

Standard Flat Glass Rooflight Datasheet

July 2024

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PRODUCT DESCRIPTION

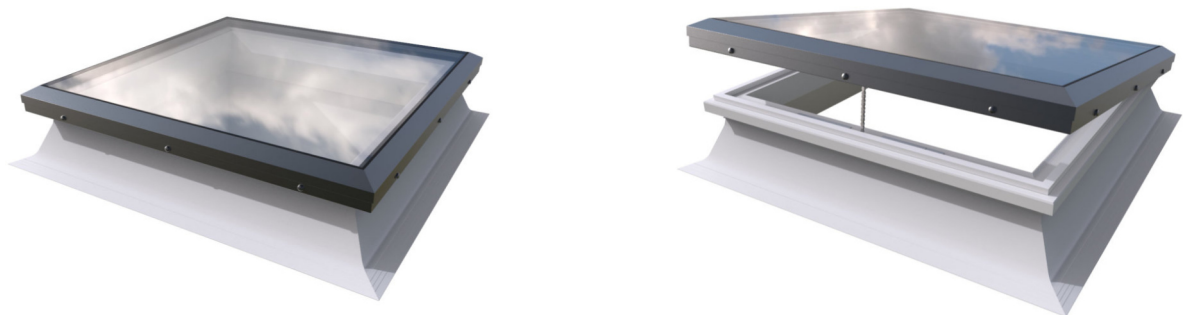
Individual glass rooflights intended for installation on flat roofs of all modern building types to provide natural light (and ventilation where specified). Rooflights are manufactured to ISO 9001 industry standards.

APPEARANCE

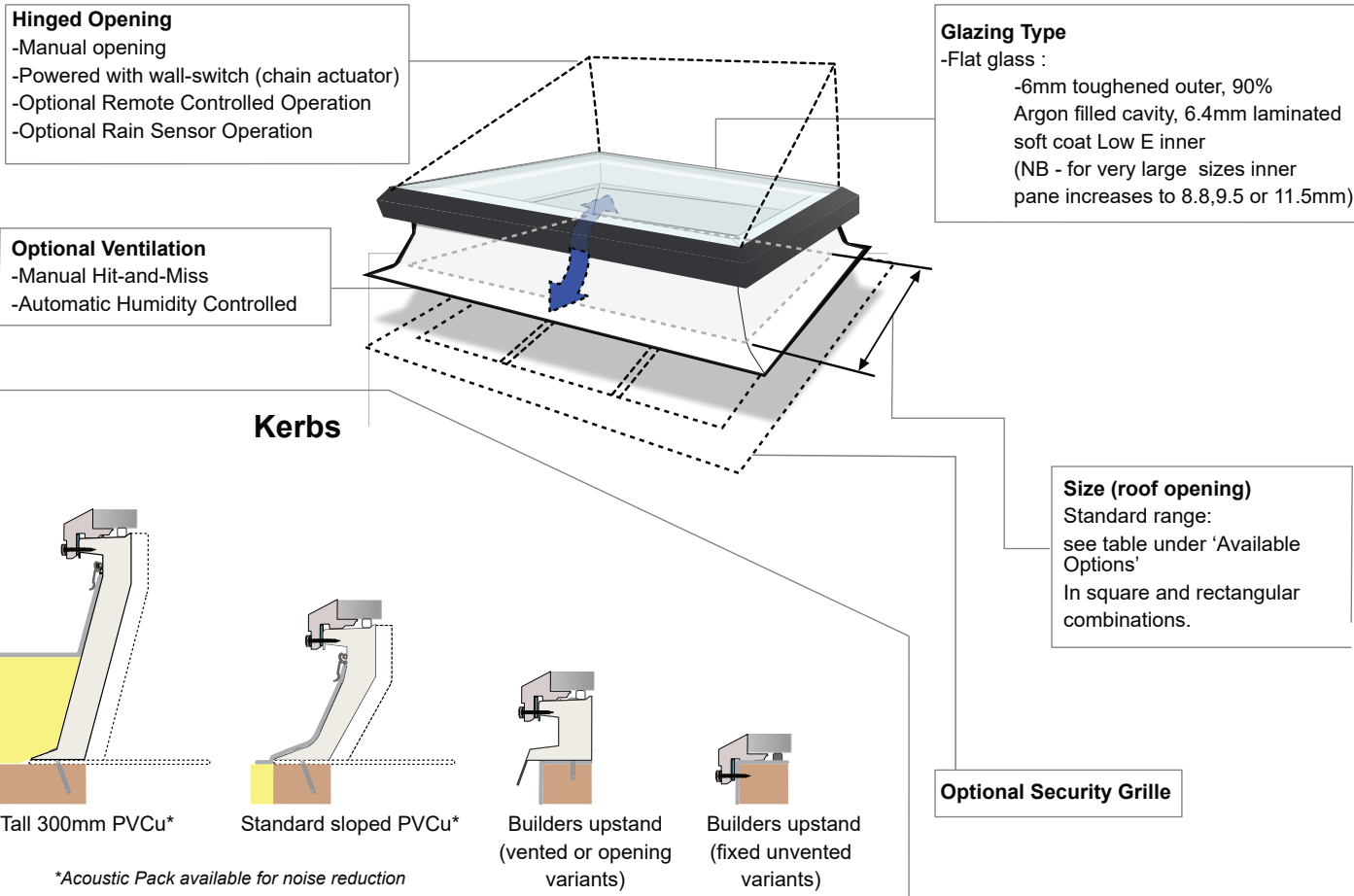
Sleek and contemporary design with a slimline powder coated frame and flush fitting glass panel.

DESIGN FEATURES

- Premium rooflight offering a robust build as well as protection against intrusion or vandalism.
- Components of powered opening rooflights (230V) are completely concealed for an unobstructed light well.
- For ease of installation, the tapered kerb foot does not require timber fillets and an integral clamp holds the roofing membrane in place and provides a clean external finish for all roofing types.
- Powder coated aluminium frame as standard in a choice of RAL 7016 grey or RAL 9005 black.
- U_i value to as low as 1.46 W/m²K.
- Laminated inner pane for safety of anyone beneath the rooflight.
- Fragile (non-fragile options available).



PRODUCT OPTIONS SUMMARY (See page 2 onwards for details)



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COMPOSITION

The double glazed glass panel is made up of: 6mm toughened outer, a 90% argon filled cavity, with a 6.4mm laminated soft coat Low E inner. For larger sizes the inner pane thickness is increased to 8.8mm, 9.5mm or 11.5mm.

The frame is extruded aluminium, powder coated in a choice of RAL 7016 grey or RAL 9005 black to provide a premium appearance and highly appealing finish, and is thermally isolated to provide excellent thermal performance. The kerbs are manufactured from Lead & Cadmium free un-plasticised PVC rigid multi-wall extruded profile, with internal white finish. The Glass, PVC-U and Aluminium which comprise the product can be recycled at the end of useful product life.

DURABILITY

Flat glass units are expected to remain fit for purpose in normal industrial conditions for a period of 20 years (with a warranty available providing a 10 year guarantee) i.e. they will not become perforated, lose significant structural integrity, or distort to the extent of losing weather-tightness. The available warranty also guarantees:

- Electrical actuators (where present), for a period of 1 year (actuators have a design life of at least 10,000 cycles).
- Insulated glass used in the construction of the rooflight for 5 years.

SAFETY

These rooflights incorporate a laminated inner pane for the safety of anyone beneath the rooflight, minimising risk of glass falling into the space below if either glass pane should break, in accordance with industry recommendations. These rooflights are fragile (as defined by CWCT and ACR): they are not suitable for foot traffic and may not resist a person falling onto them; suitable precautions should be taken (by others, following a risk assessment) to ensure the safety of anyone accessing the roof area where the product is installed. Alternative specifications which are non-fragile for use on Class 2 roofs are available on request. All glass panels are BS EN12150, BS 14449 and BS 1279 compliant.

FIRE PERFORMANCE

Glass is designated Class A to EN13501 part 1, as it is included in the list of CWFT (classified without further test) materials published in the Official Journal of the EU (see European Commission Decision 96/603/EC).

These rooflights are glazed with a 6mm toughened outer pane and can therefore be regarded as having a B_{ROOF}(t4) classification as per English building regulations.

AVAILABLE OPTIONS

Sizes of Rooflights											
Bold, black text indicates unit size, Italic grey text indicates daylight area (mm) Note: Custom sizes are available on request. Please contact the supplier to discuss requirements.								Standard minimum rooflight pitch of 2°		Minimum pitch of highlighted units is 4°	
Standard sizes											
600 x 600	450 x 450	750 x 750	600 x 600	900 x 900	750 x 750	1000 x 1000	850 x 850	1200 x 1200	1050 x 1050	1500 x 1000	1350 x 850
900 x 600	750 x 450	1200 x 600	1050 x 450	1200 x 900	1050 x 750						
Non-standard sizes											
750 x 600	600 x 450	1500 x 1050	1350 x 900	1800 x 1350	1650 x 1200	2100 x 1050	1950 x 900	2550 x 1350	2400 x 1200	3000 x 1650	2850 x 1500
900 x 750	750 x 600	1500 x 1200	1350 x 1050	1800 x 1500	1650 x 1350	2100 x 1200	1950 x 1050	2550 x 1500	2400 x 1350	3150 x 1050	3000 x 900
1050 x 600	900 x 450	1500 x 1350	1350 x 1200	1800 x 1650	1650 x 1500	2100 x 1350	1950 x 1200	2550 x 1650	2400 x 1500	3150 x 1200	3000 x 1050
1050 x 750	900 x 600	1500 x 1500	1350 x 1350	1800 x 1800	1650 x 1650	2100 x 1500	1950 x 1350	2700 x 1050	2550 x 900	3150 x 1350	3000 x 1200
1050 x 900	900 x 750	1650 x 600	1500 x 450	1950 x 750	1800 x 600	2100 x 1650	1950 x 1500	2700 x 1200	2550 x 1050	3150 x 1500	3000 x 1350
1050 x 1050	900 x 900	1650 x 750	1500 x 600	1950 x 900	1800 x 750	2250 x 1050	2100 x 900	2700 x 1350	2550 x 1200	3150 x 1650	3000 x 1500
1200 x 750	1050 x 600	1650 x 900	1500 x 750	1950 x 1050	1800 x 900	2250 x 1200	2100 x 1050	2700 x 1500	2550 x 1350	3300 x 1200	3150 x 1050
1200 x 1050	1050 x 900	1650 x 1050	1500 x 900	1950 x 1200	1800 x 1050	2250 x 1350	2100 x 1200	2700 x 1650	2550 x 1500	3300 x 1350	3150 x 1200
1350 x 600	1200 x 450	1650 x 1200	1500 x 1050	1950 x 1350	1800 x 1200	2250 x 1500	2100 x 1350	2850 x 1050	2700 x 900	3300 x 1500	3150 x 1350
1350 x 750	1200 x 600	1650 x 1350	1500 x 1200	1950 x 1500	1800 x 1350	2250 x 1650	2100 x 1500	2850 x 1200	2700 x 1050	3300 x 1650	3150 x 1500
1350 x 900	1200 x 750	1650 x 1500	1500 x 1350	1950 x 1650	1800 x 1500	2400 x 1050	2250 x 900	2850 x 1350	2700 x 1200	3450 x 1200	3300 x 1050
1350 x 1050	1200 x 900	1650 x 1650	1500 x 1500	1950 x 1800	1800 x 1650	2400 x 1200	2250 x 1050	2850 x 1500	2700 x 1350	3450 x 1350	3300 x 1200
1350 x 1200	1200 x 1050	1800 x 600	1650 x 450	1950 x 1950	1800 x 1800	2400 x 1350	2250 x 1200	2850 x 1650	2700 x 1500	3450 x 1500	3300 x 1350
1350 x 1350	1200 x 1200	1800 x 750	1650 x 600	2000 x 1000	1850 x 850	2400 x 1500	2250 x 1350	3000 x 1050	2850 x 900	3450 x 1650	3300 x 1500
1500 x 600	1350 x 450	1800 x 900	1650 x 750	2000 x 1500	1850 x 1350	2400 x 1650	2250 x 1500	3000 x 1200	2850 x 1050	3600 x 1500	3450 x 1350
1500 x 750	1350 x 600	1800 x 1050	1650 x 900	2000 x 2000	1850 x 1850	2550 x 1050	2400 x 900	3000 x 1350	2850 x 1200	3600 x 1650	3450 x 1500
1500 x 900	1350 x 750	1800 x 1200	1650 x 1050	2100 x 900	1950 x 750	2550 x 1200	2400 x 1050	3000 x 1500	2850 x 1350		

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SIZE RESTRICTIONS

Please note that restrictions apply due to size, wind loadings and weight. For fixed units with a PVC kerb, the maximum size is 2000mm x 2000mm (square) and 2850mm x 1650mm (rectangle). For powered opening rooflights, size is normally restricted to a maximum of 1200mm x 1200mm (square) and 1500mm x 1000mm (rectangle). Size of the largest manual opening rooflight is restricted to 1200mm x 1200mm.

SECURITY

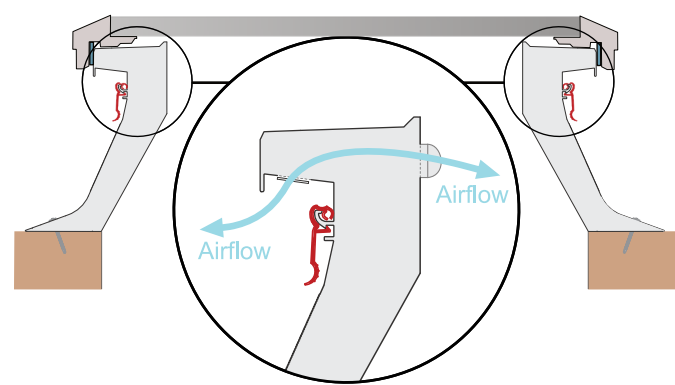
All fixed units are fitted to a builders upstand or a PVC kerb using self-drilling fixings. All fixing heads are concealed using colour-matched cover caps. Optional security grilles are designed to fit beneath the foot of the kerb to provide additional security where required.

SECURITY GRILLE

Designed to fit beneath the foot of the kerb to provide additional security where required. It is powder coated in a white finish, and available in all sizes where a PVC kerb is an option.

VENTILATION

Ventilation can help reduce humidity, and reduce risk of condensation and should be considered in any areas of high humidity. Flat glass rooflights may be unvented or can incorporate vents. These can either be hit-and-miss manually controlled trickle vents or automatic humidity controlled vents and are available in all sizes where a PVC kerb is an option.



Ventilation Options		
Ventilation Type	Description	Rating
Trickle Ventilation (Hit-and-Miss)	Manually operated trickle ventilation provides background ventilation to the interior	Provides 8400mm ² Equivalent Area Ventilation
Automatic Humidity Controlled Trickle Ventilation	Humidity controlled trickle ventilation is sensor controlled to open and close in response to room humidity levels	Provides 7822mm ² Equivalent Area Ventilation and provides superior protection against condensation

ROOF APPLICATIONS

Flat Glass units are suitable for mounting at pitches of 2°-15°.

A minimum pitch of 2° or 4° is required to prevent water ponding on the glass leading to rapid dirt build up. See table under 'Available Options' for minimum pitch according to size.

OPENING OPTIONS

Units can also be opened on concealed hinges using actuators to create a large ventilation area. Powered opening rooflights are not suitable for use in conditions at risk of high humidity (e.g. domestic bathrooms).

Opening Options			
Opening Type	Description	Geometric Ventilation Area	
		Min	Max
Manual Opening (MLD)	Hinged opening rooflight which is operated manually via a worm gear drive with an extension pole	0.300 m ²	0.683 m ²
Powered Opening (PCD/PCR)	Powered hinged opening rooflight with completely concealed operating mechanism. Opened and closed using a control switch or remote control	0.211 m ²	0.725 m ²
Sensor Controlled Powered Opening (PCS)	Powered hinged opening rooflight which includes rain sensors for automatic operation	0.211 m ²	0.725 m ²

GLAZING OPTIONS & TRANSMISSION VALUES

Laminate pane thickness varies with size so a range of values are quoted. Other glazing options are available on request. If non-standard glass is used, glazing performance may differ from the table shown.

Overall Glazing Performance			
Light		Solar Energy	
Transmission	77% - 79%	G-Value	0.56 - 0.59
Reflection	12%	Shading coefficient	0.64 - 0.68

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THERMAL PERFORMANCE (England, Scotland & Wales)

There is currently no method set out for assessing the thermal performance of flat glass rooflights, so the method shown in Rooflight Association (formerly NARM) NTD2 has been adopted as the most appropriate. Thermal transmittance is defined as a U_{rc} value for a rooflight with a PVC kerb and a U_i value for a rooflight fitted to a builders upstand. The thermal transmittance values (assessed horizontally) are shown below.

Thermal Performance (England, Scotland and Wales)				
Rooflight Variant		Size range	Surface:area ratio	U_i / U_{rc} value W/(m ² .K)
Unvented, Fixed Rooflight on Builders Upstand	(U _i)	600 x 600	2.31	1.46
		3600 x 1650	1.27	1.63
Vented or Opening Rooflight on Builders Upstand	(U _i)	600 x 600	1.64	1.78
		2850 x 1650	1.21	1.72
Rooflight with standard 150mm Sloped Kerb	(U _{rc 150})	600 x 600	2.44	1.83
		2850 x 1650	1.43	1.75
Rooflight with standard 300mm Tall Kerb	(U _{rc 300})	600 x 600	3.38	1.73
		2850 x 1650	1.43	1.71

*The overall thermal performance of rooflights is still referred to as a U_a -value in the building regulations, rather than U_i/U_{rc} value as per the calculation method. Values stated are therefore equivalent to a U_a -value assessed horizontally.

THERMAL PERFORMANCE (Republic of Ireland & Northern Ireland)

The thermal performance of flat glass is assessed in the vertical plane and declared as a U_d value of the glazing system. (The glazing used in flat glass achieves a centre pane U value of 1.1W/m²K)

Thermal Performance (Republic of Ireland, Northern Ireland)			
Rooflight Variant		Size range	U_d value
Unvented, Fixed Rooflight on Builders Upstand	(U _d)	600 x 600	1.76
		3600 x 1650	1.26
Vented or Opening Rooflight on Builders Upstand	(U _d)	600 x 600	1.63
		2850 x 1650	1.29
Rooflight with standard 150mm Sloped Kerb	(U _d)	600 x 600	1.32
		2850 x 1650	1.21
Rooflight with standard 300mm Tall Kerb	(U _d)	600 x 600	1.22
		2850 x 1650	1.17

ACOUSTIC PERFORMANCE

Units achieve a direct airborne sound insulation value of 37db (Rw). This value can be improved further by the fitting of a kerb acoustic pack. The acoustic pack is not available with vented or opening options.

ANNEALED, LAMINATED INNER PANE

These Flat Glass rooflights are manufactured using double glazing which includes an inner pane of annealed, laminated safety glass, which prevents falling glass in the event of accidental breakage, for the safety of those below the rooflight.

In some circumstances, annealed, laminated safety glass can be subject to thermal stress fracture in the event of uneven heat build-up directly under the glass. Installation of blinds, or any other alterations made to the lightwell below the rooflight, must be done so with consideration to the risk of thermal stress fracture. In the case of blinds, the risk of thermal stress fracture can never be fully removed, but it can be reduced by choosing light coloured blinds, positioning them as far away from the glass as possible, and including ventilation in the rooflight specification.

More detailed guidance can be obtained upon request.

WIND AND SNOW LOAD

Units have been tested to show that, when correctly fitted in accordance with our instructions and unit is closed, they will resist wind loads calculated in accordance with BS EN 1991-1-4: 2005, and imposed loads in accordance with BS EN 1873: 2005 as shown in table below.

Resistance to Snow and Wind Loads		
	Snow Load (N.m ⁻²)	Wind Load (N.m ⁻²)
Fixed	1200	2400
Opening	1200	1200

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GENERAL PRODUCT DIMENSIONS

Differing kerb options available depending on project specification. When the rooflight is to be fitted to an existing upstand, fixed unventilated rooflights can be fitted directly, and opening or ventilated options are supplied complete with an adapter kerb.

Where no upstand exists, units can be supplied with 150mm PVC kerb (for mounting at roof surface level) or 300mm PVC kerb (for mounting below insulation).

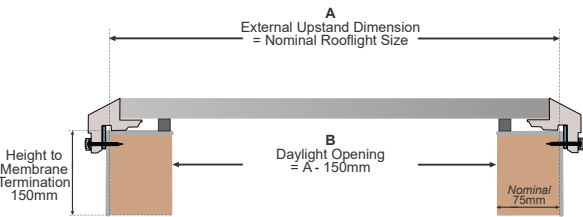


Figure 1: Fixed & Unventilated option directly fixed to builders upstand

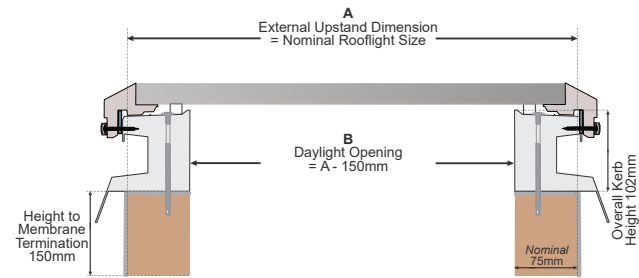


Figure 2: opening / ventilated rooflight on builders upstand

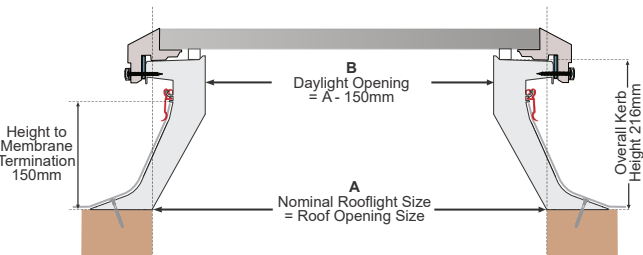


Figure 3: Rooflight with 150mm PVC kerb

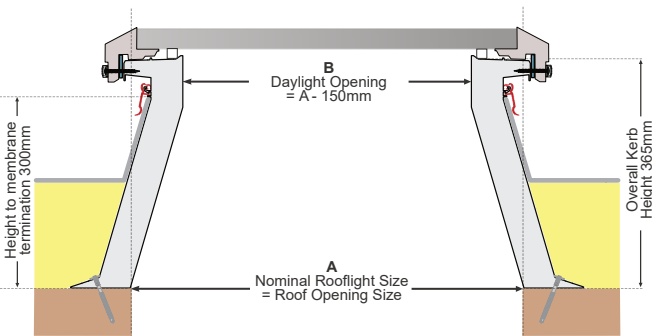


Figure 4: Rooflight with 300mm PVC kerb

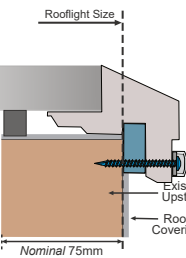


Figure 5: rooflight with builders upstand detail

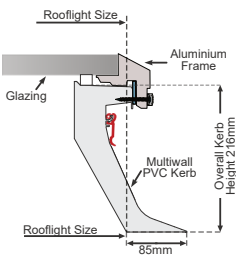


Figure 6: rooflight with 150mm PVC kerb detail

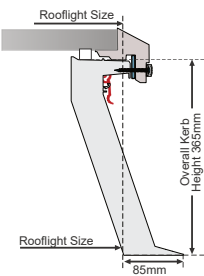


Figure 7: rooflight with 300mm PVC kerb detail

Product Overall Height & Weight							
	Nominal Dome Size (mm)	Builders upstand H(mm) W*(Kg)		Sloped Kerb H(mm) W*(Kg)		300mm Kerb H(mm) W*(Kg)	
Fixed unvented standard flat glass rooflight*	Min 600 x 600	82	18	259	25	407	28
	Max 3600 x 1650	82	264	259	-	407	-
Opening standard flat glass rooflight* (when closed)	Min 600 x 600	185	25	259	28	407	30
	Max 2400 x 1500	185	179	259	188	407	195

*Contact supplier for weights of unit sizes not listed above
#Product weights given above exclude packaging weights

INSTALLATION, HANDLING, MAINTENANCE & STORAGE

Full installation details, maintenance and product care details are available on request.