

15 Year Warranty

Customer Name:

Roofglaze Project Reference:

Project Completion Date:

The product that has been purchased has a warranty against defective materials for a period of 15 years from the date of sale and is subject to the following conditions:

1. The product must be transported / stored / handled in accordance with the manufacturer's recommendations.
2. The product has been installed and maintained in accordance with the manufacturer's written fixing and maintenance instructions.
3. In the event of a claim, the goods must have been paid for in full and proof of purchase must be provided if requested.
4. Roofglaze Limited will endeavour to carry out a repair / replacement with a minimum of delay, but shall not be liable for the consequence of any delay in carrying out the repair / replacement, whatever its duration or cause. Roofglaze Limited shall not be liable under this warranty for any indirect financial or consequential loss resulting from or arising in connection with the defective product.
5. Should a repair / replacement be required, all attendances – scaffold, lifting equipment, craneage, specialist access requirements etc. – are not to be provided by Roofglaze Limited, but must be in place for the repair / replacement to take place.
6. Glass –
 - a) The fitting of insulated glazed units will not in itself eliminate condensation. This is dependent upon the environment within the dwelling. The company does not guarantee that condensation in the premises will be eliminated or reduced neither has any representative the authority to give such a guarantee.
 - b) Glass used in the works is of the best quality reasonably obtainable but may have minor imperfections and the company shall not be obliged to replace any such glazing that is not covered by the warranty of the glass manufacturer. The standards of blemish acceptability as laid down by the Glass and Glazing Federation shall be used in the event of a dispute, a copy of which is available on request.
 - c) Toughened glass supplied by Roofglaze Rooflights Limited will be Heat Soak Tested in an effort to minimise the risk of spontaneous breakage as a result of glass inclusions. The heat soak test is not covered under this warranty and

Roofglaze Rooflights Limited shall not be liable to meet any costs associated with breakage due to glass inclusions. (See attached reference data "Spontaneous Fragmentation of Thermally Toughened Float Glass")

d) Thermal Stress can occur on laminated glazing when there is a temperature variance in different parts of the glass. If the stress caused by the temperature difference is greater than the strength of the glass, thermal stress glass breakage will be the result. This warranty specifically excludes any claim for glass that is subject to thermal fracture. (See attached reference data "RGR Technical Fact Sheet – Thermal Stress Glass Breakage")

e) The warranty relates specifically to edge seal failure, resulting in moisture within the insulated glazed unit, only

7. Electrical Components, electrical operating mechanisms, control panels, switches and the like are subject to the manufacturer's warranty period which, unless expressly identified otherwise, is for the period of one year.

8. Polyester Powder Coating

a) Polyester powder coated finishes are subject to our standard warranty conditions. However, installation within hazardous environmental conditions such as marine, industrial, or swimming pools will reduce the guarantee periods unless specifically agreed prior to the commencement of the works.

b) The warranty will not apply if the product has been scratched, abraded or painted.

c) Polyester powder coating can be subject to inherent colour deviations due to manufacturing and preparation processes meaning the occurrence of colour differences is unavoidable

9. Claims due to subsidence are specifically excluded.

10. If installation of the product is included within the contract, this will be subject to a warranty period of one year from the date of completion and be subject to our standard Terms & Conditions and the exclusions detailed within the warranty documentation.

Signed on behalf of Roofglaze Rooflights Limited,



Director

15 Year Warranty

Insulating Glass Units (EN1279) Frame Types:

- Upvc / Aluminium / Hardwood (Site Glazed)
- Upvc / Aluminium / Hardwood (Re-Glazed or 'Single-to-Double)

Faults Covered:

- Edge Seal Failure

15 Year Warranty – Insulating Glass Units

Product Range Covered by This Warranty

This Warranty covers all standard type insulating glass units compliant with EN1279 and incorporating only components of the type listed below:

Glass

- 4mm – 12mm annealed, rolled or toughened glass
- 4.4mm – 13.5mm laminated safety glass

Spacer Bar

- 6mm – 20mm aluminium spacer bar
- 6mm – 20mm warm edge plastic and stainless steel spacer bar Edge Seal
- Butyl primary seal
- Polysulphide or silicone secondary seal

Product Application Covered by This Warranty

This Warranty covers all standard type insulating glass units, fully framed and glazed into one of the following type of systems, where adequate drainage is provided by the framing system:

- Upvc / Aluminium / Hardwood (Site Glazed)
- Upvc / Aluminium / Hardwood (Re-Glazed or 'Single-to-Double)

Warranty Period and Details

If, within fifteen years from date of dispatch from our works, the unbroken double glazed unit is, through faulty manufacture, affected by material visual obscuration because of condensation or dust collection within the double glazed unit, we will, subject to compliance with the claims procedure outlined below, supply replacement product without charge.

This Warranty only provides for free replacement of the product or refund of the original invoice value and does not cover consequential damage.

No liability is accepted for personal injury, loss, claims, property damage, or labour, material or other costs howsoever caused or arising and whether direct or indirect.

This warranty applies only to units installed in normal service conditions within the United Kingdom and the Republic of Ireland.

Conditions of Warranty

This warranty is subject to the following conditions:

- That the buyer acknowledges that the product at the time of delivery was undamaged and free from any defects
- That the product is protected from contact with wet cement, hard foreign objects, metals and materials likely to cause abrasive damage

Exclusions to Warranty

Roofglaze

Lighting, by nature.™

This warranty excludes:

- Minor imperfections inherent in architectural glass and that caused during the manufacturing process whenever viewed in accordance with the Glass & Glazing Federation 'Visual Quality Standard' for installed insulating glass units constructed from flat transparent glass
- Units which have not been transported, handled, stored, installed and maintained completely in accordance with the glazing instructions laid down in the Glass & Glazing Federation 'Glazing Manual'
- Stepped units and drip edge units where the sealant is not protected from ultra-violet light in service
- Units displaying the optical phenomenon, occasionally seen as interference colour bands, known as 'Brewster's Fringes'
- Distortion caused by the toughening process, i.e. 'rollerwave' distortion
- Units exceeding Roofglaze recommended maximum sizes (see Appendix)
- Units used in service conditions such as (but without limitation) use in transport vehicles, ships or temperature cabinets, or use at altitude over 600 metres or transportation of units over such elevation
- Carbon deposits on the outer face of decorative leaded units caused by oxidation of the lead
- Units with glass 'inserts' – i.e. panes inserted into the unit cavity during unit assembly (such glass can be guaranteed if manufactured as conventional triple glazed units)
- Curved double glazing units comprising panes of 'curved-on-plan' glass
- Units which have had decorative, safety or solar adhesive film applied to either interior or exterior surfaces

Making a Warranty Claim

Reporting a Failure:

- Any failure of the product should be reported in writing to Roofglaze within 14 days of its occurrence
- Proof of purchase must be provided
- It is a condition of this warranty that a Roofglaze representative is afforded reasonable opportunity to inspect the product prior to de-glazing

Investigation of Complaint:

- Inspection should establish the nature, extent and cause of the fault
- If this finding is consistent with faulty manufacture and within the conditions of this Warranty then a claim may be made under this Warranty

Replacement Product:

- If a replacement unit is supplied, it will be our standard type of product current at the time of replacement
- The replacement product shall be covered by a 1 year warranty or up to the limit of the warranty period covering the original unit, whichever is later

Appendix

Maximum Unit Sizes:

Glass / Cavity / Glass / Max. Area / Max. Length

4 float / 6-10mm / 4 float / 2.0m² / 2400mm
4 float / 12-20mm / 4 float / 3.0m² / 2400mm
4 tough / 6-10mm / 4 tough / 2.0m² / 2400mm
4 tough / 12-20mm / 4 tough / 3.0m² / 3600mm
6 float / 6-10mm / 6 float / 3.0m² / 3200mm
6 float / 12-20mm / 6 float / 4.8m² / 3200mm
6 tough / 6-10mm / 6 tough / 3.0m² / 3600mm
6 tough / 12-20mm / 6 tough / 6.0m² / 3600mm
6 tough / 6-10mm / 6.4 lam / 3.0m² / 3200mm
6 tough / 12-20mm / 6.4 lam / 4.8m² / 3200mm
6.4 lam / 6-10mm / 6.4 lam / 3.0m² / 3200mm
6.4 lam / 12-20mm / 6.4 lam / 4.8m² / 3200mm
8 tough or 8.8 lam / 8-10mm / 8 tough or 8.8 lam / 5.0m² / 3200mm
8 tough or 8.8 lam / 12-14mm / 8 tough or 8.8 lam / 6.5m² / 3200mm
8 tough or 8.8 lam / 16-20mm / 8 tough or 8.8 lam / 8.0m² / 3750mm

Get in touch for Technical and Estimating Advice

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Spontaneous Fragmentation of Thermally Toughened Float Glass

INTRODUCTION

Due to the stresses present within thermally toughened float glass, breakages may result, leading to fragmentation of glass, which are commonly described as spontaneous fractures. These are mostly caused by inclusions within the glass; the most common of which is Nickel Sulphide.

NICKEL SULPHIDE

Nickel Sulphide (NiS) inclusions were first identified in 1960 by E. R. Ballantyne, after investigations into spontaneous failures occurring in ICI House, Melbourne, Australia [1, 2, 3].

NiS inclusions are particles that form in glass due to reactions between nickel contaminants in the batch and sulphur, predominantly from the furnace fuel. NiS inclusions are typically in the region of between 40 µm to 400 µm [2, 4] in diameter. Due to the nature and size of the particles, they cannot be detected by conventional defect detection methods.

Roofglaze constantly aims to reduce the potential for nickel contamination in the batch, however, it is impossible to eliminate all sources of contaminations, especially with raw materials. NiS within the float can occur in batches when a source of Nickel contamination is introduced into the furnace. This can lead to "outbreaks" of NiS induced failures.

Due to the nature of NiS inclusion, and the lack of available detection methods, Roofglaze, as a manufacturer, cannot provide a warranty against the possibility of NiS being present within the glass.

NiS Phase Transition

Within annealed float glass, NiS inclusions do not present a problem. During cooling within the annealing lehr, the NiS inclusions change phase from a high temperature stable alpha phase (hexagonal) to a low temperature stable beta phase (rhombohedral), at approximately 350°C to 400°C, with an associated increase in volume of approximately 2-4% [5, 2].

As the size increase occurs whilst the glass is still in a softened state, the inclusion imparts no significant stress on the surrounding glass. During toughening, when the glass is heated to approximately 600°C to 650°C, and then rapidly cooled in the quench, the phase change from alpha to beta is retarded and the glass is hardened around the inclusion.

Over time, the inclusion may revert to the low temperature stable beta phase, and as such increase in size. If the inclusion is located within the central 3/5th of the glass, the tensile region, the resultant stress distribution will result in fragmentation of the glass. Heat strengthened glass will not fragment in this manner.

Occurrence in Float Glass

There are often values stated for the occurrence rates of NiS within float glass, ranging from 4-10 inclusions per tonne [6, 4] and 1 inclusion per 500 units [7]. However, the source information for these values is often unsubstantiated. The typically accepted failure rates for a certain metre squared area and thickness of glazing are often defined from the rates of occurrence per tonne of glass.

However, due to the lack of evidence behind the occurrence rates, as well as the propensity for NiS to occur in batches, rather than at a constant rate, these values should be treated with some caution.

It should also be remembered, that buildings that have never experience NiS failures are much less well publicised than those that have.

Factors Affecting Failure

The conversion rate from alpha to beta phase is partly dependent upon temperature, as well as other factors. As a result, glass that is at higher service temperatures is at a higher level of risk.

Higher service temperatures are typically due to:

- Higher solar absorption, as with solar control, body tinted and laminated glass
- Glass in south facing elevations and exposed to additional solar heating
- Glass that is heated due to internal building temperatures or insulated behind, such as spandrel panels

In addition, the size of the inclusion will influence the probability of failure. For larger inclusions, complete conversion into the beta phase is in some instances not required to generate enough stress to cause failure. The stoichiometry (Ni to S) ratio of the inclusion is also understood to have an effect on the rate of phase transformation of the inclusion [8, 9, 10].

A third factor to consider is the level of tensile stress present within the glass. The higher the stress present within the glass, the smaller the size of the inclusion required to cause failure. It is typically expected that an inclusion over 40 μm [2] can cause failure in fully toughened glass, and an inclusion over 250 μm can cause failure in heat strengthened glass.

Rates of Failure

NiS inclusions present in the tensile region of toughened glass typically cause failure between 2 and 20 years after toughening. The failure rates can vary, depending on the service temperature of the glass, glass location and the sizes of the inclusions, as discussed above. It is typically expected that the peak number of failures will occur between 2 and 7 years after toughening, after which the number of instances will begin to reduce [1, 11, 3].

Studies of failures within a single project can follow a Weibull distribution, a representative illustration is shown below. This allows, to a certain degree of accuracy, the total number of failures to be predicted. However, these predictions should be treated with some caution, as it requires an estimate to be made of the predicted number of failures to obtain a fit, along with the other factors that can influence the rate of failure of panels.

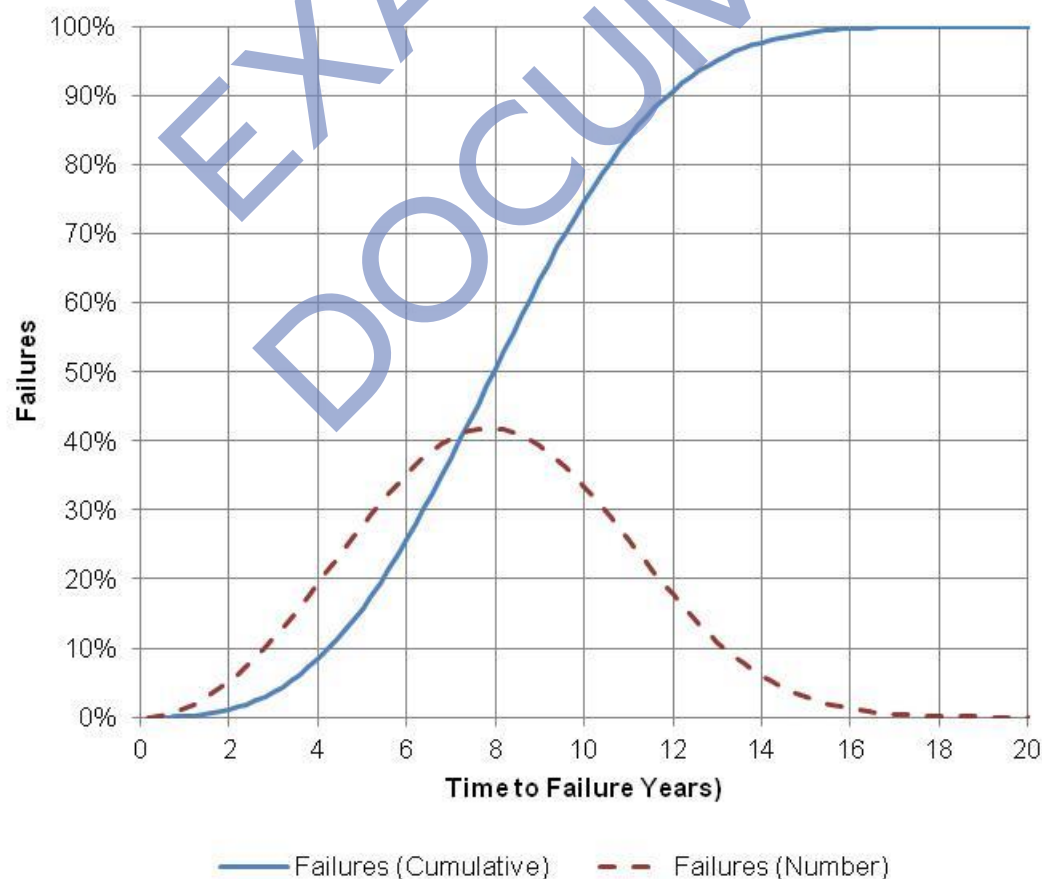


Fig. 1 - Representation of Potential Failure Rates due to NiS Inclusions in a Single Project

Heat Soak Testing

In order to reduce the risk of spontaneous failure due to NiS inclusions, heat soak testing can be carried out by Roofglaze on toughened glass in accordance with applicable standards (at present in accordance with EN 14179). During heat soaking the toughened glass is heated to approximately 280°C, and once at this temperature, is held for 2 hours. This heating will cause the NiS inclusion to phase change more rapidly and so expand in volume, causing failure of the panel.

It should be noted that this test does not completely eliminate the possibility of NiS induced failure, only reduces the risk. It is generally accepted that heat soaking will eliminate 95% of toughened panes containing NiS.

REFERENCES

- [1] L. Jacob, "A Review of the Nickel Sulphide Induced Fracture in Tempered Glass," in *Glass Processing Days*, 2001.
- [2] L. Jacob, "Factors That Influence Spontaneous Failure in Thermally Treated Glass - Nickel Sulphide," in *Glass Processing Days*, 1997.
- [3] J. Bowler-Reed, "The disintegration of thermally toughened glass by nickel sulphide inclusions," *Glass & Glazing Products*, pp. 67-70, March 2002.
- [4] U. Gelderie and A. Kasper, "How to prevent spontaneous breakage of thermally toughened alkaline earth silicate glass," *Glass Technology - European Journal of Glass Science and Technology Part A*, vol. 49, no. 3, pp. 126-132, 2008.
- [5] O. Popoola, J. Cooper and W. Kriven, "Microstructural Investigation of Fracture-Initiating Nickel Sulfide Inclusions in Glass," *Ceramic Engineering and Science Proceedings*, vol. 14, no. 3-4, pp. 284-294, 1993.
- [6] M. Brungs and X. Sugeng, "Some Solutions to the Nickel Sulphide Problem in Toughened Glass," *Glass Technology*, vol. 39, no. 4, pp. 107-110, 1995.
- [7] Napier & Blakely, "The Shattering Truth About Glass," September 2010. [Online]. Available: <http://napierblakeley.info/maintenance/the-shattering-truth-about-glass/#more-117>. [Accessed March 2015].
- [8] C. Sakai and M. Kikuta, "Adapted Heat Treatment for Phase Transformation of NiS Inclusion in the Heat Strengthened and Tempered Glass," in *Glass Processing Days*, 1999.
- [9] M. Swain, "Nickel sulphide inclusions in glass: an example of microcracking induced by a volumetric expanding phase change," *Journal of Materials Science*, vol. 16, no. 1, pp. 151-158, 1981.
- [10] J. Barry and S. Ford, "An electron microscopic study of nickel sulfide inclusions in toughened glass," *Journal of Materials Science*, vol. 36, no. 15, pp. 3721-3730, 2001.
- [11] L. Jacob, "Nickel Sulphide inclusions – Important issues for the designer," in *Glass Processing Days*, 2003.

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Thermal Stress Glass Breakage

INTRODUCTION

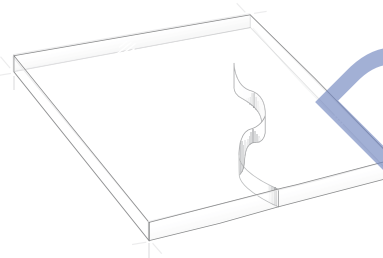
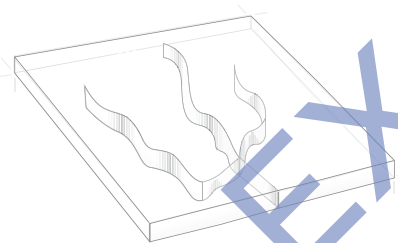
Thermal stress occurs in glass when there is a temperature variance in different parts of the glass. If the stress caused by the temperature difference is greater than the strength of the glass, thermal stress glass breakage will result.

Thermal stress glass breakage is not a new phenomenon and it has been relatively well understood in commercial glazing for many years.

However, given the increasing use of high performance, energy efficient glazing and the fact that some of these products can carry a greater risk of thermal stress, it is important that everyone involved in the glazing industry has a better understanding of thermal stress, its cause and how to prevent it.

As thermal stress breakage is not often due to a glass fault, but rather the result of a set of conditions that a pane of glass is exposed to, it is generally not covered by a glass supplier's warranty.

IDENTIFYING THERMAL STRESS GLASS BREAKAGE



A glass fracture can be identified as a thermal stress breakage if the start of the crack is at 90° to both the edge of the glass and the face of the glass.

Depending on the magnitude of the stresses involved, the crack may only travel for a few millimetres before branching out or veering off-line, so the 90° angle of the initial fracture may not always be immediately apparent.

Breakages caused by thermal stress can be characterised as either low stress breakages or high stress breakages. Low stress breakage is characterised by a single crack that 'lazily' makes its way across the glass, while high stress breakage is identifiable by the initial crack branching off into a number of separate fissures a short distance from its origin.

WHAT CAUSES THERMAL STRESS?

As mentioned previously, thermal stress is caused by varying temperatures in different parts of a glass pane. Absorption of the sun's energy is one of the main causes of this temperature difference.

The section of glass exposed to the sun absorbs the sun's energy and, as a result, heats up. Any part of the glass which is shaded from the sun, for example, by the window frame, stays relatively cool.

The hot glass expands while the smaller, cooler area doesn't. If the cool area of the glass isn't strong enough to withstand the forces imposed by the expanding hot section of the glass, thermal stress breakage will occur.

Putting the forces required to induce thermal stress into perspective, Pilkington estimate that for every degree in temperature difference between the edge of the glass and the centre of the glass, around 0.62 MPa of stress is introduced into the glass.

Given that in some cases temperature differences of 20 to 30°C can occur, that equates to around 12 to 19 MPa. This is higher than the design stress used for wind loading.

THERMAL STRESS RISK FACTORS

Given that thermal stress is caused by differences in temperature in a piece of glass and that breakage occurs when the ability of the glass to withstand this stress is exceeded, any situation or factor that increases this temperature difference, or decreases the glass's strength, increases the risk of the thermal stress breakage.

Factors that can affect the risk of thermal stress include:

Edge Condition

Damage to glass edges during manufacture or installation is arguably the largest cause of low stress thermal breakage. As US glass manufacturer PPG puts it:

"The as-cut quality of glass edges is the single most important factor affecting the edge strength of glass. Poor cut-edges quality can reduce the glass strength by 50% or more..."

"Glass edge quality and the resulting glass edge strength is particularly critical to the performance of the glass under the thermal loading ..."

The level of thermal stress that a piece of glass can withstand is directly affected by the condition of the glass edges. The edges that are most resistant to thermal stress breakage are good quality clean cut edges with no shells, vents or shark teeth. This may be difficult to achieve in laminated glass and edge-work may be required to smooth the edges.



Glass Type

Different glass products have a different tolerance to thermal stress. Generally, the more solar energy a glass product absorbs, the higher the risk of thermal stress breakage. All glass manufacturers provide data on the solar energy absorption properties for their products.

Solar absorption can vary greatly, even between similar products. The use of a reflective coating can significantly increase the amount of solar absorption. This is because, in effect, the glass is absorbing the solar energy both on the way into the glass and then again on the way out after it hits the reflective coating.

Example: uncoated 6mm grey glass has a solar absorption rate of around 45%, while the addition of a reflective coating to this product increases solar absorption to 63%.

The use of transparent Low-E coatings can also increase the solar absorption rate of glass. Low-E coatings are designed to reduce the passage of radiant heat flow through the glass to improve energy efficiency. This leads to higher glass temperatures and increases the risk of thermal stress.

Another significant risk factor is the addition of heat absorbing films or any partial covering of a glass pane by other products (such as signs or paint) after installation. Both of these can increase the risk of thermal stress.

Glass Size

The larger a pane of glass, the greater the area of glass that is absorbing the sun's energy, compared to its relatively narrow cooler edges. The larger area of hot glass results in higher levels of thermal stress in the edges of the glass.

Exterior Shading

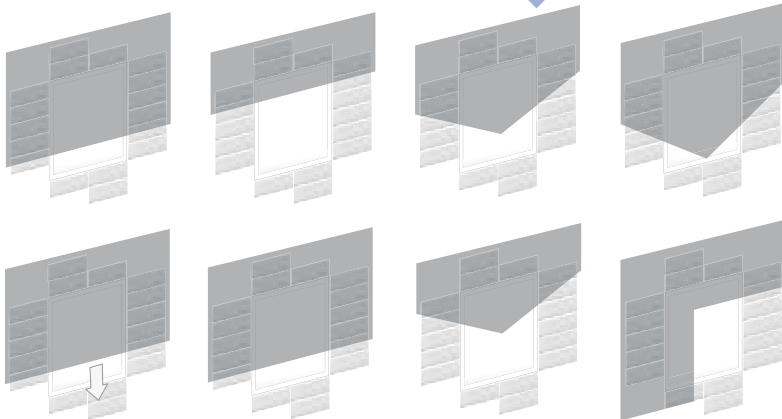
Whilst glass properties are well documented and can be taken into account during the design phase of a project, accounting for exterior shading can be more problematic.

The effect that an external shading device has on thermal stress depends on a combination of its size, shape and location on the glass.

Exterior shading is further complicated by its seasonal nature; as the sun's position changes throughout the year so too does the shadows it casts.

In general:

- Shading that covers 50% or less of the glass is more unfavourable than a device that shades a greater percentage of the glass
- Static shading is more unfavourable than mobile shading
- V or L-shaped shading induces higher thermal stress, particularly if the point of the V falls on an edge of the glass



Disclaimer: The information provided in this document is current at the time of print. It is intended as a general guide only and Roofglaze recommends that you undertake your own investigations when specifying rooflights and skylights to ensure they comply with all relevant regulations and are fit for purpose.

Interior Shading

A thermal stress risk factor that is encountered more often in residential construction than commercial, is the use of curtains and blinds on the inside of a window. The impact that blinds and curtains have on thermal stress depends on the colour, type and other factors, however the effect can be significant.

While close fitting blinds or curtains help to minimise heat transmission into or out of the building, they can significantly add to the risk of thermal stress. To minimise this, the space between the glass and shade must be at least 50mm (preferably 150mm) and should be vented. Ventilation is provided by leaving a gap between the blinds and the walls, or frame, of 50mm at the head and 25mm at the sill.

The effect that blinds and curtains have on thermal stress is also dependent upon how much energy they reflect back onto the glass. Light colours are good reflectors while dark colours are not. Closed weave fabric helps trap heat more effectively while open weave lets the heat pass through. Venetian blinds are excellent heat reflectors as are metallised blinds.

Heating & Cooling

Artificial heating and/or cooling devices should be positioned so that they do not blow hot or cool air directly onto the glass surface, nor into the space between the glass and the curtains. Doing so may result in varying temperatures on the glass surface and therefore increase the risk of thermal stress.

Glazing Method

Commonly used glazing methods do not significantly affect the risk of thermal stress. The exception to this is structural glazing, which reduces the levels of thermal stress by reducing the temperature difference between the glazed edge and the centre of the glass. Care should be taken when using any glazing method that either encourages the transfer of heat away from the glass or covers unusually large amounts of the edges of the glass.

MANAGING THE RISK OF THERMAL STRESS

The risk of thermal stress breakage can be eliminated by managing the factors outlined above or by heat strengthening the glass.

Heat strengthening increases the strength of the glass, which allows it to resist the thermally induced stress. Heat strengthening can be relatively expensive, particularly if required for laminated glass, so unless replacing glass which has been broken under thermal stress, a method of quantifying the risk level is needed.

Many glass manufacturers' websites provide detailed information on thermal stress breakage. Some also provide online tools that enable you to perform a thermal stress analysis yourself, or they will perform a thermal stress analysis for you providing you purchase glass from them.

By using available information, the glass installer can objectively assess the risks prior to installation. In some cases redesign may be possible, eliminating the need for heat strengthening and therefore saving unnecessary expense.

Originally Published: October 2011

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Roofglaze

Valid from 15th February 2016 – Version 1.0

TERMS and CONDITIONS of SALE

All orders accepted by Roofglaze Ltd are subject to the following Conditions which shall prevail over all conditions specified by the Buyer.

1. Definitions

'Buyer' means the person, company or legal entity on whose behalf the Order is placed.

'Contract' means these Conditions together with the Confirmation of Order form and any other terms agreed in writing signed by a duly authorised representative of the Seller.

'Conditions' means these terms and conditions of sale.

'Confirmation of Order' means the Confirmation of Order provided to the Buyer by the Seller.

'Force Majeure Event' means an event that is outside of the Seller's control, as set out in clause 22.

'General Assembly Drawings' means the drawings as produced by the Seller and provided to the Buyer before engineering drawings are produced and manufacture starts.

'Goods' means the goods that are subject to the Contract, details of which are set out in the Confirmation of Order form.

'Manufacture Completion' means the date the Goods and/or Services have passed final quality control checks and are signed off as ready for dispatch.

'Operating and Maintenance Manuals' means the operating and maintenance manuals provided to the Buyer by the Seller with the Goods.

'Order' means the order for the Goods and/or Services as accepted by the Seller.

'Quote' means the quote for the Goods provided to the Buyer by the Seller.

'Seller' means Roofglaze Ltd (Co No. 04163097).

'Services' means the installation of the Goods at the address specified by the Buyer, as (and if) required by the Buyer.

'Warranty' means the document setting out the details of the warranty provided by the Seller in respect of the Goods and/or Services sold under the Contract.

2. Limits of Contract

The Buyer's Order is accepted by the Seller issuing a Confirmation of Order OR Proforma Invoice on the basis that these Conditions shall apply to the Contract between the Seller and the Buyer for the supply of the Goods and/or Services as detailed therein to the exclusion of any other terms that the Buyer seeks to impose or incorporate, or which are or may be implied by trade, custom, practice or course of dealing.

3. Entire Agreement

Clause 3.1 applies to business customers only.

3.1 These Conditions and the documents referred to in it constitute the entire agreement between the Seller and the Buyer and supersede any previous agreement between the Seller and the Buyer. The Buyer acknowledges that it has not relied on any statement, promise, representation, assurance or warranty made or given by or on behalf of the Seller which is not set out or referred to herein.

3.2 We may revise these Conditions from time to time to reflect any changes in

relevant laws, regulatory requirements or changes in relation to the Goods and/or Services.

4. Order

4.1 The Seller will provide the Quote to the Buyer for the Goods and / or Services as required by the Buyer, this does not constitute an offer to provide the Goods and / or Services (the "Quote").

4.2 The Buyer must place an order based on the Seller's Quote if provided. The Seller's acceptance of the order will take place as described in clause 4.3. If the Seller is unable to supply the Buyer with the Goods and / or Services, the Seller will inform the Buyer of this and the Buyer will not process the order.

4.3 These Terms will only become binding on the Seller and the Buyer when the Seller issues a Confirmation of Order or Proforma Invoice, which will set out the details of the Goods and / or Services to be provided, at which point a binding contract will come into existence between the Seller and the Buyer (the "Order").

4.4 The Seller shall assign an order number to the Order and inform the Buyer of it on the Confirmation of Order. The Order number should be quoted by the Buyer in all subsequent correspondence with the Seller in relation to the Order.

5. Made-to-measure Goods

5.1 Where the Contract provides that the Seller is to manufacture and supply Goods in accordance with the Buyer's specifications, it shall be the sole responsibility of the Buyer to provide the Seller with sufficient, complete and accurate information and drawings as are required to enable the Seller to perform the Contract.

5.2 The Seller cannot accept the return of made-to-measure Goods if the reason for the return is because the Buyer provided incorrect measurements.

5.3 The Seller shall not be liable for any defect in Goods arising from the Seller following the Buyer's specifications or arising out of any failure of the Buyer to provide such information and/or Drawings whether in whole or in part.

5.4 If the Seller provides Services by designing the Goods for the Buyer, the Seller will

own the copyright, design right and all other intellectual property rights in the Goods and any drafts, drawings or illustrations the Seller makes in connection with the Goods for the Buyer.

Clause 5.5 applies to business customers only.

5.5 The Buyer shall indemnify the Seller against all liabilities, costs, expenses, damages and losses (including any direct, indirect or consequential losses, loss of profit, loss of reputation and all interest, penalties and legal and other reasonable professional costs and expenses) suffered or incurred by the Seller in connection with any claim made against the Seller for actual or alleged infringement of a third party's intellectual property rights arising out of or in connection with the Seller's use of any specification supplied by the Buyer. This clause 5.5 shall survive termination or completion of the Contract. Clause 5.6 applies to consumers only.

5.6 This clause 5 will not affect the Buyer's legal rights as a consumer in relation to made-to-measure Goods that are faulty or not as described. Advice about the legal rights of consumers is available from a local Citizen's Advice Bureau or Trading Standards office.

6. Goods and Specification

6.1 The Seller's policy is one of continuous improvement, therefore it is entitled without notice (save where the Seller is working to the Buyer's specification set out in clause 5 above, in which case the Seller will consult with the Buyer), to make changes in dimensions, materials and design, which the Seller deems reasonable, desirable or appropriate provided such changes do not have a materially adverse effect on the nature of the Goods. The Seller reserves the right to amend the specification of the Goods if so required by any statutory or regulatory requirements or body. The Buyer shall have no cause of action in respect of any such change.

6.2 Notwithstanding any specifications the Buyer agrees with the Seller, the Goods are manufactured to the descriptions, weights and dimensions as set out in the Quote, Confirmation of Order form and the General Assembly Drawings approved by the Buyer, where these are provided. It shall be the sole responsibility of the Buyer to ensure that their structure is capable of withstanding all dead and live loads that may be imposed by the Goods or other structures of which the Goods form part and that any deflections in the supporting structure are within the allowed tolerances of the Goods supplied.

6.3 The Seller shall not be under any liability in respect of any descriptions, images, specification weights, illustrations, samples, drawings or dimensions or other matters in relation to the Goods contained or referred to in any materials including, but not

limited to, any website, forwarding specifications, drawings, price lists, catalogues, brochures, trade publications and advertising materials other than in the Contract itself. Whilst the Seller has made every effort to display any colour accurately, the Seller cannot guarantee that printed pictures accurately reflect the colour of the Goods. Goods supplied under the Contract may vary slightly from those images. Such images are for illustrative purposes only and they shall not form part of the Contract or have any contractual force.

6.4 The Seller reserves the right to make all and any changes in the type, specification, size, colour or any other changes to the Goods after the Order has been placed. However, the Buyer acknowledges that once the specifications have been received by the Seller and the manufacture of the Goods has started, alterations to the Goods if made may require changes to materials and design at additional cost to the Buyer. The Seller reserves the right to deem that the changes are impossible.

6.5 All sizes for the Goods are quoted in metric measurements. Imperial sizes will be translated to the nearest metric equivalent and measured to the nearest millimetre.

6.6 Our Flatglass product will be designed and manufactured on the understanding that dimensions provided by the Buyer represent the overall external upstand sizes, including the roof weathering.

7. Use

7.1 Unless otherwise agreed in writing, all Goods supplied by the Seller are supplied on the basis that they are not required for any special purpose other than the usual purpose for Goods such as those ordered are supplied and the Buyer shall be deemed to have full knowledge of the nature and properties of the Goods and any hazards they involve.

7.2 Goods are supplied on the basis that they shall be used in normal conditions appropriate for such Goods, shall be properly maintained, and without exception shall be used and maintained in accordance with provisions of the Operating and Maintenance Manual supplied by the Seller to the Buyer.

7.3 A standard paper copy of the Operating and Maintenance Manual shall be supplied to the Buyer with the Goods. Further paper copies of the Operating and Maintenance Manuals are available from the Seller's head office at an additional charge. An electronic copy may also be available from the Seller's website.

7.4 It is the responsibility of the Buyer to ensure that the product ordered is appropriate for its application and that its use complies with all current local and national legislation, building regulations, standards, codes of practice and any other requirement.

8. Price

8.1 The price of available Goods and/or the Services will be set out in the Seller's price list which is updated periodically. The Seller's prices may change at any time, but price changes will not affect Orders for which a Confirmation of Order has been issued.

8.2 Unless otherwise agreed (at the Seller's discretion) when the Order is placed, the price quoted for the Goods excludes delivery and installation. These costs will be itemised to the Buyer separately on both quotation and invoice. Delivery will be charged at such rates which the Seller (in its sole discretion) considers as fair and reasonable in respect of that delivery. Additional charges may be incurred at rates current at the time of dispatch of the Goods if any special delivery arrangements are required.

8.3 All prices are net cash prices exclusive of VAT or similar taxes, levies or duties, which will be charged at the rate applicable at the tax point (assumed to be date of the invoice unless circumstances dictate otherwise). VAT will be charged at the standard rate unless documented proof of an alternative or zero rate entitlement is provided by the Buyer, at the time of placing the Order.

8.4 In the unlikely but possible event that, despite the Seller's best efforts, some Goods are incorrectly priced, the Seller reserves the right to amend the price charged to the Buyer. Where the Goods' correct price is less than the stated price, the Seller will charge the lower amount when dispatching the Goods to the Buyer. If the Goods' correct price is higher than the price stated the Seller will contact the Buyer before despatching the Goods. If the pricing error is obvious and unmistakable and could have reasonably been recognised by the Buyer as a mispricing, the Seller does not have to provide the Goods at the incorrect (lower) price.

8.5 All prices are quoted on the understanding that the whole of the Goods quoted for will be ordered and supplied, unless otherwise indicated in the Quotation supplied by the Seller.

8.6 Additional charges arise, if the urgency of an Order can only be met by

additional labour, materials or carriage costs . If so the Buyer will be notified at the time of issuing the Confirmation of Order. Upon receipt of such notification the Buyer shall have the right to cancel the Order, so long as notice of such cancellation is received by the Seller within a reasonable time of the Buyer receiving the notification. If the Order is so cancelled by the Buyer, the Buyer shall nevertheless be responsible for paying the Seller for any work already undertaken.

8.7 No retention will be accepted against any order placed.

8.8 Main Contractors Discount, generally 2.5% unless otherwise agreed in writing, is a prompt payment discount for monies received within a 30 day period from date of invoice. Failure to pay monies within this 30 day period will negate any right to this discount.

8.9 Unless otherwise confirmed in writing or stated on our quotation the price does not include the cost of any cases or stillages used during transportation. These will remain the property of the Seller until collected. If lost or made unavailable for collection by the Buyer within 2 months of delivery the Seller reserves the right to charge these at cost to the Seller.

9. Payment

9.1. All payments shall be made at the invoice price and shall be made in accordance with the payment terms as set out in the Quote and the Confirmation of Order form. Unless otherwise specified all payments must be made in full prior to the dispatch of the Goods.

9.2. All payments shall be made in British Sterling, US Dollars, or Euros, as invoiced and shall not be considered 'paid' until the funds have cleared.

9.3. All payments set out in these Conditions, unless otherwise specified, shall be made at the invoice price without deduction and in accordance with clause 9.1

Clause 9.4 applies to business customers only.

9.4 Time for payment shall be of the essence of the Contract.

9.5 If the Buyer does not make any payment due to the Seller by the due date for payment, the Seller may charge interest to the Buyer on the overdue amount at the rate of 3% a year above the base lending rate of Barclays Bank from time to time.

This interest shall accrue on a daily basis from the due date until the date of actual payment of the overdue amount, whether before or after judgment. The Buyer must pay the Seller interest together with any overdue amount. Monies received will be applied to interest first before outstanding balances and thereafter oldest outstanding balances will be paid first.

9.6 Any complaint relating to an invoice or item contained in an invoice must be notified by the Buyer to the Seller in writing within seven working days of the date of the invoice.

10. Risk

10.1 The risk in the Goods shall pass to the Buyer upon delivery to the delivery address.

10.2 The Seller's responsibility and liability for the Goods shall cease upon delivery.

10.3 Where it is agreed between the Buyer and the Seller that the Buyer shall arrange for the Goods to be collected from the Seller's premises, the risk in the Goods shall pass to the Buyer upon collection. Unless otherwise agreed, the Seller shall load the Buyer's collection vehicle, but this shall be at the Buyer's sole risk and the Seller shall have no responsibility for any damage done to the Buyer's collection vehicle. It is the Buyer's responsibility to use an appropriate vehicle for transportation of the Goods.

11. Delivery of the Goods

11.1 The Seller will contact the Buyer to inform them when their Goods will be ready for dispatch (**Dispatch Date**) and to arrange a delivery or collection date, which will be within [5] days of the Manufacture Completion. The Seller will arrange for delivery of the Goods to be made to the delivery address on the delivery date in accordance with the written delivery instructions agreed between the Seller and the Buyer or will have them ready for collection on any agreed collection date.

11.2 Delivery of an Order shall be completed when the Seller delivers the Goods to the address given by the Buyer or the Buyer or a carrier organised by the Buyer has loaded them at the Seller's premises. The Goods will be the Buyer's responsibility from completion of delivery unless the Seller is also installing the Goods in which case the buyer will have responsibility from the date that the installation is completed.

11.3 Timescales for delivery and delivery charges will vary depending on the availability of the Goods and the delivery address. Extra time must be allowed for international deliveries and deliveries to the Scottish Highlands and Islands.

11.4 It will be the Buyer's sole responsibility to make all necessary and appropriate arrangements, and pay all necessary costs, for the Goods to be removed from the delivery vehicle, including, but not limited to, where appropriate hiring any lifting equipment and closing the highway. Once removed from the delivery vehicle the Goods will be the sole responsibility and risk of the Buyer.

11.5 Occasionally the Seller's delivery to the Buyer may be affected by a Force Majeure Event. See clause 22 for the Seller's responsibilities when this happens.

11.6 If no one is available at the delivery address to take delivery, the Seller will leave a note that the Goods have been returned to the Seller's premises, in which case, the Seller should be contacted to rearrange re-delivery. Please note charges will be incurred for any failed delivery attempts.

11.7 The Seller reserves the right to make a charge to the Buyer for the storage cost of all or any part of the Goods if the Buyer requests that the delivery or collection of the Goods be delayed by longer than 7 days from the Dispatch Date.

11.8 If, due to the Buyer the Goods cannot be collected or delivered within 7 days of the Dispatch Date or, for whatever reason the Buyer is unable to accept delivery of the Goods or, if the Buyer is collecting the Goods, the Buyer does not collect the Goods the Seller may, at its sole discretion, store the Goods either at its premises or in external storage away from its premises until the time of actual delivery and the Buyer shall pay to the Seller the cost of any such storage, as well as any additional handling and transport costs. The Buyer acknowledges that the Seller has limited storage capacity at its premises and therefore it may not be practical from a business perspective for the Goods to be stored at its premises in which case the Seller may arrange for the Goods to be stored with an external storage provider. The Buyer will be responsible for all costs charged by such external storage provider to the Supplier in respect of the storage of the Goods. The Conditions shall not affect any other rights the Seller may have to deal with any Goods which the Buyer fails to take delivery of or fails to collect.

Clause 11.9 applies to business customers only.

11.9 If the Seller fails to deliver the Goods, its liability shall be limited to the costs and

expenses incurred by the Buyer in obtaining replacement goods of similar description and quality in the cheapest market available, less the price of the Goods. Any dates quoted for delivery are approximate only, and the time of delivery is not of the essence. The Seller shall have no liability for any failure to deliver the Goods to the extent that such failure is caused by a Force Majeure Event, the Buyer's failure to provide the Seller with adequate delivery instructions for the Goods or any relevant instruction related to the supply of the Goods.

Clauses 11.10, 11.11 and 11.12 apply to consumers only

11.10 Subject to clause 11.6, if the Seller misses the delivery deadline as agreed with the Buyer in accordance with clause 11.1 for any Goods then the Buyer may cancel their Order straight away or, the Buyer can give the Seller a new deadline for delivery, which must be reasonable. The Buyer can cancel their Order if the Seller does not meet the new deadline.

11.12 If the Buyer does choose to cancel their Order for late delivery under clauses 11.10 or clause 11.11, the Buyer can do so for just some of the Goods or all of them, unless splitting them up would significantly reduce their value. If the Goods have been delivered to the Buyer, the Buyer will have to return them to the Seller or allow the Seller to collect them, at the Seller's cost. After the Buyer cancels their Order the Seller will refund any sums the Buyer has paid to the Seller for the cancelled Goods and their delivery, subject to clause 5.

12. Services

12.1 The Seller will supply the Services to the Buyer in accordance with the specification and the installation dates set out in the Confirmation of Order or as agreed between the parties.

12.2 The Seller will make every effort to complete the Services on time. However, there may be delays due to Force Majeure Event. See clause 22 for the Seller's responsibilities when a Force Majeure Event occurs.

12.3 The Seller will need certain information from the Buyer that is essential in order to provide the Services. The Seller will contact the Buyer about this. If the Buyer does not provide the information, or instead provides incomplete or incorrect information, the Seller may make an additional charge of a reasonable sum to cover any extra work that is required, or the Seller may suspend the Services by giving the Buyer written notice. The Seller will not be liable for any delay or non-performance where the Buyer has not provided this information to the Seller after being asked. If the

Seller suspends the Services under this clause 12.3, the Buyer does not have to pay for the Services while they are suspended, but this does not affect the Buyer's obligation to pay any invoices that have already been sent.

12.4 If the Buyer does not pay the Seller for the Services as provided for in the Confirmation of Order, the Seller may suspend the Services with immediate effect until the Buyer has paid the Seller the outstanding amounts (except where the Buyer disputes an invoice under clause 9.6). The Seller will contact the Buyer to advise them of this. This does not affect the Seller's right to charge interest under clause 9.5.

12.5 Where the Contract between the Seller and the Buyer includes provision of the Services, the quotation will assume that any equipment which may be required to be hired to assist with the installation can be hired on the day of installation. An additional charge will be incurred by the Buyer if a return visit and re-hire of equipment is required at a later date to complete the installation. It is also assumed that where a product requires commissioning this can be carried out on the day of installation. An additional charge will be incurred by the Buyer if a return visit is required at a later date to complete the commissioning of the product.

12.6 Where the Contract between the Seller and the Buyer includes the installation of the Goods by the Seller at the Buyer's or a third party's premises it will be the Buyer's sole responsibility to make all necessary arrangements, and pay all necessary costs, for the Goods to be removed from the delivery vehicle, including, but not limited to, where appropriate hiring any lifting equipment and closing the highway and for the Goods to be moved and/or lifted to the upstand ready for installation. In certain roof configurations and where 'wall abutment detail' is specified it may be necessary for the Buyer to arrange to Support the roof light whilst the Seller's installers make the necessary fixings. The cost of this support is the responsibility of the Buyer.

12.7 The Seller reserves the right to make a reasonable charge to the Buyer in respect of each person per visit, plus reasonable travel expenses per person per visit, for any failed, aborted or cancelled visit in circumstances where the Buyer or the third party is, in the Seller's reasonable opinion, deemed to be responsible for the Seller's representative(s) having to withdraw from the site without having completed the installation. The Seller reserves the right to make the same charge to the Buyer for the cancellation of a scheduled visit where the Buyer or the third party fails, in the Seller's reasonable opinion, to give sufficient notification (at least two working days). In addition, if the time taken for delivery or installation exceeds the period specified in the Confirmation of Order, or such later written correspondence between the Buyer and Seller, and such excess is, in the Seller's reasonable opinion, deemed to be the responsibility of the Buyer, the Seller reserves the right to make a reasonable charge in respect of such excess time.

12.8 Where the sale includes installation by the Seller's staff it is the responsibility of the Buyer to ensure the Health and Safety of those staff whilst on the Buyer's premises. For example, Roofglaze staff are trained to work at heights and carry harnesses but the provision of a safety line and/or edge protection is the responsibility of the Buyer. Roofglaze staff will complete a local risk assessment and reserve the right to discontinue the work if undue risk is identified. Weather conditions, high winds, heavy rain or icy conditions are contributing factors to undue risk when working at height.

12.9 Where it is agreed between the Buyer and the Seller that the Seller will provide a Performance Bond / Advance Payment Guarantee Bond under the terms and conditions of the Contract, then where the completion / commissioning of the Goods is delayed by more than 30 days after completion of the installation works, and this delay is caused by the Buyer, then the contract will be deemed to have been completed satisfactorily with regard to the matter of the Performance Bond / Advance Payment Guarantee Bond and therefore the Performance Bond / Advance Payment Guarantee Bond will then be cancelled and the Buyer will have no further claims in this regard.

Clauses 12.10, 12.11 and 12.12 apply to consumers only.

12.10 The Seller may have to suspend the Services if they have to deal with technical problems, or to make improvements agreed in writing between the Seller and the Buyer relating to the Services. The Seller will contact the Buyer in advance where this occurs, unless the problem is urgent. The Buyer does not have to pay for the Services while they are suspended under this clause 12.12 but this does not affect the Buyer's obligation to pay any invoices that have already been sent.

12.11 In the unlikely event that there is any defect with the Services:

12.11.1 the Buyer must contact the Seller as soon as reasonably possible;

12.11.2 the Buyer will give the Seller a reasonable opportunity or opportunities if appropriate to repair or fix any defect; and

12.11.3 the Seller will use every effort to repair or fix the defect as soon as reasonably practicable and, in any event, within 28 days, save that the Seller's ability to repair or fix any defect may be dictated by the lead time of any replacement specialist glass, and therefore in these circumstances the Seller may not be able to meet this timeframe but will endeavour to repair or fix any defect as soon as

reasonably practicable on receipt of such replacement glass. The Buyer will not have to pay for the Seller to repair or fix a defect with the Services under this clause
12.11

12.12 As a consumer, the Buyer has legal rights in relation to Services not carried out with reasonable skill and care, or if the materials the Seller uses are faulty or not as described (provided they have not been supplied by the Buyer). Advice about the legal rights of consumers is available from a local Citizens' Advice Bureau or Trading Standards office. Nothing in these Terms will affect these legal rights.

Clauses 12.13, 12.14 and 12.15 apply to business customers only.

12.13 The Seller shall use all reasonable endeavours to meet any performance dates for the Services specified in the Confirmation of Order or as agreed between the parties, but any such dates shall be estimates only and time shall not be of the essence for the Seller's performance of the Services.

12.14 The Seller shall have the right to make any changes to the Services which are necessary to comply with any applicable law or safety requirement, or which do not materially affect the nature or quality of the Services, and the Seller shall notify the Buyer in any such event.

12.15 The Seller warrants to the Buyer that the Services will be provided using reasonable care and skill.

13. Obligations of the Buyer

13.1 The Buyer shall:

13.1.1 ensure that the upstands are constructed within the permissible tolerances for overall length, width, height and level as defined by the Seller within the Seller's literature, which is available on request from the Seller's head office;

13.1.2 provide the external weathered dimensions of the upstand or other applicable dimensions to the Seller. In the case that a site audit by the Seller's staff is agreed between the Buyer and Seller, dimensions taken by the Seller's staff will only be accepted once approved in writing as 'correct for manufacture to commence' by the Buyer;

13.1.3 ensure that the terms of the Order and (if submitted by the Buyer) the specification for the Goods are complete and accurate;

13.1.4 co-operate with the Seller in all matters relating to the Services;

13.1.5 provide the Seller, its employees, agents, consultants and subcontractors, with access to the Buyer's premises and/or delivery premises, office accommodation and other facilities as reasonably required by the Seller to provide the Services;

13.1.6 provide the Seller with such information and materials as the Seller may reasonably require to supply the Services, and ensure that such information is accurate in all material respects;

13.1.7 prepare the Buyer's premises and/or the delivery premises and site of the installation for the supply of the Services in accordance with the Seller's requirements as notified to the Buyer by the Seller prior to delivery;

13.1.8 obtain and maintain all necessary licences, permissions and consents which may be required for the Services before the date on which the Services are to start; and

13.1.9 keep and maintain all materials, equipment, documents and other property of the Seller (the "**Seller Materials**") at the Buyer's premises and/or delivery premises in safe custody at its own risk, maintain the Seller Materials in good condition until returned to the Seller, and not dispose of or use the Seller Materials other than in accordance with the Seller's written instructions or authorisation.

Clause 13.2 applies to business customers only.

13.2 If the Seller's performance of any of its obligations in respect of the Services is prevented or delayed by any act or omission by the Buyer or failure by the Buyer to perform any relevant obligation ("**Buyer Default**"):

13.2.1 the Seller shall without limiting its other rights or remedies have the right to suspend performance of the Services until the Buyer remedies the Buyer Default, and to rely on the Buyer Default to relieve it from the performance of any of its obligations to the extent the Buyer Default prevents or delays the Seller's performance of any of its obligations;

13.2.2 the Seller shall not be liable for any costs or losses sustained or incurred by the Buyer arising directly or indirectly from the Seller's failure or delay to perform any of its obligations as set out in this clause 13.2; and

13.2.3 the Buyer shall reimburse the Seller on written demand for any costs or losses sustained or incurred by the Seller arising directly or indirectly from the Buyer Default.

14. Time and Date of Delivery

The Seller will use reasonable endeavours to keep to any agreed delivery date, which is quoted on the basis of existing commitments. All such times are to be treated as estimates only and the Seller shall not be liable for any delay in delivery or, where the same is caused by lack of instructions from the Buyer, any failure to deliver.

15. Damage and/or Loss in Transit

15.1. Upon delivery the Buyer shall be responsible for examining the Goods before signing for them. Subject to clauses 15.2 and 16.3, the Buyer shall not be entitled to reject or return the Goods or to make any claim in respect of the Goods if the Buyer has previously signed for them as accepted.

Clause 15.2 applies to business customers only.

15.2. The Seller shall not be liable for any loss or damage of the Goods during transit unless the Goods are signed for as damaged and all claims for damages to (or loss of) the Goods, or any part thereof, in transit are submitted in writing to the carrier and the Seller during the next working day following the day of delivery. All claims for non-delivery of any part of any Order must be submitted in writing to the carrier and to the Seller before close of business on the day following the date of delivery. In the absence of notification of such claims within such periods, the Goods shall be deemed to have been delivered in accordance with the Order.

16. Defective Goods

Clause 16.1 applies to consumers only

16.1 The Buyer has legal rights in relation to Goods that are faulty or not as described. The Seller is under a legal duty to supply Goods that are of satisfactory quality, fit for purpose and as described in this contract. Advice about consumer legal rights is available from a local Citizens' Advice Bureau or Trading Standards office. Nothing in these Terms will affect these legal rights.

16.2 The Seller warrants that upon delivery, and for the periods set out from the date of delivery, the Goods conform with their description, are free from material defects in design, material and workmanship, are of satisfactory quality and fit for the purpose described in the Order Acceptance. The Buyer should inspect the Goods as soon as possible after delivery and take care to protect them from deterioration whilst awaiting use.

- i. Frame 15 years.
- ii. Powder coat finish 15 years.
- iii. Glass (edge seal failure only) 15 years.
- iv. Electrical items in accordance with manufacturer's warranty but not less than 1 year.

16.3 The Seller will make good by repair or by the supply of a replacement component any defects which under proper use of the Goods appear to be a result of the Seller's manufacture of the Goods provided that the Buyer notifies the Seller of any material defect within 12 months after the date of delivery, retains the Goods for inspection and provided that the defect does not arise from any of the following:

16.3.1 fair wear and tear;

16.3.2 wilful damage, abnormal storage or working conditions, accident, negligence by the Buyer or by any third party;

16.3.3 the Buyer failing to operate or use the Goods in accordance with the user instructions;

16.3.4 any alteration or repair by the Buyer or by a third party who is not one of the Seller's authorised repairers; and

16.3.5 any specification or materials provided by the Buyer.

16.4 In addition, the Seller provides an extended warranty in relation to the Goods, subject to the terms and conditions of the Warranty document which has been provided by the Seller to the Buyer. Claims will be permitted provided:

16.4.1 proper use has been made of the Goods in accordance with the user instructions;

16.4.2 the Buyer notifies the Seller within the period of Warranty cover;

16.4.3 the Goods are retained for inspection;

16.4.4 no repair or attempted repair has been made to the Goods;

16.4.5 if the Buyer is no longer the owner of the Goods the Seller has been notified of the new owner in accordance with the terms of the Warranty document.

16.5 The provisions of clause 16.3 cover the free of charge repair or replacement of any component deemed defective which is as a result of the Seller's manufacture of the Goods. The Seller will meet all travel costs of its technicians relating to travel within mainland United Kingdom. However, all reasonable travel costs incurred by the Seller's technicians relating to travel to and from any destination where the Goods are located outside of mainland United Kingdom (including all reasonable accommodation and sustenance expenses properly and necessarily incurred by the Seller's technician) will be borne in full by the Buyer.

16.6 The quality of any glass supplied by the Seller shall be inspected and deemed to be acceptable in accordance with the 'Quality of Vision – Double Glazing' document published by the Glass and Glazing Federation (GGF) and the Seller's own quality standard. Copies of either document are available by request from the Seller's head office.

17. Title

The legal title of the Goods shall not pass to the Buyer until payment in full has been made to the Seller of all sums due under the Contract

18. Cancellation

Clause 18.1 applies to business customers only.

18.1 The Buyer shall have the right to cancel the Order at any time by providing the Seller with written notice. Upon cancellation, the Seller reserves the right to make a minimum cancellation charge of £50 and the Buyer shall be responsible for reimbursing the Seller for all costs which the Seller has incurred in relation to the Order.

Clauses 18.2 to 18.5 apply to consumers only.

18.2 Before the Seller begins to provide the Services or the Goods are delivered, the Buyer has the following rights to cancel an Order for Goods (other than made-to-measure Goods as set out in clause 18.3) and / or Services, including where the Buyer chooses to cancel because the Seller is affected by a Force Majeure Event or the Seller changes these Terms under clause 3.2 to the Buyer's material disadvantage:

18.2.1 unless the Goods are made to measure (see 18.3) the Buyer may cancel any Order for Goods and / or Services at any time within 14 calendar days of receiving the Goods by contacting the Seller. The Seller will confirm the cancellation to the Buyer in writing;

18.2.2 if the Buyer cancels an Order under clause 18.2.1 and the Buyer has made any payment in advance for Services that have not been provided, or Goods that have not been delivered, the Seller will refund these amounts and any delivery charges to the Buyer;

18.2.3 however, if the Buyer cancels an Order for Services under clause 18.2.1 and the Seller has already started work on the Buyer's Order by that time, the Buyer will pay the Seller any costs reasonably incurred up to the date of receiving the notice of cancellation, and this charge will be deducted from any refund that is due to the Buyer or, if no refund is due, invoiced to the Buyer. The Seller will advise the Buyer of such costs when the Buyer contacts the Seller. However, where the Buyer has cancelled an Order because of the Seller's failure to comply with these Terms (except where the Seller has been affected by a Force Majeure Event), the Buyer does not have to make any payment to the Seller;

18.2.4 if the Buyer cancels an Order for Goods under clause 18.2.1 and the Seller has already despatched the Goods, the Seller will not be able to cancel the Order until it is delivered or collected. In this case, if the Buyer returns the Goods to the

Seller, the Seller will have to charge the Buyer the cost of collection or the Buyer will have to pay the cost of returning the Goods back to the Seller. This will not affect the Buyer's refund for the Goods themselves, but the Seller will not refund any charges for delivery and any charge for collection will be deducted from the refund that is due to the Buyer.

18.2.5 These rights are conferred in addition to those rights to which the Buyer is entitled pursuant to the Consumer Rights Act 2015.

18.3 Made-to-measure Goods are made to the Buyer's requirements, the Buyer will not be able to cancel the Order once made (but this will not affect the Buyer's legal rights as a consumer in relation to made-to-measure Goods that are faulty or not as described) for such Goods.

18.4 Once the Seller has begun to provide the Services to the Buyer, the Buyer may cancel the contract for the Services at any time by providing the Seller with at least 30 calendar days' notice in writing. Any advance payment the Buyer has made for Services that have not been provided will be refunded.

18.5 Once the Seller has begun to provide the Services to the Buyer, the Buyer may cancel the contract for Services with immediate effect by giving the Seller written notice if:

18.5.1 the Seller breaks the Contract in any material way and the Buyer does not wish the Seller to correct or fix the situation within 14 days of the Buyer asking the Seller to do so;

18.5.2 the Seller goes into liquidation or a receiver or an administrator is appointed over their assets;

18.5.3 the Seller changes these Conditions under clause 3.2 to the Buyer's material disadvantage; or

18.5.4 the Seller is affected by a Force Majeure Event.

18.6 The Seller may have to cancel an Order before the start date for the Services or before the Goods are delivered, due to a Force Majeure Event or the unavailability of stock or (in the case of Services) key personnel or key materials without which the Seller cannot provide the Services. If this happens:

18.6.1 the Seller will promptly contact the Buyer to let them know;

18.6.2 if the Buyer has made any payment in advance for Services that have not been provided, or Goods that have not been delivered, the Seller will refund these amounts to the Buyer;

18.6.3 where the Seller has already started work on the Buyer's Order for Services or made-to-measure Goods, the Seller will not charge the Buyer anything and the Buyer will not have to make any payment to the Seller.

18.7 Once the Seller has begun to provide the Services to the Buyer, the Seller may cancel the contract for the Services at any time by providing the Buyer with at least 30 calendar days' notice in writing. If the Buyer has made any payment in advance for Services that have not been provided, the Seller will refund these amounts to the Buyer.

18.8 The Seller may cancel the contract for Services at any time with immediate effect by giving the Buyer written notice if:

18.8.1 the Buyer does not pay the Seller when they are supposed to as set out in clause 9.1. This does not affect the Seller's right to charge the Buyer interest under clause 9.5; or

18.8.2 the Buyer breaks the contract in any other material way and the Buyer does not correct or fix the situation within 14 days of the Seller asking the Buyer to do so in writing.

19. Limitation of Liability

19.1. No provision of these Conditions shall operate or be construed to operate so as to exclude or restrict the Seller's liability under the provisions of any UK legislation in force from time to time which are not capable of being excluded or restricted.

Clauses 19.2 and 19.3 apply to consumers only.

19.2. The Seller accepts no liability for any costs, expenses, loss or damage, including

any loss (including consequential loss) or damage whether direct or indirect however incurred by the Buyer save as provided in these Conditions, and provided that nothing in these Conditions shall restrict or exclude liability for the following:

19.2.1 death or personal injury caused by the Seller's negligence;

19.2.2 the statutory rights of any person dealing as a consumer;

19.2.3 fraud or fraudulent misrepresentation;

19.2.4 breach of the terms implied by section 17 of the Consumer Rights Act 2015 (Sellers right to supply the Goods);

19.2.5 breach of the terms implied by sections 9, 10, 11, 13, 16 and 18 of the consumer Rights Act 2015 (quality, description, fit for purpose, matching sample and conforming to digital content); and

19.2.6 defective products under the Consumer Protection Act 1987.

19.3. The Seller only supplies the Goods and / or Services to consumers for domestic and private use. The Buyer agrees not to use the Goods and / or Services for any commercial, business or resale purpose, and the Seller has no liability to the Buyer for any loss of profit, loss of business, business interruption, or loss of business opportunity.

Clause 19.4, 19.5 and 19.6 apply to business customers only.

19.4 Nothing in these Conditions shall limit or exclude the Seller's liability for:

19.4.1 death or personal injury caused by its negligence, or the negligence of its employees, agents or subcontractors;

19.4.2 fraud or fraudulent misrepresentation;

19.4.3 breach of the terms implied by section 2 of the Supply of Goods and Services Act 1982 (title and quiet possession);

19.4.4 breach of the terms implied by section 12 of the Sale of Goods Act 1979 (title and quiet possession); or

19.4.5 defective products under the Consumer Protection Act 1987.

19.5 Subject to clause 19.4 the Seller shall under no circumstances whatever be liable to the Buyer, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, for any:

19.5.1 loss of profit,

19.5.2 loss of revenue;

19.5.3 loss of business; or

19.5.4 loss of anticipated savings

19.5.5 loss of reputation

In each case whether direct or indirect or for any indirect, special or consequential loss or damage arising under or in connection with the Contract.

19.6 The terms implied by sections 13 to 15 of the Sale of Goods Act 1979 and the terms implied by sections 3 to 5 of the Supply of Goods and Services Act 1982 are, to the fullest extent permitted by law, excluded from the Contract.

19.7 Save as otherwise required by UK legislation and subject to clause 19.8, the Seller's total liability for any loss, damages, costs or expenses in connection with the Contract, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, shall in no circumstances exceed an amount equal to £1 million, being the amount of product liability insurance carried by the Seller.

19.8 Save as otherwise required by UK legislation, the Seller's total liability for any loss, damages, costs or expenses in connection with the Contract, whether in contract, tort (including negligence), breach of statutory duty, or otherwise, shall in

no circumstances exceed an amount equal to £ 1 million, being the amount of professional indemnity insurance carried by the Seller.

19.9. Any claim for costs due to non-performance or errors by the Seller must be notified in writing and have been received by the Seller's head office within seven days of the delivery of the Goods.

19.11 This clause 19 shall survive termination of the Contract.

Clause 20 applies to business customers only.

20. Buyers Indemnities

20.1. In addition to any other remedy available to the Seller, the Buyer shall indemnify, defend and hold harmless the Seller from and against any and all losses, liabilities, expenses or damages suffered by the Seller as a result of any failure by the Buyer to perform any of these Conditions.

20.2. In addition to any other remedy available to the Seller, the Buyer shall indemnify, defend and hold harmless the Seller from and against each and every liability, claim, demand, loss, cost and damage from a third party to which the Seller is or would be otherwise subject to arising out of the supply of the Goods by the Seller to the Buyer.

20.3. The indemnities hereby given shall extend to any costs and expenses incurred by the Seller and shall continue in force notwithstanding the termination of the Contract.

21. Suspension or Termination or Breach

21.1 Without limiting its other rights or remedies either party may terminate the Contract by giving the other party not less than 1 months' written notice.

21.2 Without limiting its other rights or remedies, each party may terminate the Contract with immediate effect by giving written notice to the other party if:

21.2.1 the other party suspends, or threatens to suspend, payment of its debts or is

unable to pay its debts as they fall due or admit inability to pay its debts or (being a company or limited liability partnership) is deemed unable to pay its debts within the meaning of section 123 of the Insolvency Act 1986 or (being an individual) is deemed either unable to pay its debts or as having no reasonable prospect of so doing, in either case, within the meaning of section 268 of the Insolvency Act 1986 or (being a partnership) has any partner to whom any of the foregoing apply;

21.2.2 the other party commences negotiations with all or any class of its creditors with a view to rescheduling any of its debts, or makes a proposal for or enters into any compromise or arrangement with its creditors other than (where a company) for the sole purpose of a scheme for a solvent amalgamation of that other party with one or more other companies or the solvent reconstruction of that other party;

21.2.3 a petition is filed, a notice is given, a resolution is passed, or an order is made, for or in connection with the winding up of the other party (being a company) other than for the sole purpose of a scheme for a solvent amalgamation of the other party with one or more other companies or the solvent reconstruction of that other party;

21.2.4 the other party (being an individual) is the subject of a bankruptcy petition or order;

21.2.5 a creditor or encumbrancer of the other party attaches or takes possession of, or a distress, execution, sequestration or other such process is levied or enforced on or sued against, the whole or any part of its assets and such attachment or process is not discharged within 14 days;

21.2.6 an application is made to court, or an order is made, for the appointment of an administrator or if a notice of intention to appoint an administrator is given or if an administrator is appointed over the other party (being a company);

21.2.7 the holder of a qualifying charge over the assets of the other party (being a company) has become entitled to appoint or has appointed an administrative receiver;

21.2.8 if the Buyer suffers execution or distress to be levied upon any of the Buyer's property or at the delivery address in relation to any liability of the Buyer;

21.2.9 the Buyer be the subject of an adverse credit status report by the Seller's bank or a reputable credit status organisation;

21.2.10 a person becomes entitled to appoint a receiver over the assets of the other party or a receiver is appointed over the assets of the other party;

21.2.11 any event occurs, or proceeding is taken, with respect to the other party in any jurisdiction to which it is subject that has an effect equivalent or similar to any of the events mentioned in clause 21.2.2 to clause 21.2.11 (inclusive);

21.2.12 the other party suspends, threatens to suspend, ceases or threatens to cease to carry on, all or substantially the whole of its business;

21.2.13 the other party's financial position deteriorates to such an extent that in the Seller's Opinion (acting reasonably) the Buyer's capability to adequately fulfil its obligations under the Contract has been placed in jeopardy; or

21.2.14 the other party (being an individual) dies or, by reason of illness or incapacity (whether mental or physical), is incapable of managing his own affairs or becomes a patient under any mental health legislation.

21.3 Without limiting its other rights or remedies, the Seller may suspend the supply of Services or all further deliveries of Goods under the Contract or any other contract between the Buyer and the Seller if the Buyer fails to pay any amount due under this Contract on the due date for payment, the Buyer becomes subject to any of the events listed in clause 21.2.1 to clause 21.2.14, or the Supplier reasonably believes that the Customer is about to become subject to any of them.

Clause 21.4 applies to business customers only.

21.4 On termination of the Contract for any reason:

21.4.1 the Buyer shall immediately pay to the Seller all of the Seller's outstanding unpaid invoices and interest and, in respect of Services supplied but for which no invoice has yet been submitted, the Seller shall submit an invoice, which shall be payable by the Buyer immediately on receipt;

21.4.2 the Buyer shall return all of the Seller Materials and any Goods which have not been fully paid for. If the Buyer fails to do so, then the Seller may enter the Buyer's premises and/or delivery address and take possession of them. Until they

have been returned, the Buyer shall be solely responsible for their safe keeping and will not use them for any purpose not connected with this Contract;

21.4.3 the accrued rights and remedies of the parties as at termination shall not be affected, including the right to claim damages in respect of any breach of the Contract which existed at or before the date of termination or expiry; and

21.4.4 clauses which expressly or by implication have effect after termination shall continue in full force and effect.

22. Force Majeure Events

22.1 The Seller will not be liable or responsible for any failure to perform, or delay in performance of, any of the Seller's obligations under the Contract that is caused by a Force Majeure Event.

22.2 A Force Majeure Event means any act or event beyond the Seller's reasonable control, including without limitation strikes, lock-outs or other industrial action by third parties, civil commotion, riot, invasion, terrorist attack or threat of terrorist attack, war (whether declared or not) or threat or preparation for war, fire, explosion, storm, flood, earthquake, subsidence, epidemic or other natural disaster, or failure of public or private telecommunications networks.

22.3 If a Force Majeure Event takes place that affects the performance of the Seller's obligations under these Terms:

22.3.1 the Seller will contact the Buyer as soon as reasonably possible to notify them of the existence of the Force Majeure Event; and

22.3.2 the Seller's obligations under the Contract will be suspended and the time for performance of the Seller's obligations will be extended for the duration of the Force Majeure Event. Where the Force Majeure Event affects the Seller's delivery of Goods to the Buyer, the Seller will arrange a new delivery date with the Buyer after the Force Majeure Event is over. Where the Force Majeure Event affects the Seller's performance of Services to the Buyer, the Seller will restart the Services as soon as reasonably possible after the Force Majeure Event is over.

22.4 The Buyer may cancel the contract if a Force Majeure Event takes place and the Buyer no longer wishes the Seller to provide the Goods and / or Services as per

the cancellation rights set out in clause 18. The Seller will only cancel the contract if the Force Majeure Event continues for longer than 4 weeks in accordance with the Seller's cancellation rights in clause 18.

23. General

23.1. No failure by the Seller to exercise or delay in exercising any right, power or remedy under these Conditions will operate as a waiver of that right, power or remedy. Any waiver of a breach of any terms of these Conditions does not constitute a waiver of any other breach and shall not affect the other terms of these Conditions.

23.2. The Seller shall not be under any liability for any failure to perform any of the Seller's obligations under these Conditions if the Seller is prevented from or delayed in so doing due to any circumstances beyond the Seller's reasonable control, provided that if the event in question continues for a continuous period in excess of 4 months, either party shall be entitled to give notice in writing to the other to terminate the Contract.

23.3. No variation to these Conditions shall be valid unless in writing and signed by authorised representatives of both parties.

23.4.1 The Buyer may not assign any rights and obligations under these Conditions without the prior written consent of the Seller.

23.4.2 The Seller may assign any rights and obligations under these Conditions without the prior written consent of the Buyer.

23.5. The laws of England shall govern the validity, construction and performance of this contract and the Buyer agrees to submit to the jurisdiction of the English Court.

23.6. The Seller's quotation is without engagement on its part and is subject to written confirmation by the Seller of its acceptance of the Buyer's order. Quotations are subject to withdrawal at any time before the Seller's written confirmation of acceptance is given to the Buyer and shall be deemed to be withdrawn unless so accepted within 3 months from their date.

24 Condensation

The formation of condensation on the inner skin or between each glazing skin of a rooflight is dependent on numerous environmental conditions such as humidity, internal and external ambient temperature and/or natural/mechanical air movement. Condensation will occur where a surface at a lower temperature than the surrounding air interfaces with high humidity conditions. Condensation will therefore be worse during the winter months where temperatures drop and air humidity through rainfall substantially increases. If the humidity of the air at source (i.e. inside the building) cannot be reduced or removed by addressing the moisture producing events, then the risk of condensation forming on/in the unit will increase substantially. The formation of condensation may therefore form with there being no design fault whatsoever in the rooflight and/or the moisture developing activity decreases. The Seller does not give any guarantee on the non-occurrence of condensation on any of its products.

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DOCUMENT