

## Flat Roofing Sector Position Paper on RC62: Recommendations for fire safety with PV panel installations

### Background

In the absence of formal government regulations or guidance, and in the absence of relevant British or European Standards, the RC62 set of recommendations was developed by the RISC Authority and the Fire Protection Association, in partnership with the solar industry, to fill a critical gap for the insurers when assessing risks associated with rooftop solar photovoltaic (PV) installations to flat roofs. Its purpose was clear: to provide consistent, well-informed guidance that could be used to support risk evaluation and mitigation strategies when installing building applied rooftop solar photovoltaic arrays.

Since its release, RC62 has become a widely respected and influential set of recommendations, adopted not only by insurers, but also by the solar PV industry, specifiers, and building consultants across the UK and beyond.

The success of RC62 can be attributed to its roots in a considered approach, particularly with relation to sound fire safety principles. At a time when the solar industry has been growing at pace and innovation was outstripping regulation, RC62 provided a foundation for informed decision-making. It has been referenced in tender documentation, incorporated into contractor guidance, and used by consultants as a benchmark for good practice.

The solar industry continues to thrive and evolve, with new technologies and installation methodologies emerging regularly, whilst we continue to learn and adapt our approach to mitigate risk. RC62, despite being developed before many of these innovations existed, is still largely relevant. This durability highlights the strength of its foundational approach—focusing on principles and fire risk awareness rather than rigid technical prescriptions.

However, it is important to remember that RC62 is **not a test or classification standard**, and was never intended to be applied as a simple yes/no checklist. It is a guide to help assess risk and inform design decisions, not a binary rulebook. Treating it as such risks overlooking important nuances and may even lead to design decisions that could ultimately increase risk.

Take, for example, flat roof systems. RC62 rightly highlights the potentially elevated risks posed by combustible elements in this widely used roof type. But if we treat RC62 as a pass/fail document, we might dismiss all flat roofs (as they will almost certainly contain combustible elements) despite emerging evidence that, when designed and installed as a system and tested to CEN/TS 1187 : 2012 Test 4, with the test results classified as Broof(t4) as per the requirements within Approved Document B, such roof types are very safe.

[Testing by PU Europe](#), for instance, has shown that when installed as part of a flat roof system **polyisocyanurate (PIR) insulation** (typically classified as Class E or Class F to BS EN 13501-1 (commonly referred to as '*combustible*') can actually perform just as well as other types of insulation boards that are Class A2, s1-d0 or better to BS EN 13501-1 (commonly referred to as '*non-combustible*') in fire scenarios when installed in certain constructions. In the tests, the PIR systems transmitted less heat to the air and vapour control layer below, potentially reducing the risk of fire propagation at the deck level and reducing the risk of internal water damage when water is used during fire-fighting. This is precisely the kind of nuanced understanding that RC62 is meant to encourage. A more pragmatic approach invites us to consider the *system as a whole*, rather than rule it out based solely on the presence of combustible elements.

Another relevant example is the rise of **BioSolar roofs**—systems that combine green roofing with solar PV. These solutions are increasingly popular due to their multifunctional environmental benefits: biodiversity creation, water attenuation, urban cooling, and renewable energy generation from the same roof space that would otherwise be underutilised. However, they are a relatively recent innovation and were not a consideration when the RC62 recommendations were written.

Does this mean they fall outside the scope of RC62? Not necessarily. If RC62 is applied in the way it was intended—as a risk evaluation guide—then BioSolar roofs can absolutely be assessed using its principles. The fact is that a Biosolar roof may even present *lower* fire risk than a standard retrofit flat roof. A typical BioSolar system includes a 100mm layer of low organic content growing medium (below 50%) that is deemed to satisfy the Building Regulations requirements for flat roof fire spread and penetration above the waterproofing layer, preventing fire damage to the waterproofing with panels typically mounted higher above the roof surface, reducing the concentration of reflected heat.

Yet there are caveats. If the vegetation is poorly designed or inadequately maintained, it can become a fire risk—particularly if dry, combustible thatch forms during hot seasons or localised shading from the vegetation leads to increased electrical stress.

These are real considerations, but they are not arguments for rejecting BioSolar outright. Instead, they reinforce the need for a contextual, informed approach to risk assessment - precisely the intentions of those that created the RC62 recommendations. The Green Roof Organisation (GRO) has recently published BioSolar specific design guidance which when consulted alongside RC62 provides more context and detail for specifiers and enable innovation and sustainability to thrive.

As the solar industry continues to evolve, guidance must continue to evolve with it. The RC62 recommendations remain an extremely valuable resource, but only if we treat them as a framework for evaluation—not a static rulebook. Doing so will allow us to embrace innovation, mitigate risks, and maintain high standards of safety in an ever-changing industry.

## Conclusion

RC62 has served the industry well and will continue to do so. Its full value not only lies as a tool for the industry and in how it is interpreted, questioned, and adapted to each specific project. Through this considered approach we can ensure every flat roof solar project is as safe as possible, and that the commercial rooftop solar industry can continue to grow at the pace needed to deliver its huge potential to drive the decarbonisation of our building stock.

Ultimately, RC62 is a great base for decision makers to start from. However, it must be made clear to users that it is just that - further application specific guidance that embraces current British Standards and flat roofing industry best practice guidance must be developed to support those using RC62 who do not have the necessary experience or skillset to make pragmatic decisions.

The roofing industry is currently engaged in supporting the RISC Authority in a revision of the current version of the RC62 recommendations.

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