

ROOFLIGHT RECOMMENDATIONS

Coverworld UK Ltd's wide range of GRP rooflights offers a cost effective solution to providing natural daylight in buildings. With light transmission levels of upto 90%, Coverworlds GRP rooflights are ideally suited for use in retail, warehousing, industrial and agricultural projects. There are various configurations of single, double or triple skin systems in a variety of different fire ratings and weight classifications allowing Coverworld to supply GRP rooflights for almost any type of project.

GRP rooflights consist of a translucent glass reinforced polyester (GRP) with a Melinex film coating that helps to reduce the degradation and discolouring associated with prolonged exposure to ultra violet light. Specifying the correct type of rooflight for any given project is now becoming more important than ever before. Changes in the last few years regarding non-fragility classifications mean that the correct choice of rooflight should be carefully considered ideally at the design stage.

NARM (National Association of Rooflight Manufacturers) has been able to recommend the minimum weights necessary to ensure that non-fragility ratings can be expected to be retained for 25 years, with typical maintenance regimes. The recommended minimum classifications for an expected 25 year non-fragility rating are shown in the table below;

Application (rooflight type)	Non-fragile Classification to ACR[M]001	Minimum classification to BSEN1013: 2012 for expected 25 year non-fragility
Single Skin Rigid trapezoidal profiles for use with single skin metal sheeting Rigid sinusoidal profiles for use with fibre cement sheeting (see note 3)	Class B Class C	3.66kg/m ² 3.06kg/m ²
Double or Triple Skin site assembled with flexible profile steel liners (typically 0.4mm) Liner panel assembly only Double skin assembly (where Class C non-fragile liner is required e.g. when lining out) Double skin assembly (where there is no requirement for non-fragility of liner alone)	Class C Class B Class B	Outer: 1.83kg/m ² Liner: 2.44kg/m ² Outer: 2.44kg/m ² Liner: 2.44kg/m ² Outer: 3.06kg/m ² Liner: 1.83kg/m ²
Double or Triple Skin site assembled with rigid profile steel liners (typically 0.7mm) Liner panel assembly only Double skin assembly	Class B Class B	Outer: 1.83kg/m ² Liner: 3.06kg/m ² Outer: 1.83kg/m ² Liner: 3.06kg/m ²
Factory assembled double or triple skin Medium / low flexibility outer profile for use with composite panels, continuous box Medium / low flexibility outer profile, separate boxes between purlins (suspended box)	Class B Class B	Outer: 3.06kg/m ² Liner: 1.83kg/m ² Outer: 3.66kg/m ² Liner: 1.83kg/m ²

Notes:

- (1) It can be expected that the non-fragile classification of a roof assembly incorporating these increased weight rooflights should be maintained for at least 25 years under all normal conditions, provided it has already been demonstrated that the roof system without rooflights, will retain the same non-fragile classification for that period.
- (2) The non-fragility classification will only be retained where all other components have been specified accordingly – for example fasteners will usually need to be stainless steel.
- (3) This recommendation only applies to rooflights for use with current reinforced fibre cement sheeting; obsolete asbestos and fibre cement profiles should always be treated as fragile.



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The minimum weights for a non-fragility when new rating are shown in the table below;

Application (rooflight type)	Non-fragile Classification to ACR[M]001	Minimum classification to BSEN1013: 2012 for non-fragility when new
Single Skin		
Rigid trapezoidal profiles for use with single skin metal sheeting	Class B	3.06kg/m ²
Rigid sinusoidal profiles for use with fibre cement sheeting	Class C	2.44kg/m ²
Double or Triple Skin site assembled with flexible profile steel liners (typically 0.4mm)		
Liner panel assembly only	Class C	Outer: N/A Liner: 2.44kg/m ²
Double skin assembly (where Class C non-fragile liner is required e.g. when lining out)	Class B	Outer: 1.83kg/m ² Liner: 2.44kg/m ²
Double skin assembly (where there is no requirement for non-fragility of liner alone)	Class B	Outer: 2.44kg/m ² Liner: 1.83kg/m ²
Double or Triple Skin site assembled with rigid profile steel liners (typically 0.7mm)		
Liner panel assembly only	Class B	Outer: N/A Liner: 3.06kg/m ²
Double skin assembly	Class B	Outer: 1.83kg/m ² Liner: 3.06kg/m ²
Factory assembled double or triple skin		
Medium / low flexibility outer profile for use with composite panels, continuous box	Class B	Outer: 2.44kg/m ² Liner: 1.83kg/m ²
Medium / low flexibility outer profile, separate boxes between purlins (suspended box)	Class B	Outer: 3.06kg/m ² Liner: 1.83kg/m ²

Notes:

- (1) An assembly of a roof system incorporating rooflights of the minimum weight shown will achieve the relevant classification when new, provided it has already been demonstrated that the roof system without rooflights has an equal or better non-fragility classification.
- (2) This recommendation only applies to rooflights for use with current reinforced fibre cement sheeting; obsolete asbestos and fibre cement profiles should always be treated as fragile.

GRP rooflights of these weights are extremely durable and their strength will be retained in the long term. However the period of non-fragility of these rooflights may vary between 5 – 20 years, depending on the possible effects of external factors, unless fully documented maintenance procedures are sufficiently comprehensive to ensure prevention of any factors which could render the rooflight assembly fragile.

Most typical maintenance regimes are not usually sufficient to achieve this and in the interests of safety it is prudent when accessing roofs incorporating these rooflights to take all the necessary precautions.

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Rooflights in their various available configurations and weights will achieve different thermal 'U-Value' and offer varying levels of light transmission, the configurations for site assembled rooflights are shown below;

Rooflight Type	U-Value (W/m ² K)	Light Transmission %
Single Skin 4.50kg/m ²	5.70	80
Single Skin 3.66kg/m ² or DR30 (3.06kg/m ²)	5.70	85
Single Skin 3.06kg/m ² or DR26 (2.60kg/m ²)	5.70	85
Single Skin 2.44kg/m ²	5.70	90
Double Skin Site Assembled with 4.50kg/m ² outer & 1.83kg/m ² or 2.44kg/m ² liner	3.0	72
Double Skin Site Assembled with 4.50kg/m ² outer & 3.06kg/m ² or DR26 (2.60kg/m ²) liner	3.0	68
Double Skin Site Assembled with one layer 3.06kg/m ² or DR26 (2.60kg/m ²) and one layer 1.83kg/m ²	3.0	76
Double Skin Site Assembled with both layers 2.44kg/m ²	3.0	80
Double Skin Site Assembled with one layer 2.44kg/m ² and one layer 1.83kg/m ²	3.0	80
Triple Skin Site Assembled with 4.50kg/m ² Outer & 1.83kg/m ² or 2.44kg/m ² liner with a 4mm twin wall polycarbonate core	1.8	65
Triple Skin Site Assembled with 4.50kg/m ² Outer & 3.06kg/m ² or DR26 (2.60kg/m ²) liner with a 4mm twin wall polycarbonate core	1.8	61
Triple Skin Site Assembled with one layer 3.06kg/m ² or DR26 (2.60kg/m ²) and one layer 1.83kg/m ² with a 4mm twin wall polycarbonate core	1.8	68
Triple Skin Site Assembled with outer and liner layers 2.44kg/m ² with a 4mm twin wall polycarbonate core.	1.8	73
Triple Skin Site Assembled with one layer 2.44kg/m ² and one layer 1.83kg/m ² with a 4mm twin wall polycarbonate core.	1.8	73
Triple Skin Site Assembled with 4.50kg/m ² Outer & 1.83kg/m ² or 2.44kg/m ² liner with a 10mm four wall polycarbonate core	1.3	61
Triple Skin Site Assembled with 4.50kg/m ² Outer & 3.06kg/m ² or DR26 (2.60kg/m ²) liner with a 10mm four wall polycarbonate core	1.3	58
Triple Skin Site Assembled with one layer 3.06kg/m ² or DR26 (2.60kg/m ²) and one layer 1.83kg/m ² with a 10mm four wall polycarbonate core	1.3	65
Triple Skin Site Assembled with outer and liner layers 2.44kg/m ² with a 10mm four wall polycarbonate core.	1.3	68
Triple Skin Site Assembled with one layer 2.44kg/m ² and one layer 1.83kg/m ² with a 10mm four wall polycarbonate core.	1.3	68

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The configurations for factory assembled rooflights also known as 'FADS', 'FATS' or 'FAIRS' are shown in the table below;

Rooflight Type	U-Value (W/m ² K)	Light Transmission %
Factory Assembled Double Skin over purlin used with composite panel system, 4.50kg/m ² outer and standard 1.83kg/m ² liner	3.0	72
Factory Assembled Double Skin over purlin used with composite panel system, 3.06kg/m ² or DR26 (2.60kg/m ²) outer and standard 1.83kg/m ² liner	3.0	76
Factory Assembled Double Skin over purlin used with composite panel system, 2.44kg/m ² outer and standard 1.83kg/m ² liner	3.0	80
Factory Assembled Triple Skin over purlin used with composite panel system, 4.50kg/m ² outer and standard 1.83kg/m ² liner with a polyester film core	1.9	68
Factory Assembled Triple Skin over purlin used with composite panel system, 3.06kg/m ² or DR26 (2.60kg/m ²) outer and standard 1.83kg/m ² liner with a polyester film core	1.9	72
Factory Assembled Triple Skin over purlin used with composite panel system, 2.44kg/m ² outer and standard 1.83kg/m ² liner with a polyester film core	1.9	76
Factory Assembled Triple Skin over purlin used with composite panel system, 4.50kg/m ² outer and standard 1.83kg/m ² liner with a 4mm twin wall polycarbonate core	1.8	65
Factory Assembled Triple Skin over purlin used with composite panel system, 3.06kg/m ² or DR26 (2.60kg/m ²) outer and standard 1.83kg/m ² liner with a 4mm twin wall polycarbonate core	1.8	68
Factory Assembled Triple Skin over purlin used with composite panel system, 2.44kg/m ² outer and standard 1.83kg/m ² liner with a 4mm twin wall polycarbonate core	1.8	72
Factory Assembled Triple Skin over purlin used with composite panel system, 4.50kg/m ² outer and standard 1.83kg/m ² liner with a 10mm four wall polycarbonate core	1.3	61
Factory Assembled Triple Skin over purlin used with composite panel system, 3.06kg/m ² or DR26 (2.60kg/m ²) outer and standard 1.83kg/m ² liner with a 10mm four wall polycarbonate core	1.3	65
Factory Assembled Triple Skin over purlin used with composite panel system, 2.44kg/m ² outer and standard 1.83kg/m ² liner with a 10mm four wall polycarbonate core	1.3	68

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