

FIRE - ROOF APPLICATION: ENGLAND

Filon Products Ltd manufacture three Fire Grades to meet the requirements of The Building Regulations England 2010 (incorporating latest amendments), Approved Document B, Fire Safety: Volume 2 (Buildings Other Than Dwellings).

Following the withdrawal of the BS 476 series of fire tests from Approved Document B (ADB) for compliance with Building Regulations, an alternative compliance route for GRP thermoset materials is now outlined in a series of Government Frequently Asked Questions. The FAQ number 8 defines that **TP(a) rigid** classification can be used for thermoset rooflights in industrial and storage buildings to demonstrate compliance with the functional requirement B2(l) in accordance with Approved Document B, Volume 2, Table 6.2. The FAQ link can be found here: [FAQ Link](#)

Filon sheets are tested and classified in accordance with the following standards:

- BS EN 13501 Part 5** - Classification using data from external fire exposure to roofs tests.
- BS 2782-0 Annex B Method 508A** - Classification for TP(a) assessment rating of plastics.
- BS 476 Part 3** - Classification and method of test for external fire exposure to roofs.
- BS 476 Part 6** - Method of test for fire propagation of products.
- BS 476 Part 7** - Method of test to determine the classification of the surface spread of flame of products.

Filon fire grades and test ratings are as follows:

- Grade 300** - B_{ROOF}(t4) to BS EN 13501 Part 5
 SAB to BS 476 Part 3
 Class 3 to BS 476 Part 7
- Grade 104** - B_{ROOF}(t4) to BS EN 13501 Part 5
 TP(a) to BS 2782-0 Method 508A
 SAA to BS 476 Part 3
 Class 1 to BS 476 Part 7
- Grade 101** - B_{ROOF}(t4) to BS EN 13501 Part 5
 TP(a) to BS 2782-0 Method 508A
 SAA to BS 476 Part 3
 Class 1 to BS 476 Part 7
 Class 0 to BS 476 Part 6

Our recommendations are provided in good faith, but approval from the appropriate local government authority may be required in certain circumstances or if there is any uncertainty regarding the correct material to use. The following references are taken from ADB Volume 2.

Refurbishment Projects

For these types of buildings, it's up to the Building Control Body - either the local council or an approved private inspector, to make sure the work meets the Building Regulations.

Regulation 4(1) of the Building Regulations 2010 states that all building work must follow the requirements in Schedule 1, which lists the specific standards that must be met. Regulation 4(3) applies to refurbishment projects and says that, after the work is finished, the building must either meet these standards or be no worse than it was before. This includes making sure fire safety is not reduced.

In other words, the new materials must be at least as good as the old ones, and if the original materials performance is known, the previous test ratings (BS 476) may still apply.

Each project should be checked individually, with the designer ensuring all regulations are followed.

Internal Liners and Single Skin

Section B2, Section 6: *Wall and ceiling linings*, Table 6.2 provides an allowance to demonstrate compliance for plastic rooflights that cannot meet the relevant classification in the Classification of Linings Table 6.1, which are listed below:

- D-s3,d2: Small rooms of area not more than 30m²
- C-s3,d2: Other rooms (including garages)
- B-s3,d2: Other circulation spaces

Using table 6.2, TP(a) rating has the following limits:

- Any use of space below the rooflight - **except a protected stairway**.
- No limit on maximum area of each rooflight.
- No limit on maximum total area of rooflight as a percentage of the floor area.
- No minimum separation distance between rooflights.

Note that GRP rooflight liners and single skin rooflight sheets **must not** be used within 1.5m of a compartment wall.

External Roofs

Section B4: External Fire Spread - Section 14: *Resisting fire spread over roof covering*, provides classifications to BS EN 13501 Part 5. Table 14.1, *Limitations on roof coverings*, lists the designation for a roof covering in relation to the minimum distance from any point on a relevant boundary.

Using the information listed in Table 14.1, the following recommendations apply:

Classification **B_{roof}(t4)** is allowed at any distance from the boundary, any Filon Fire Grade may be used for this.

The requirements for a liner still apply.

Summary

Liners and Single Skin: In almost all circumstances the inner surface of a liner or single skin sheet should be rated **TP(a)**, and **Filon Grade 104**. When higher performance is required, **Filon Grade 101** may be used.

External Roofs: Any Filon Fire Grade may be used for an external roof covering. Common practice for rooflights is to use a **Filon Grade 300** outer sheet with a **Filon Grade 104** liner.