to BS EN 13501 Part 1.

Paragraph 6.1 & Table 10 summarises the fire rating requirement by location within a building. The inner skin of a ceiling or wall should normally be:

- **Class 1** (National class, to BS476 part 7) or
- **C-s3,d2** (European class, to EN13501 part 1)
(Please note: a material with either fire rating is acceptable)
- the inner skin of a rooflight should either meet this rating, or achieve Tp(a).

Paragraph 6.7, Table 11 & Diagram 27 detail a concession to allow the inner skin of a rooflight to be rated Class 3 (BS476 Part 3) or Class D-s3,d2 (BS EN 13501 Part 1) or Tp(b) if the area of each rooflight is less than 5m² and there is a clear 3m separation distance between each rooflight in all directions. The separation distance can be reduced to 1.8m if the rooflights are evenly spaced and do not exceed 20% of the floor area.

Section B4 - External fire spread

This section covers external fire spread and applies to external roof and wall coverings, in general these are fire resistance requirements to BS476 Part 3 or to BS EN 13501 Part 5.

Paragraph 14.5 & Table 16 summarises the fire rating requirements for roofs, paragraph 12.6 and Diagram 40 for walls. There are no restrictions on use in either roof or wall where outer sheets rated:

- **AC** (BS476 part 3) or
- **B_{ROOF}(t4)** (EN13501 part 5)
(Please note: a material with either fire rating is acceptable)
- Some lower fire ratings for the outer sheet may be acceptable, but not within 6m of the boundary.

Paragraph 12.6 & Diagram 40(b) detail additional requirements for fire protection of wall outer sheets where the building is within 1m of the boundary, or is over 18m high or is a building to which the public have access, some areas will require sheets rated Class 0 (BS476 Part 6) or B-s3,d2 (BS EN13501 part 1).

If the construction is single skin with separate liner panel, the single skin sheet must meet the requirements for both the lining and the outer sheet.

Trilite GRP rooflight fire ratings

We are able to supply 3 grades of fire rated Trilite GRP sheet each of which has at least two fire ratings, as follows:

Sheet	BS476 pt3	BS476 pt7	Building Regulations*	Typical application
SAB Class 3	SAB	Class 3	-	Outer sheet for roof and walls
SAA Class 1	SAA	Class 1	-	Liner sheet for roof and walls
SAA Class 0	SAA	Class 1	Class 0	Circulation spaces and external walls (<1m from boundary or >18m high)

* Class 0 is not defined by any specific British Standard, but is defined in Building Regulation Approved Document B as a material that is both class 1 to BS476 pt7, and also when tested to BS476 pt6 has a fire propagation index (I) of not more than 12 and sub index (i1) of not more than 6.

The fire rating of Trilite GRP rooflight sheets is printed on each rooflight; in addition a coloured tracer is incorporated to identify the fire rating:

- SAB Class 3 are identified with a blue tracer
- SAA Class 1 are identified with a red tracer
- SAA Class 0 are identified with a red and yellow tracer

Ratings Tp(a) and Tp(b)

There is difficulty testing thermoplastic materials to achieve ratings to BS476 part 3, as the material melts during the test. Thermoplastic materials which are rated Class 1 to BS476 part 7 are given the rating Tp(a) - other thermoplastic materials can be tested to BS2782, and given ratings of Tp(a) or Tp(b). There are concessions to allow the use of rooflight materials with an external surface classification of AD (or worse), and to allow the use of materials with a Tp(a) or Tp(b) rating, as the outer covering of a rooflight. Paragraph 14.6 and Table 18 detail these, and show the restriction on use of these materials.

These Tp(a) and Tp(b) ratings do not apply to Trilite GRP sheets. GRP is a thermosetting rather than thermoplastic material, and the concessions allowing the use of Tp(a) or Tp(b) rated sheet are not relevant as Trilite sheet satisfies the main ratings of AA or AB and Class 1 or Class 3.