# INSTALLATION GUIDE

**Ultra**sky®
**LANTERN by Ultraframe**

## ULTRASKY LANTERN

July 2023 | V13

**UltraSky®**

LANTERN by Ultraframe

# Thank you for choosing the Ultrasky Lantern product. This guide is designed to make fitting as straightforward as possible.

Before you commence installation of the lantern, please take a moment to read the rest of this guide.

This guide is written on the basis that the surveyor has undertaken correct checks for the capability / structural performance of any existing flatroof to verify it is fit for purpose. A timber kerb and weatherproofing materials for the deck/kerb interface are not provided.

Any feedback - positive or negative - is welcomed so we can make our systems even better.

**Please contact the Ultraframe Tech Support Team on 01200 452918 or email techsupport@ultraframe.co.uk**

## CONTENTS

**Building regulations**
You will need to follow the below specification in regards to glass U-value in order to pass building regulations. Please refer to the Thermal Design Guide in for a confirmed U-value of each product.
- If your lantern is less than 750mm (w) – 0.9 U-value or less glass is required.
- If your lantern is between 750mm to 1000mm (w) – At least 1.0 U-value glass is required.
- If your lantern is larger than 1000mm (w) – At least 1.2 U-value glass is required.
- The above U-values does not include the rider rail.

### General points
Care should be taken when handling components that are seen by the homeowner, as surfaces may be scratched if not handled with care. Choose a suitable area for unpacking the components and always check them before fitting. Any claims for missing or damaged parts are only accepted in line with our standard terms and conditions of sale.

### Health & safety
Site safety is paramount. The Construction (Design & Management) Regulations 2015 apply to the whole construction process, on all construction projects from concept through to completion. Compliance is required to ensure construction projects are carried out in a way that secures health and safety. The installation company shall be responsible for the safety of all of the fitting team, the customer and members of the public.

The Surveyor should have carried out a risk assessment to reduce risk on site and this should have been discussed with you prior to starting.

Please use safe working platforms and ladders that comply with BS EN 131. Always use equipment in line with manufacturers recommendations. Personal Protective Equipment –such as goggles, mask and ear defenders – should be used when, for example, grinding out for the flashing.

Careful consideration should be given to the safe disposal of all packaging which can be readily recycled.

### Product
The lantern kit is supplied with a location plan. The location plan is used to match individual components to their respective position on the roof.

The majority of aluminium and PVCu components contain identification codes, usually by inkjetting or labelling – should you need to re-order a part this should help. (See component list on p5)

### Sealing
It is important to use the correct sealant when sealing the roof. Always use MS Polymer sealant such as Rotabond 2000 on self cleaning glass.

### The flat roof structure
Check the existing structure is sound and structurally fit for purpose. Check the opening is 'square' and the flat roof deck is level. A timber kerb of 150 x 70mm width should be used onto which is attached the lantern. The lantern is manufactured to suit external kerb sizes.

### Technical Support
Tel:  01200 452 918
Email: techsupport@ultraframe.co.uk

# TOOLS REQUIRED

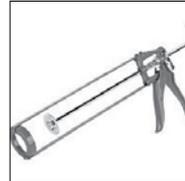| | | | | | |
|---|---|---|---|---|---|
| 8, 10, 13mm Socket Spanner | Deadblow Hammer or White Rubber Mallet | No. 2 Pozi-drive Bit | Drill/Screwdriver | Gasket Shears/Snips | 4.5mm Drill Bit 10mm Drill Bit |
| Spirit Level (magnetic useful for internals) | Tape Measure | Box cutter or Stanley knife | Sealant Gun | Support Prop | |

**THERE ARE SOME MATERIALS YOU NEED TO SUPPLY: EG. PLASTERBOARD, 150 X 70MM TIMBER KERB, FIXINGS TO HOLD ALUMINIUM RIDER RAIL TO TIMBER KERB**

**MS Polymer**

- Self cleaning glass
- Use the correct sealant on glazing

# HANDLING ALUMINIUM PRODUCTS

**PAINTED ALUMINIUM PRODUCTS - PLEASE NOTE**
All paints will 'chalk' to some extent and there will be a reduction in gloss level over time. (See Cleaning and Maintenance guidelines see p13)

**QUALITY EXPECTATIONS ON INSTALLATION.**
**Appearance**: This is assessed based on the selection of the 'significant' (primary) surface. From a distance of 3m, stand at an oblique angle of 60degree and then defects such as blisters, runs, pin holes etc should NOT be seen.
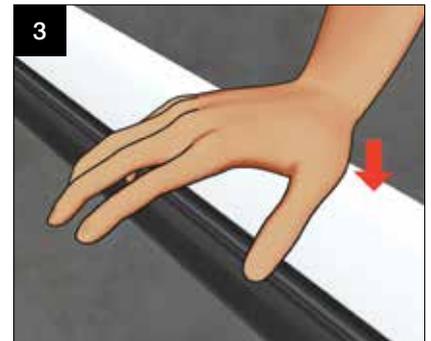**Colour and gloss**: Viewed from 5m, the coating must be of even colour and gloss with good coverage.

**1**

If storing in warehouse racking or on rails/roof racks, take care to support the products and do not over tension straps and ropes. When opening sealed packs, use a special box knife opener.
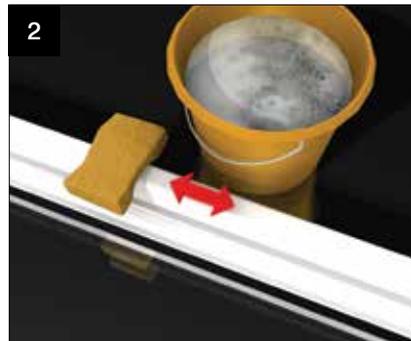
**2**

Grease marks, dirt and mastic spillage may be removed using soapy water.

**3**

Take care when fitting aluminium products to not use excessive force.

## Ultrasky Lantern Materials

Lantern Wallchart/ Component ID chart

Vent installation

Installation Guides

Lantern Explainer Video

Lantern Top Tips Flyer

# SYSTEM OVERVIEW

**50%** BETTER THERMAL PERFORMANCE

**4x STRONGER** FEWER BARS MORE LIGHT

**10 YEAR** GUARANTEE

## ULTRASKY LANTERN

1   High performance thermal break
2   Patented thermally insulated aluminium rafter
3   Super strong ridge for fewer bars and more light
4   Thermally isolating top cap clip
5   'Secure-fit' end caps are a further thermal barrier
6   Thermally broken rider rail
7   Superior 25° pitch for elegance and light
8   Adjustable reinforced stopper to prevent glass slipping
9   Choice of aluminium or PVCu internal and externals

# STRENGTH, WARMTH AND MAXIMUM LIGHT,
## PERFORMANCE ENGINEERING

Ultrasky's Stormshield Protection
System includes:

1 Waterproof glazing compression trims
2 Ridge end weathering shields
3 Secure fit radius end covers

**storm SHIELD** PROTECTION SYSTEM

Ultrasky®
LANTERN by Ultraframe

# COMPONENT IDENTITY LIST

## RIDGE END EXTERNAL COVERS - 3 BAR

3 BAR PVC
LAN035D/2 (DEEPLAS)
LAN035MGR/2 (GREY)

3 BAR ALUMINIUM
LAN028W/2 (WHITE)
LAN028MGR/2 (GREY)
LAN28SBL/2 (BLACK)

## RIDGE END EXTERNAL COVERS - 2 BAR

2 BAR PVC
LAN035D/1 (DEEPLAS)
LAN035MGR/1 (GREY)

2 BAR ALUMINIUM
LAN028W/1 (WHITE)
LAN028MGR/1 (GREY)
LAN28SBL/1 (BLACK)

## RIDGE END

3 BAR
LAN032
FLN001
SHBC001S
EBT001
LAN031
SHBC001SL

2 BAR
LAN032
SHBC001S

## WEATHERING SHEILD
LAN029

## DCM / CCT
DCM001WW (WHITE)
DCM001DWW (DEEPLAS)
DCM001GRWW (GREY)
DCM001SBLWW (BLACK)

CCTA001W (WHITE)
CCTA001D (DEEPLAS)
CCTA001GR (GREY)
CCTA001BL (BLACK)

## BAR END CAPS
CCGA001W (WHITE)
CCGA001D (DEEPLAS)
CCGA001GR (GREY)
CCGA001BL (BLACK)

CCGA001W (WHITE)
CCGA001D (DEEPLAS)
CCGA001GR (GREY)
CCGA001BL (BLACK)

## CENTRAL BAR
JRKA001/4
JRT027

## JACK RAFTER KIT
JRKA004

## FIXINGS
KDS001
SHBC001T
SHBC001S
FST-M5-08BL
FSD-42-25
LANFR001

LHGS001BL
DGCE004 (PACK OF 2)

## RIDGE

LAN600W/6 (WHITE)
LAN600MGR/6 (GREY)
LAN600SBL/6 (BLACK)
Q8201
PSUB600BL
LAN600W/1 (WHITE)
LAN600MGR/1 (GREY)
LAN600SBL/1 (BLACK)

ALUMINIUM/ALUMINIUM OPTION

LAN600W/6 (WHITE)
LAN600MGR/6 (GREY)
LAN600SBL/6 (BLACK)
Q8201
PSUB600BL
Q8159 (WHITE)
QYM8159 (GREY)
Q8053 (WHITE)
QYM8053 (GREY)

PVC/PVC + ALUMINIUM/PVC OPTION

## TRANSOM BARS

LAN600W/4 (WHITE)
LAN600MGR/4 (GREY)
LAN600SBL/4 (BLACK)
AGS305
DSBC600/CBL
LAN014 2 OFF PER BAR (FITTED ON SITE)
LVCC001 100mm FROM EACH END & @ 500mm CENTERS
SPGC600/1
LAN100 (FITTED ON SITE)

ALUMINIUM/ALUMINIUM OPTION

LAN600W/4 (WHITE)
LAN600MGR/4 (GREY)
LAN600SBL/4 (BLACK)
AGS305
SPGC600/1
GBC600C
GBC600CFMGR
LVCC001 100mm FROM EACH END & @ 500mm CENTERS
LAN600W/3 (WHITE)
LAN600MGR/3 (GREY)
LAN600SBL/3 (BLACK) (FITTED ON SITE)

ALUMINIUM/PVC OPTION

CCA600D/25
CCA600FMGR/25
SPGC600/1
GBC600C
GBC600CFMGR

PVC/PVC OPTION

ATC600W/25 (WHITE)
ATC600MGR/25 (GREY)
ATC600SBL/25 (BLACK)
AGS305
DSBC600CBL
LAN100
LAN014 (FITTED ON SITE)
LVCC001 100mm FROM EACH END & @ 500mm CENTERS
SPTA600/1

ALUMINIUM/ALUMINIUM OPTION

ATC600W/25 (WHITE)
ATC600MGR/25 (GREY)
ATC600SBL/25 (BLACK)
AGS305
SPTA600/1
GBC600C
GBC600CFMGR
LAN600W/2 (WHITE)
LAN600MGR/2 (GREY)
LAN600SBL/2 (BLACK) (FITTED ON SITE)

ALUMINIUM/PVC OPTION

## ALUMINIUM INTERNAL RIDGE END COVER

3 BAR
LAN036W/2
LAN036MGR/2
LAN036SBL/2
ALUMINIUM INTERNALS ONLY

2 BAR
LAN036W
LAN036MGR
LAN036SBL
ALUMINIUM INTERNALS ONLY

## INTERNAL RIDGE END COVER

LAN030W/1 (WHITE)
LAN030MGR/1 (GREY)
PVC INTERNALS ONLY

## GLAZING END PROFILE

PVC
PCFD--/24D (DEEPLAS)
PCFD--/24GR (GREY)

ALUMINIUM
AGP--/25W (WHITE)
AGP--/25GR (GREY)
AGP--/25SBL (BLACK)

## RIDER RAIL
PSUB600BL
QORER600M
LANCE600BL
LAEC001

## HIP BARS

LAN600W/6 (WHITE)
LAN600MGR/6 (GREY)
LAN600SBL/6 (BLACK)
AGS305
SPGC600/1
GBC600C
GBC600CFMGR

ALUMINIUM/PVC OPTION

CCG600D/25
CCG600FMGR/25
SPGC600/1
GBC600C
GBC600CFMGR

PVC/PVC OPTION

# PRE INSTALLATION / GENERAL INSTALLATION

**1**
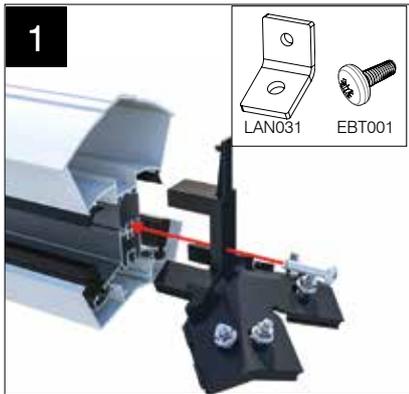


LAN031    EBT001

LANRF001 is supplied pre-installed into the bar. Remove and fix radius end (LAN032BL) then replace the screw. If using 3 bar attach LAN031 using EBT001. If aluminium internal claddings are used then these will need to be attached prior to radius end being installed.

**2**
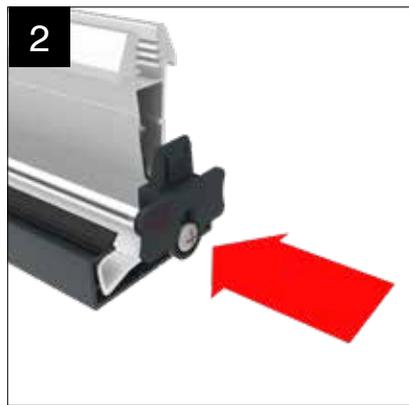


Attach the glazing bar end cap fixing blocks to the transom bars - as access restrictions may prevent easy fixing later. NOTE: These 'snap out' of the end caps when despatched from the factory. These are not required on hip rafters.

**3**
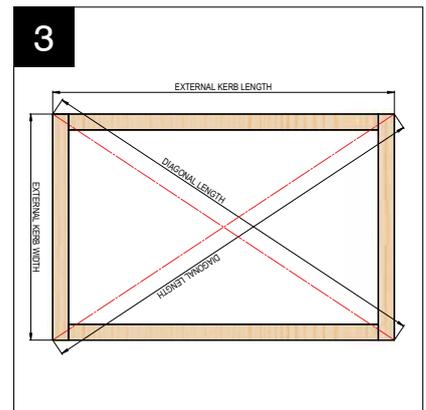


Construct the up-stand to the flat roof with a minimum of 150mm tall kerb (minimum of 70mm wide). Check that kerb is square by measuring diagonals. Ensure the kerb is built to external kerb dimensions that match that specified for the lantern.
The customer must ensure that the kerb and surrounding roof can adequately resist the horizontal spread of the lantern.

**4**
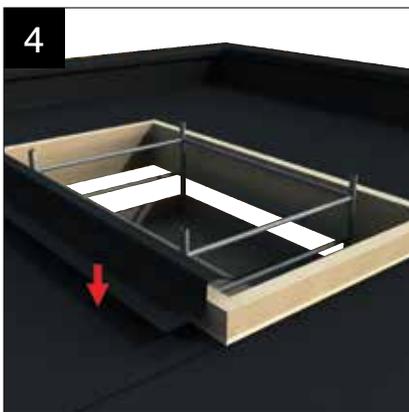


Apply membrane as per manufacturers guidelines. Wrap the membrane up side of the kerb and over the top of the kerb ensuring that a watertight finish is achieved.

**5**



Drill the rider rail at 100mm from each end and drill a minimum of 4 holes at a Max of 400mm centres using appropriate clearance drill. Now take the rider rail and ensure correct number of bolts are slotted into rider rail.

Minimum of at least 4 screws per rider rail length.

**6**
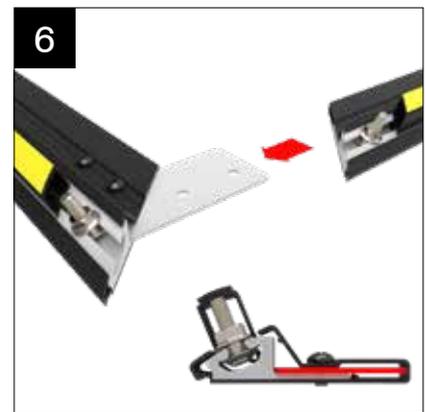


Insert the rider rail cleats into the ends of the mitred rider rail lengths. The cleat should sit inside the PVC sleeve and on top of the aluminium rider rail as highlighted above in red.

**7**
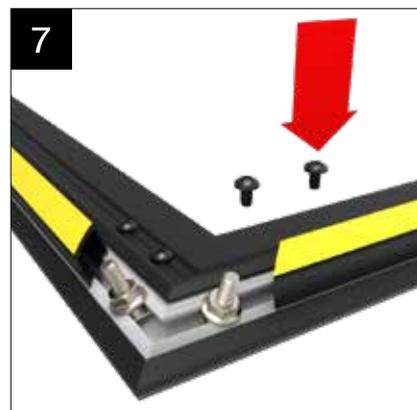


Ensure the mitred rider rail ends are pressed up against each other now fix the cleats into the rider rail using the M5 x 8mm fixings provided through the pre-drilled holes.

**8**
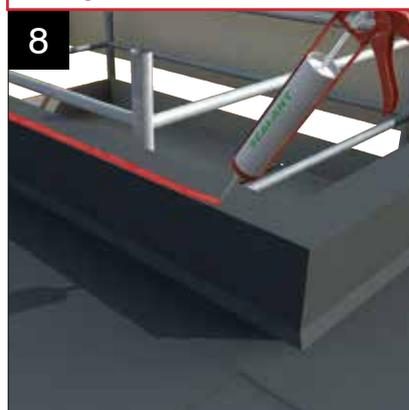


Apply a generous, continuous bead of sealant to the outer perimeter of the top surface of the kerb.
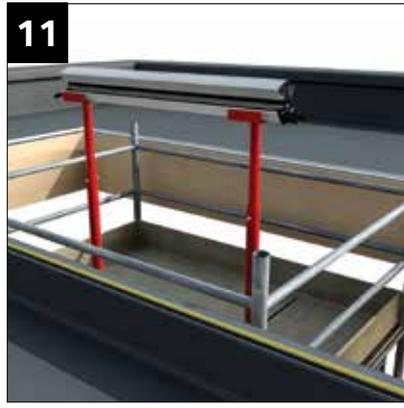
**9**
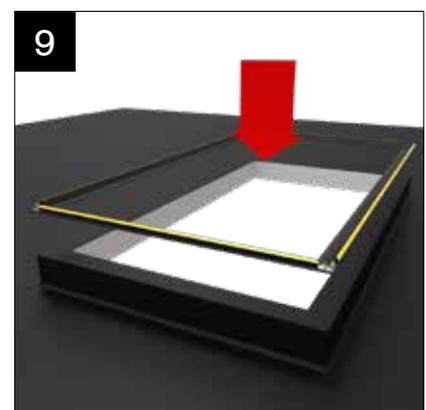


Position the assembled rider rail frame on top of the kerb, centre this rider rail frame over the opening ensuring it is square (check diagonals). Fix down to the kerb using appropriate fixings not supplied.

# GENERAL INSTALLATION



**10**

Once rider rail is fitted, seal corner joints.



**11**

Prop ridge in position using suitable supports, centralising between rider rail. (When the ridge features aluminium painted intenal finish it will need to be protected whilst supporting).



**12**

Using nuts and bolts (SHBC001S - found in BURBOX), locate each hip bar and secure to radius end by hand tightening nuts.



**13**
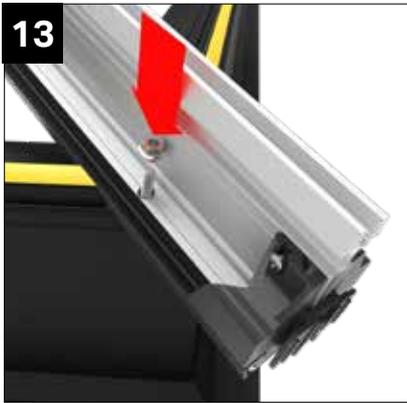
Remove nuts on rider rail. Fit hip bars onto bolts at rider rail end and hand tighten nuts. Ensure the ridge is now level and using an angle finder check the pitch of the lantern is set at 25°.
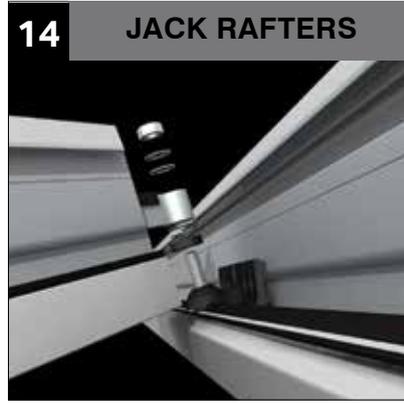


**14**   **JACK RAFTERS**

The 2 part jack rafter kit is already fitted to the hip and jack rafter. Ease back the jack rafter undercladding. Each jack rafter kit is supplied with a number of washers. Trial fit the jack rafter and check that the glazing platforms are level. Adjust if necessary by adding or removing washers between the two part connecting kit, then tighten the nut. **NOTE: If aluminium internal claddings are being used, fit hip internal cladding prior to fitting jack rafters.**



**15**
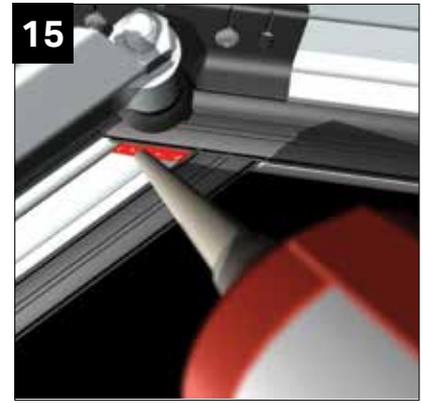
Seal the area where the hip bar abuts the jack rafter as shown above.



**16**
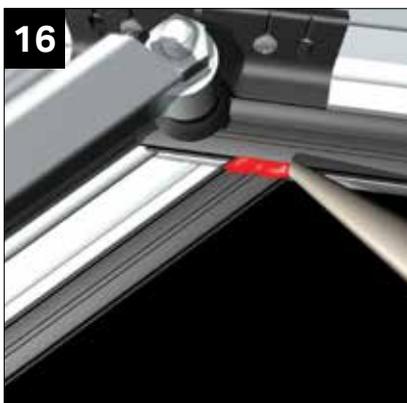
Seal the area where the co-extruded gasket on the hip bar abuts the co-extruded gasket on the jack rafter.



**17**

Depending upon the lantern size and options requested, fit hub end transom bar and / or side transom bars. If specified on the job, remove nuts from bolts in transom position and fit transom bar over bolts. Re fit nuts and hand tighten. Check that ridge is level and fully tighten nuts on all bars.



**18**
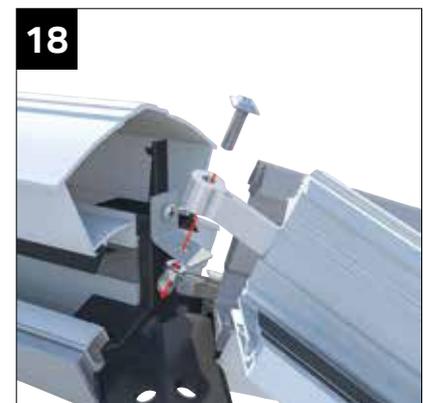
When a transom is fitted between hips, lift transom bar sleeved spiggot over bolt, then tighten nut.

# FITTING ALUMINIUM INTERNAL CLADDING (IF SPECIFIED)
## NOTE: ENSURE RIDGE UNDERCLADDING IS CENTRED ON RIDGE BODY

**19**



**ONLY 2 CLIPS REQUIRED**

Attach the spring clips (LAN014) to side of the glazing bars. TRANSOM - 2 clips 50mm from the top of the bar. 2 clips 100mm from the rider rail. HIP - 2 clips 100mm from the rider rail.* top of bar locates on ridge end (see step 21). Push the leg in under the gasket and spring around the underside as shown. Ensure the clips are fully pushed on.

**20**
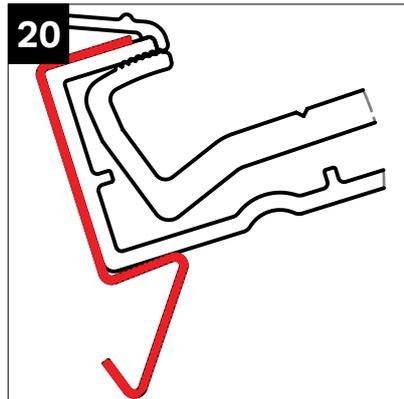


Spring clips in position.

**21**
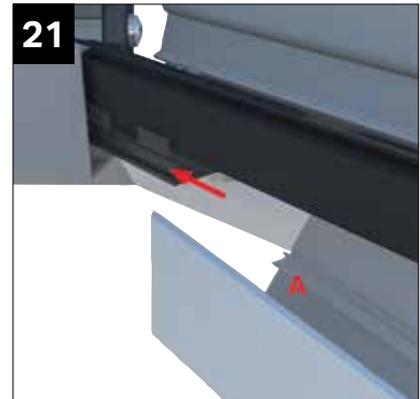


Position top of hips into ridge end ensuring they butt up against it. Locate on the lip as shown above.

**22**
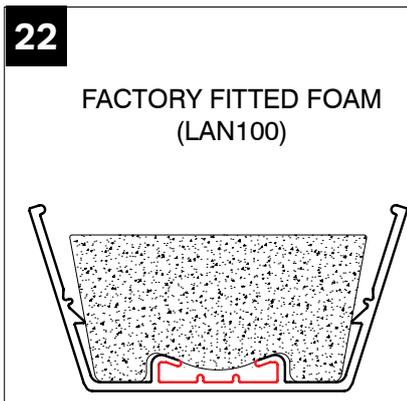
FACTORY FITTED FOAM (LAN100)



Ensure the foam does not interfere with the clips by pinching it towards the centre of the bar.

**23**



Slide undercladding down towards rider rail as far as you can and push onto clips. Hip claddings are asymmetric. Fit with short cut between hips as shown, claddings have red and blue coloured dots attached to indicate position - always use a red and blue dot at each ridge end.

**24**



LEFT

RIDGE
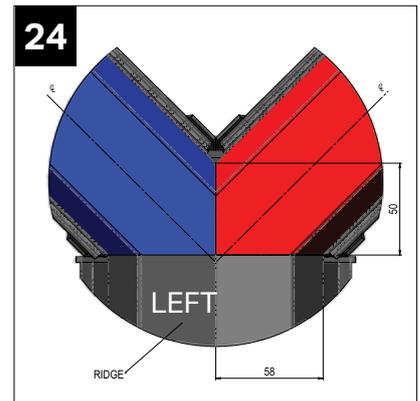
Look up with a 'worms eye view' down the central bar to distinguish left and right.



**25**



Snap off appropriate handed glazing stop (LH shown). Handing marked at base of glazing stop. Line up the rounded edge on base plate next to central web of glazing bar and tuck under gasket side of bar. Rotate glazing stop into position. Push the grommet over the post. Slide assembly down to end of bar. Repeat this for all glazing bars on the roof, excluding hip bars as these will be fit with glassLOCKs.

**26a**



Using MS polymer seal underside of top face of glazing end profile as shown. Depending on the roof specification this can either be a PVCu or Aluminium profile. The end profile is square cut and to be aligned flush with the glazing.

# GENERAL INSTALLATION CONTINUED



**26b**
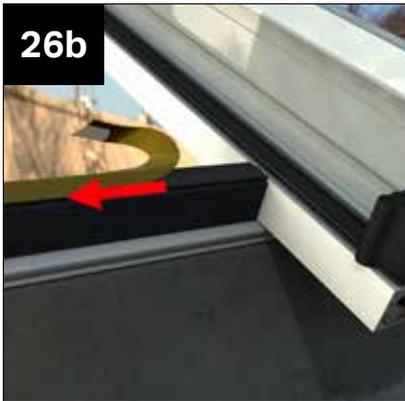
Peel back a small tab of the protective film on the glazing support from the rider rail and the ridge. (ready to be pulled away when the sealed units are finally in position).
**DO NOT FULLY REMOVE TAPE YET.**



**27**
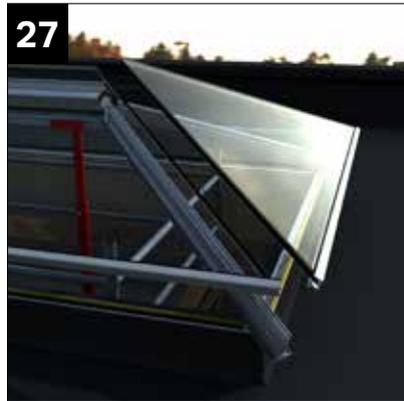
Lift glass units into place onto the glazing bars. When fitting units along the ridge, lift the unit slightly and push into the ridge, then lower onto the rider rail glazing support. Centralise the glazing between the glazing bars. If necessary, pack out on each side.



**28**
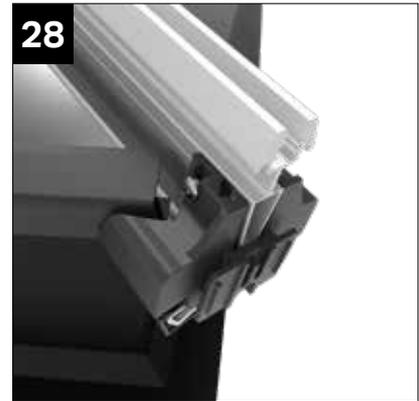
Ensure the glass units are pushed up towards the ridge and that the glazing is securely located behind the glassLOCKs at the hips.



**29**
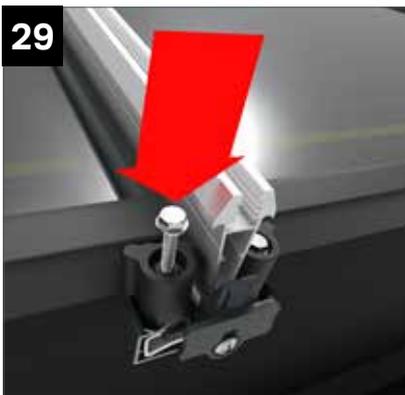
Push the glass stops up to meet the glass end profile, ensure that the lower edge of the glazing is running parallel to the kerb. Then using fixings provided secure the glass stops in place.



**30**
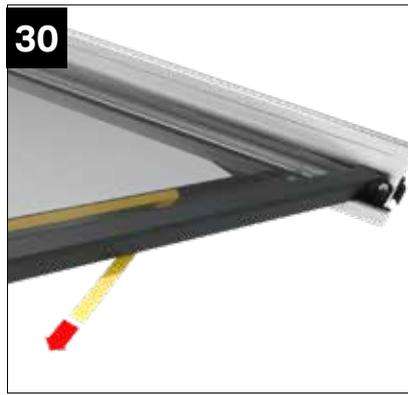
Now the glass is in position and held in place by the glass stops, peel back the remainder of the protective film from the glazing support.



**31**
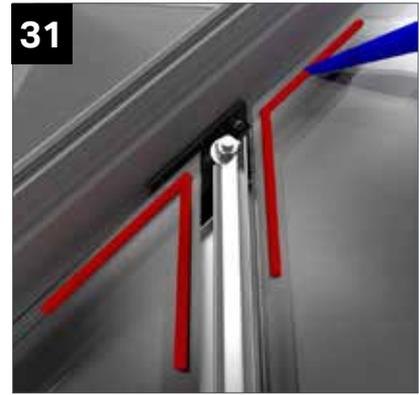
If the lantern has jack rafters. At the corners of the glazing that meet the jack rafter bracket, apply MS polymer to the surface of the glazing as shown above to create a barrier. This should be positioned towards the edge of the glazing as to be obscured by the top caps once they are installed.



**32**

**ALUMINIUM CAPS**

This stage should have been prepped in the factory. If not take the aluminium top caps and lay them onto a protected surface. Slide clips into each bar - position down from ridge at a max centre of 100mm and then at 500mm centres (max) inbetween.



**33**

Work your way around the roof and fit the glazing bar tops caps. If fitting jack rafters ensure you have read step 34 prior to fitting the jack rafter top caps.



**34**
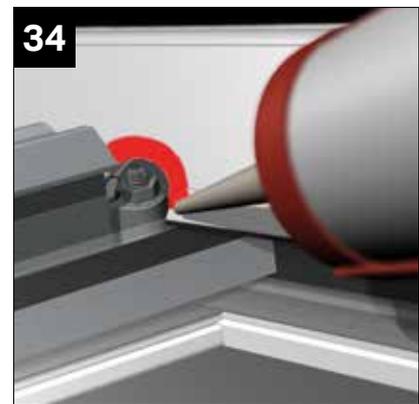
Seal around the notched hip bar top cap ready to receive the jack rafter capping.

# GENERAL INSTALLATION CONTINUED



**35**

Using the heel of your hand, push down on the top cap to engage the clips, working from ridge to rider rail. Ensure the rubber gaskets are fully compressed for a watertight seal. NOTE: on longer bars it may be necessary to use a soft mallet and timber block.
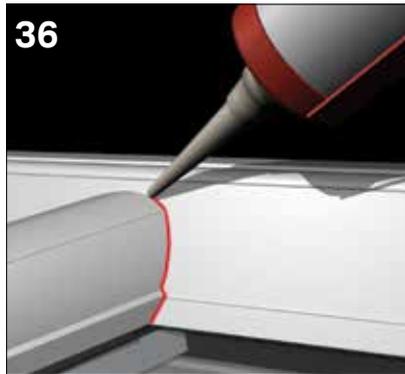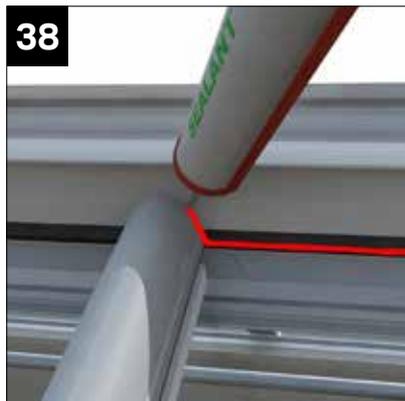


**36**

Using MS polymer, seal the gaskets and capping around the joint between the hip bar cappings and the jack rafter cappings.

# INSTALLATION - EXTERNAL COVER



**37**

ENSURE THE GLASS IS CLEAN AND DRY BEFORE FITTING. Peel back protective film from weathering shield and position (adhesive face down) on glass, locating around the ridge and the hip bars. Press down firmly.
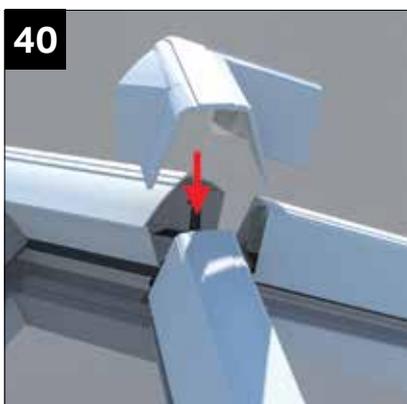


**38**

MS Polymer sealant only on Self cleaning glass        **MS Polymer**
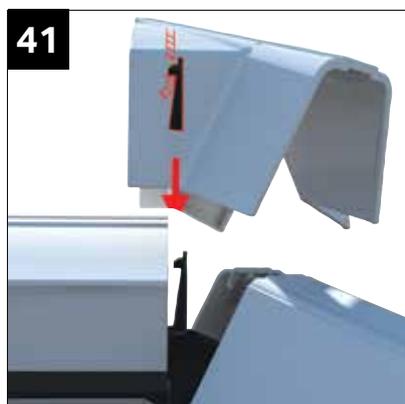
Seal along the ridge baffle where it meets the glazing and over any bar where it meets the ridge.



**39**

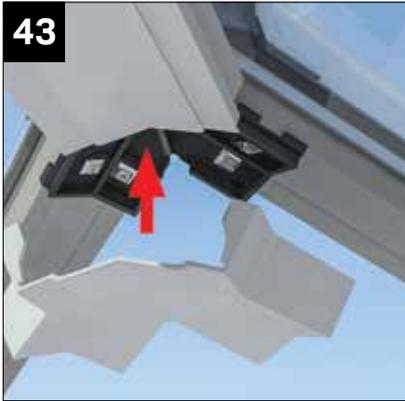Apply generous bead of MS polymer to the underside of the external cover as shown above.



**40**

Press firmly down on the ridge end top cap until it clicks into position on the ridge end.
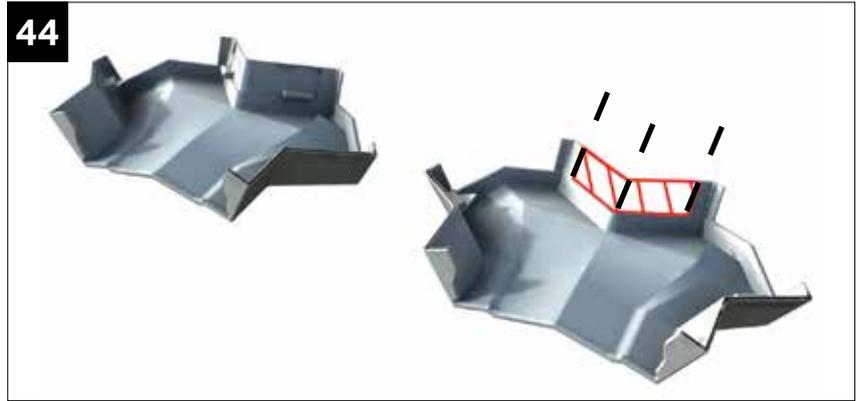


**41**



**42**

Fit end caps to bars and push in circular cover disk to finish.

# INSTALLATION - PLASTIC INTERNAL COVER



Fit the internal plastic cover by pushing up into position over the ridge and ridge end.



When a central transom between the hips is specified, the internal cover will need the highlighted section above removing. Using a hacksaw cut down the three dotted lines up to the lip. Then using pliers remove the section by bending back and forth. Tidy ends using a small file.
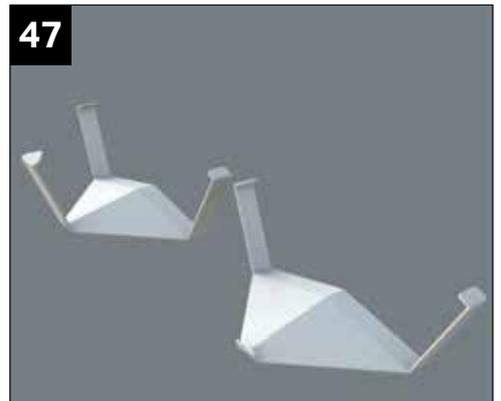
# INSTALLATION - ALUMINIUM INTERNAL COVER
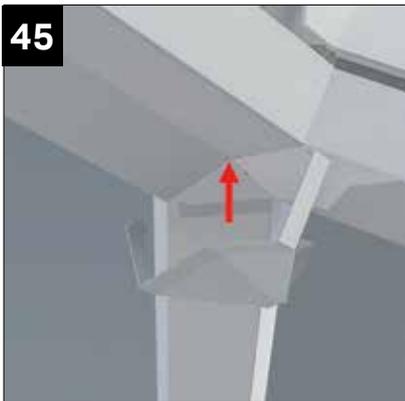


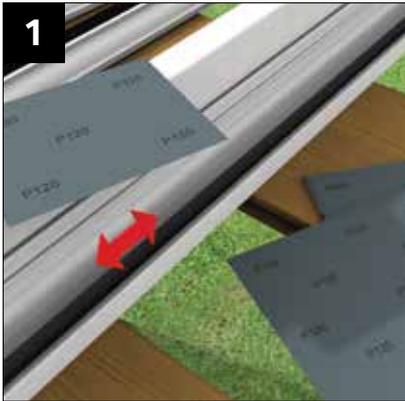Clip fit into position the aluminium internal radius end cover trim.
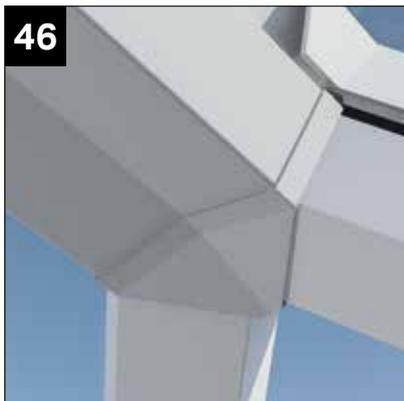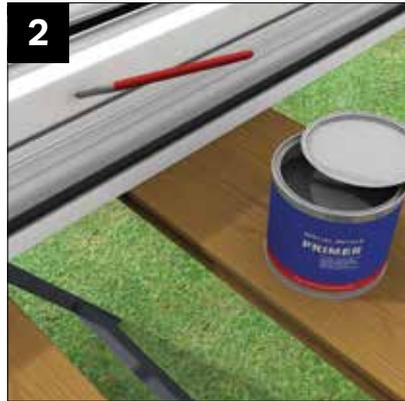


Clipped into final position.



No central leg when roof has central transom between hip bars fitted.
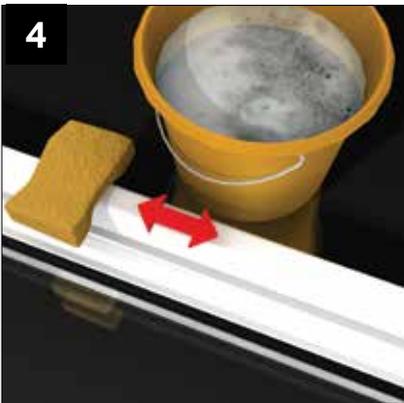
# CLEANING AND MAINTENANCE - ALUMINIUM EXTERNAL

**1**



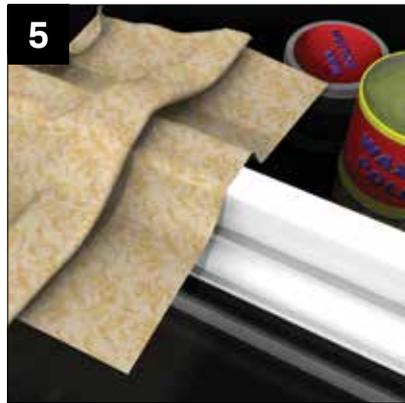If surface damage is encountered, use 120-360 grit paper to prepare the surface. Wipe clean with white spirit.

**2**



Ensure the surface is dry – apply a thin primer coat using a fine brush.

**3**



Finally, apply an air drying top coat with a fine brush.

**4**



General cleaning can be undertaken by a wash with warm soapy water.

**5**



For added protection, a wax polish can be applied up to twice per year – follow the polish manufacturer's instructions carefully.

**Only access roofs safely and using appropriate access equipment**

## PLEASE PASS TO HOMEOWNER

**It should be noted that polyester powder coatings are not maintenance free – the extent of cleaning depends upon the local environment and on the attitude of the building owner. Think cars here...if the building owner wants a finish like that, more regular cleaning is needed. All paints will 'chalk' to some extent and there will be a reduction in gloss level over time – this can be restored.**

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