

**Fire Performance requirements for Flat Roofs**

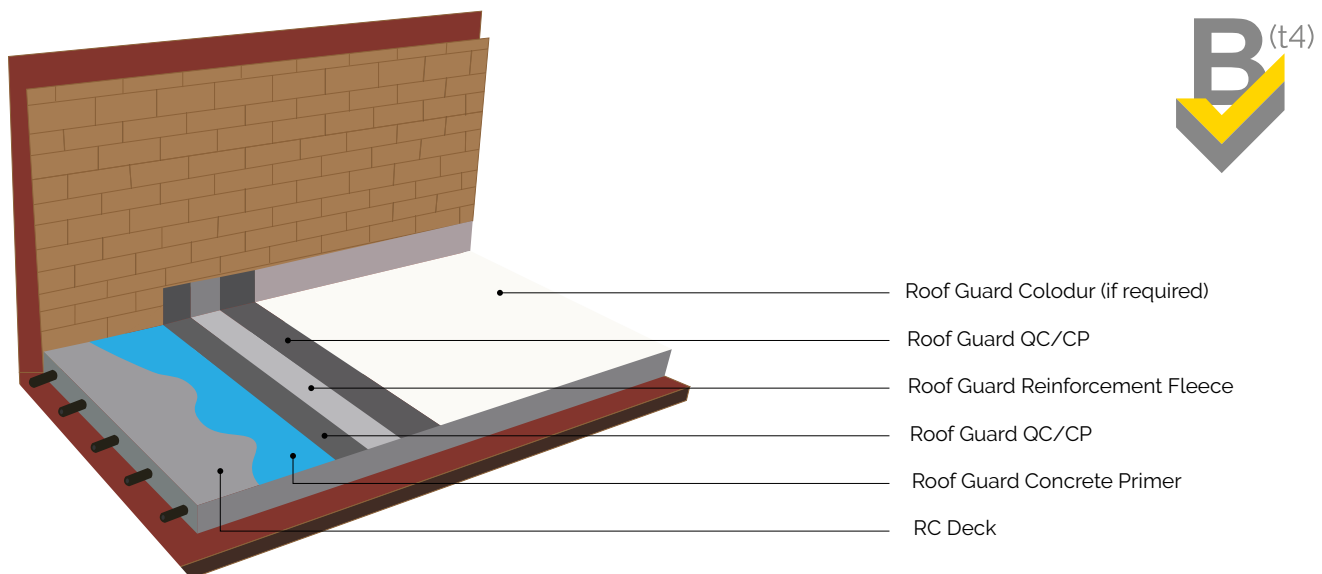
On the 30th of August 2019, changes were made to Building Regulations in relation to Flat Roofs which incorporated the new edition of 'Fire Safety-Approved Document B' (AD B). This new edition which came into force has several changes in relation to flat roofs.

Building Regulations Part B (Fire Safety) part B4 covers the requirement for external walls and roof of a building or structure to adequately resist the spread of fire over the walls and roof of the structure, and between one building to another. Roof coverings can be found within Section 10 which includes layering of material. With reference to flat roofs, expected covering will usually consist of the deck, a vapour control layer, insulation, waterproofing membrane(s), and any other layers and areas.

The principal amendment of the AB D edition is in relation to external fire performance of roofs. This is no longer the national classification system BS 476-3:2004, but the European Classification System BS EN 13501-5. The European Class Ratings comes with five ratings: BROOF(t4), CROOF(t4), DROOF(t4), EROOF(t4) and FROOF(t4).

**European Class Ratings EN 13501-5:**

To simplify fire standards across Europe for External Fire Performance, the roofing industry has embraced a change from BS 476-3:2004 (test and classification) to TS 1187 (which is subject to becoming BS EN 1187 in the future). The new BS EN 13501-5 classification which has been introduced in the new 'Fire Safety-Approved Document B' (AD B) 2019 edition standardised into one European test which is identifiable within the EU.



- Roof Guard Colodur (if required)
- Roof Guard QC/CP
- Roof Guard Reinforcement Fleece
- Roof Guard QC/CP
- Roof Guard Concrete Primer
- RC Deck

TS 1187 has four tests for roof covering systems: t1 which is applicable to Germany, t2 which is applicable to Scandinavia, t3 which is applicable to France and t4 which is applicable to the UK building sector (Republic of Ireland included). The results from testing under TS 1187 with BS EN 13501-5 classification are given as European Class ratings BROOF(t4), CROOF(t4), DROOF(t4), EROOF(t4) and FROOF(t4). The below table gives an explanation as to how these ratings are achieved.

### Certification

National Class	European Class	Minimum distance from and relevant boundary (England)	Minimum distance from any point on relevant boundary
AA, AB, AC	BROOF(T4)	Unrestricted and can be used anywhere on the roof	Low Vulnerability (<6m)
BA, BB, BC	CROOF(T4)	At least 6m of the boundary	Medium Vulnerability (6-24m)
CA, CB or CC	DROOF(T4)	At least 6, 12 or 20m of the boundary depending on building type and use	Medium Vulnerability (6-24m)
AD, BD or CD	EROOF(T4)	At least 6, 12 or 20m of the boundary depending on building type and use	High Vulnerability (>24m)
DA, DB, DC or DD	FROOF(T4)	At least 20m of the boundary depending on building type and use	High Vulnerability (>24m)

**It should also be noted that classifications are for all types of roof systems.**

The classification determines proximity of the roof to boundaries of adjacent buildings. Advantages of the BROOF(t4) classification is using a roofing system which complies to the BROOF(t4) classification no minimum distance is required between structures.

Lower external fire classifications require adjacent buildings and/or structures to be further in proximity.

To meet Building Regulations for fire, installers will be required to prove that the system has a valid test certificate.

Third party testing facilities such as the BRE have established through extensive fire testing on a worst-case scenario basis (timber decking), resolving the requirement for testing on concrete and steel decks.

