ROOFLIGHTING SAFETY BULLETIN **2025/1**

NFRC LEADING ROOFING EXCELLENCE

THE ROOFLIGHT ASSOCIATION

PERMANENT ROOFLIGHT COVERS & FRAMED WIRE MESH SYSTEMS

THESE PRODUCTS ARE NOT SUBJECT TO SAFETY LEGISLATION, AND IMPACT ON ROOFLIGHT PERFORMANCE.

In recent times, there has been a significant increase in the use of permanently fixed rooflight covers and framed wire mesh systems appearing on the UK market with the best intention of improving safety on roofs.

The increased demand for roof mounted solar PV panel systems is driving the demand for these new systems for both retrofit and new build projects which are being supplied under various brand names, with a variety of types and perceived levels of safety performance.

Whilst The Rooflight Association applauds the intention of the manufacturers of these products, it unfortunately cannot condone or support their use for the following safety issues and technical reasons:

- Unproven safety benefit
- Short and long-term performance concerns
- Impact on Building Regulations compliance
- Increased building energy consumption & costs
- Damage to roofs and rooflights
- Impairment of maintenance & inspection
- Invalidation of product guarantees and installation warranties
- Increased roof loading
- Introduction of trip hazards

Complaints relating to these products have increased with site inspection reports now commonly showing similar variations of these systems installed over rooflights with unsealed fasteners penetrating through rooflights and metal roof sheeting.

Unregulated installation practices have in some cases created leaks, invalidated service life guarantees and potentially compromised the non-fragility classification of the roof assembly. Furthermore, there are anecdotal reports of these products being used as platforms for the temporary storage of tools and materials where roof surface space is limited, thereby further risking damage to the underlying rooflights.

In new build applications, the rooflights supplied and installed should already be non-fragile, therefore these mesh systems are of little benefit and may do more harm than good if not fitted diligently.

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Further Information

Unproven Safety Benefit

For many of the rooflight cover systems there appears to be a lack of validated long-term performance testing, inspection & certification criteria.

This requirement for testing already applies to the roof covering and roof safety systems such as safety lines, anchor points etc. Therefore, the Rooflight Association considers that without suitable product standards, safety testing, and certification schemes, these types of rooflight covers should not be considered to offer any assurance of improved safety.

Rooflight safety covers, the same as for rooflights, should be tested in accordance with the latest version of ACR[M]001, representative of that of the intended use, and without a rooflight present. The integrity of the existing roof covering and structure should be assessed by a competent person to ensure that the roof is suitable to receive the weight and performance of any added safety devices.

Short- and Long-Term Performance Concerns

Many of these products currently being installed are constructed from materials that are potentially less durable than the rooflights themselves. This includes galvanised fencing mesh, painted steel frames, carbon steel fasteners etc.

Clear information should be provided on the expected service life of the product and non-fragile performance durability expectation together with routine inspection, maintenance and certification requirements to demonstrate their continued non-fragile performance expectation.

Impact on Building Regulations Compliance

Since 2006, when the fabric of a new building is designed, the required rooflight areas are determined in conjunction with the specific performance of a rooflight assembly in terms of light, solar and thermal transmittance. This is a fine balance between optimising the available daylight, limiting solar gains and retaining heat energy.

Typical metal clad industrial, commercial and storage buildings have rooflight areas between 12 and 14% of the floor area. Accordingly, consideration should be given to the effective reduction in daylighting when any safety device is installed over the top. Typically, around 6% of the rooflight area is lost for unframed systems and up to 14% or more when framed systems and larger diameter wire mesh sizes are used.

Increased Building Energy Consumption

When the effective available daylighting provision is reduced, the demands on artificial lighting increases. This may be power from the National Grid or energy being generated on site that is intended for other purposes.

Even when powered by energy generated on site, the longer and brighter that artificial lighting is used, the sooner repair and replacement becomes required. With this comes increased cost and disruption.

Damage to Roofs and Rooflights

The installation of any safety or other devices should be by the use of suitable mounting systems not detrimental to any part of the roof system, and where appropriate, be approved by the roofing system manufacturer or other suitably competent person.

Safety devices such as rooflight covers should not be fixed through the rooflights including any areas where the metal roof sheeting over or underlaps the rooflight. Any new fixing penetrations into the roof should have long term corrosion resistance and watertight seals.

The installation of any devices such as rooflight covers, cable trays etc. should be fixed with sufficient clearance above the rooflight such that they cannot transfer any load onto the rooflight or cause abrasion to the rooflight surface due to deflections resulting from wind loading acting upon the roof.

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Impairment of Maintenance & Inspection

Many rooflight cover types when fixed into position prevent the inspection and maintenance of the rooflight. Regular cleaning of the rooflights is essential to maintain the light transmission into the building and this becomes impossible when they are fitted.

It is also essential to inspect the roofs of these buildings to check for damage, loosened fasteners, leaking seals and any premature degradation. This may become impossible without removing and refitting the rooflight covers and the associated considerations where the existing fasteners cannot simply be removed and replaced.

Where rooflight safety covers are to be used, they should be easily removable or hinged/openable for inspection and cleaning of the whole of the rooflight area including perimeter fasteners and seals.

It should also be noted that where any permanent devices are installed, they should also be subject to a program of inspection and maintenance as directed by the manufacturer.

Invalidation of Product Guarantees and Installation Warranties

The methods used to install these devices is commonly seen to have negatively impacted on the original roof and rooflight installation by way of new unsealed penetrations, poorly inserted fasteners, surface abrasion etc.

Where a rooflight manufacturer is unable to fully inspect any rooflight in the event of complaints of leaks, damage and deterioration, they are likely to decline any invitations or requests to attend site.

Damage or consequential premature deterioration caused to any rooflight by the installation of any unrelated devices installed by third parties will invalidate any guarantees applicable to that product and therefore the liability for any remediation of the rooflights will transfer to the installer of any such device.

Increased Roof Loading

The addition of these systems not only increases the dead loading on the roof and supporting structure but may also increase the live loading by disrupting wind flow over the roof and creating opportunities for increased snow drift loads.

Before the addition of any systems such as these rooflight devices, PV panels and other plant & equipment, the roof should be certified as suitable by a competent person. If the roof has already been upgraded or over-roofed, it may not be feasible or safe to add any further weight to the structure. See NFRC Guidance Note (GN65) *Considerations for clients when installing solar PV panels on commercial roofs.*

Introduction of Trip Hazards

Where any additions are made to roofs where these safety covers are being fitted, they are inevitably going to be low level and above the plane of the roof surface. This can significantly increase the risk of trips & falls and therefore the risks of accident and injury.

The installers of such systems should be able to demonstrate how this risk has been mitigated.

Recommendations

New rooflights correctly specified and supplied by Rooflight Association members are tested to demonstrate non-fragile performance in accordance with the latest version of the Advisory Committee for Roofsafety (ACR) document ACR[M]001 when included into a representative roof assembly. See RA Technical Document NTD03.1 Application of ACR[M]001 *'Test For Non-Fragility of Large Element Roofing Assemblies' to GRP Profiled Rooflight Sheeting.*

Rather than install these permanent devices, the Rooflight Association recommends the use of temporary safety systems when any works are being carried out in the proximity of rooflights, or the replacement of old rooflights to best ensure that the rooflights are safe and non-fragile. This also delivers an opportunity for improved internal daylighting and thermal performance upgrades together with the associated health, well-being and energy saving benefits and renewed product guarantees. This can be a more attractive and cost-effective option for the client when all factors are taken into consideration.

Rooflights that are installed from ridge to eaves create safety risks when transiting a roof and conflict with the requirements of the CDM Regulations therefore consideration should be given to installing metal sheeting at the ridge and eaves areas/zones while any rooflights are being replaced.

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Roof with non-fragile rooflights and PV panels in perfect harmony without the need for rooflight covers.

Footnote: The manufacturer members of the Rooflight Association are not specialists in roof safety systems and devices and can only advise on aspects of roof safety relating to their rooflight products.

This Safety Bulletin was a collaborative production between the Rooflight Association and National Federation of Roofing Contractors.

For further information, please refer to www.rooflightassociation.org & www.nfrc.co.uk. For further safe access and roof work practices,

please refer to HSE's guidance document HSG33, Health and Safety in Roof Work, which is available at https://books.hse.gov.uk/.