



# SOLATUBE®

## Solatube Brighten Up® Series -

Solatube® 160 DS (250mm)

Solatube® 290 DS (350mm)

Step-by-step  
installation guide for  
pitched and flat roofs





## Solatube® Daylighting Systems

Solatube® Daylighting Systems are the brightest way to bring daylight into your home.

Solatube® Daylighting Systems incorporate innovative technologies that deliver unrivalled levels of natural light. We are so confident that no other tubular daylighting device will give you more daylight – all day long, all year long – than a Solatube® Daylighting System, we offer a money-back guarantee.

For more information regarding the Solatube® Highest Performance Guarantee or to register your Solatube® Daylighting System, please visit our website at [www.solatube.co.uk](http://www.solatube.co.uk).

# Welcome to a brighter world



## Suggested tools

- angle grinder/tile cutter
- drill and drill bits
- flat or spud-bar
- hammer
- reciprocating saw
- scissors or blade knife
- screwdrivers
- sealant gun
- tape measure
- wire brush

# Important Safety Information

Proceed with your Solatube® Daylighting System installation only if you have read and understood these guidelines fully, including the safety points below.

Installation may require climbing and working at heights. Use extreme caution to minimise risk of accidental injury and property damage, including, but not limited to:

- Clear the area below your workspace of all people, animals and other items
- Avoid working on surfaces that are slippery or wet and use appropriate footwear
- Use only strong, well-supported and appropriate equipment for working at height
- Work only in safe weather conditions
- When in attics, ensure your weight is supported by structurally sound framing
- Reduce the risk of fire, electric shock and personal injury by following basic safety precautions when using electrical tools. Always wear safety goggles or other suitable eye protection and ensure the work area is clear of all electrical wires, gas pipes, water pipes and any other obstacles that may present a risk
- When working in attics use of a mask or respirator is recommended to avoid lung irritation
- Beware of sharp protruding objects and wear protective gloves to avoid lacerations
- Do not attempt installation without having someone within range of your voice or close enough to come to your aid if necessary
- Only suitably qualified persons should undertake electrical wiring
- Ensure the roof is in an appropriate condition to support the work necessary to install your Solatube® Daylighting System, without damaging its structure or waterproofing properties
- Long lengths of extension tube sections may be secured by wire or other retainers to the rafters
- To eliminate the possibility of condensation on the tubes and, particularly cold conditions, it is recommended to wrap an insulating jacket around the outer diameter of the tubing

Please read the full Terms and Conditions of sale at [www.solatube.co.uk](http://www.solatube.co.uk). If you have any doubt concerning your competence or expertise regarding any aspect of the installation, consult your supplier or a qualified expert before proceeding. In addition, please check the Health & Safety Executive website for advice on safe working at height <http://www.hse.gov.uk>. Installation is carried out at your own risk.

For further product information and technical support please contact your Solatube® supplier.



**SOLATUBE®**

[www.solatube.co.uk](http://www.solatube.co.uk)

## Components for a flat roof application:

- Roof dome with Raybender® 3000 technology LightTracker™ Reflector system
- Flat metal roof flashing with 150mm parallel up-stand
- 305mm long top tube assembly (with 0-30° angle adaptor and dome ring)
- 305mm long ceiling tube assembly (with 0-30° angle adaptor and ceiling ring assembly)
- Classic Vusion™ diffuser
- Aluminium tape, sealant cartridge and all seals, fixings and fastenings
- Neoprene flashing insulator (not shown)



## Components for a pitched roof application:

Solaflex Flashing Kit is required for installation into a pitched roof - regardless of the pitch and tile/slate type.



## Other components

Additional 0-90° angle adaptors and 610mm long straight sections are available for applications with a longer distance between roof and ceiling.

For installations through voids in excess of 400mm, please use the table below to determine the number of extension tubes required.

Up to 400mm	0 extension tubes
Up to 960mm	1 extension tube
Up to 1520mm	2 extension tubes
Up to 2080mm	3 extension tubes
Up to 2640mm	4 extension tubes
Up to 3200mm	5 extension tubes
Up to 3760mm	6 extension tubes



- Solatube® 160 DS recommended maximum tube length - 6 metres
- Solatube® 290 DS recommended maximum tube length - 9 metres

# Pitched Roof Application (for flat roof applications see p11)

Before you start, ensure you have the Solaflex Flashing Kit, required for all pitched roof installations, and sufficient extension tubes to cover your installation distance (refer to the chart on page 3).

## Positioning

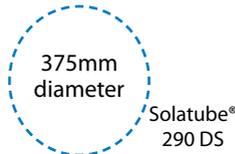
Select the desired location for the ceiling diffuser and roof flashing. Ensure the tube's path from the ceiling to the roof is free from any obstructions.

Note that you will be able to align the ceiling and top tube assemblies by rotating the 0-30° adjustable angle adaptors as required.



## Cut the ceiling aperture

Carefully cut the appropriate sized aperture in the ceiling, avoiding joists and any obstructions:



## Install the ceiling tube assembly

Insert the ceiling tube assembly into the aperture and turn the twist-lock fastening clamps clockwise with a screwdriver to clamp the ceiling tube assembly lightly in place (do not over tighten). These clamps may be loosened later to allow the ceiling tube assembly to be rotated to help alignment with the top tube.

From within the roof void, select an appropriate centre point position for the roof flashing to which the ceiling tube assembly must align. Mark this position so it can be located from the surface of the roof.



---

### Roof flashing location

On the roof, locate your marker, remove sufficient tiles and position (but do not fix) the roof flashing. Ensure the top edge of the flashing is able to be secured to a batten, as shown, and no rafters or obstructions lie in the tube's path.

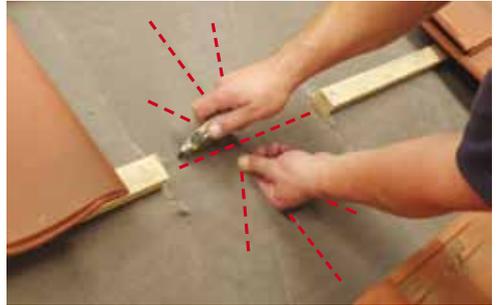


Note: image shows flashing before batten is removed

---

### Cutting through the roof felt

Using the inside of the roof flashing up-stand as a template, mark a circle onto the roof felt and batten. If necessary, cut the batten, then cut the roof felt in a star shape so the felt can be folded upwards after the tube assembly is in place.

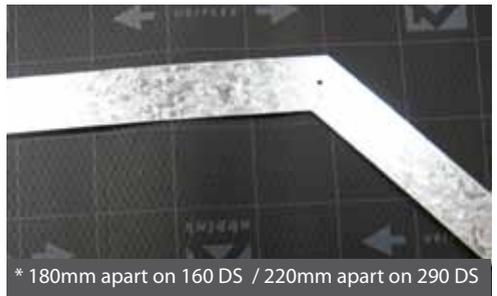


---

### Attach the Solaflex Flashing Kit

Fix the Solaflex sheet to the underside of the roof flashing using the metal bracket as a clamp;

On the underside of the flashing, align the pre-drilled holes in the flashing with the pre-drilled holes in the metal bracket, ensuring all holes align correctly\*. From the flashing side, screw the flashing to the bracket using initially only the two outer holes of the bracket, then insert the Solaflex sheet between the flashing and the bracket, pushing it up to the screws. Screw through the two remaining holes, thus firmly clamping the Solaflex sheet to the flashing. Mold the Solaflex sheet towards the up-stand.



\* 180mm apart on 160 DS / 220mm apart on 290 DS



## Secure the roof flashing

Secure the top of the roof flashing to the selected batten with the screws provided. Ensure the lower edge of the flashing and the Solaflex sheet sits over the tiles below.



Lift the Solaflex sheet and apply a generous bead of the sealant (supplied) on top of the tile where the Solaflex sheet will sit so that it secures to the roof tile profile when it is formed down.

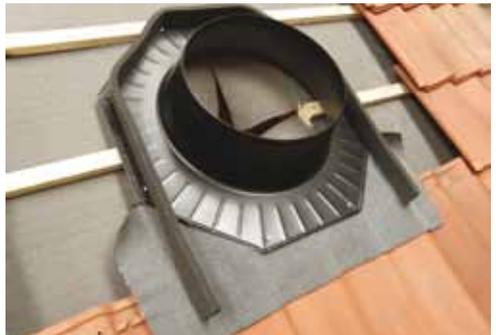


Apply hand-pressure to form the Solaflex flashing sheet to the profile of the tiles below.



Ensure the flashing is clean and dry, then peel away the protective backing film from the Solafoam weather strip and apply it to the roof flashing as shown.

The Solafoam weather strip should be cut back so as not to protrude from under the tiles when they are replaced.



### For slate or thin tile roofs

The Solafoam weather strip is not required for slate or thin tile roofs. Instead, use the sealant supplied to create a weather strip between the slates and the flashing.

Replace and secure the removed tiles using the appropriate fixings (not supplied). Ensure there is a firm seal between the underside of the tile and the Solafoam weather strip.

Note that the Solafoam weather strip may be trimmed for lighter tiles if they do not re-seat properly.



Cut the remaining tiles to fit around the top of the flashing, ensuring there is a minimum gap of 40mm between the tiles and the up-stand to allow the Solatube® roof dome to be fitted (see dome and top tube assembly installation section for more details on page 8). Ensure all the replaced tiles are firmly in position and watertight.



The images below illustrate how the finished installation should appear when completed (may vary according to roof type).



### Installing the top tube assembly

Insert the top tube assembly into the roof flashing so that the neoprene gasket creates a seal between the flashing and the dome ring. If necessary, rotate the lower angle section to point towards the ceiling tube assembly. Align the pre-drilled dome ring screw holes with the pre-drilled up-stand holes.



Screw the dome ring to the up-stand through the pre-drilled holes using the screws provided and remove the protective film from the inside of the top tube assembly.

Never leave the protective film in place once the top tube has been fitted.



---

### Installing the roof dome

Align the holes in the LightTracker™ dome reflector with the tabs inside the dome and push into position, ensuring the dome reflector is locked into position. Peel the protective film from the dome reflector surface.



Keeping the LightTracker™ dome reflector on the north side of the dome facing south, align the four locking tabs on the dome base with the snaps on the dome ring. Press down firmly until the dome locks into place. Ensure the tabs are fully engaged.



## Installation within the roof void

### Installing the flashing insulator

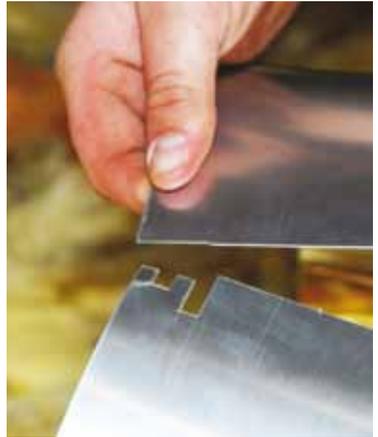
The flashing insulator is designed to reseal the roofing felt or seal to the underside of a flat roof. Slide the flashing insulator over the open end of the top tube assembly and slide it towards the flashing. Screw down or tape the edges of the flashing insulator to the rafters and/or roof felt.



### Connecting the top and ceiling assemblies

If extension tubes are used, remove the protective film from the inside of the extension tube(s) before assembly. Each extension tube has a deep and shallow notch at each end, as well as a central notch.

Weave one end of the tube through the deep notch, and the other through the shallow notch, ensuring the tube is also held by the centre notch. At this stage, use small pieces of the aluminium tape provided to hold the notches together.



If using more than one extension tube, ensure the smaller diameter tube end (deep notch) faces towards the ceiling to allow any further tubes to fit inside. Extension tubes can then be 'telescoped' together to provide the total length required.



Assemble the required length of extension tubes to join the top tube to the ceiling tube, ensuring a minimum of 50mm overlap between each join. Use small pieces of tape to hold the tubes together. Check the assembled tube length is correct and fits into the top and ceiling tubes. All extension tube joins can now be fully taped.



Use the shiny side of the tape's backing paper to rub over the aluminium tape to produce a smooth, well-bonded surface on all joins.



On the uppermost extension tube, wrap the self-adhesive expansion joint seal twice around the outer diameter of the tube, approximately 25mm from the top. If no extension tubes are used, the expansion joint seal is applied to the ceiling tube assembly.



Slide the extension tube(s) up into the top tube assembly and gently ease back down into the ceiling tube assembly, allowing a 50mm overlap for both. If necessary, adjust the angles of the top or ceiling tube assemblies.



Once in place, seal ALL the remaining seams and joins with the aluminium tape provided.

For extra strength and rigidity, use the small self-tapping screws to secure all joins.



---

### Installing the clear lens & ceiling diffuser

With the clear pull tab facing downwards, insert the clear lens up into the ceiling tube assembly until its gasket locates into the channel. Place the ceiling diffuser up into the ceiling ring, matching the slots, and twist to secure into place.



# Flat Roof Application (for pitched roof applications see p4)

Before you start your installation, ensure you have sufficient extension tubes to cover the installation distance (refer to chart on page 3). This section of the guide shows a retrofit installation into a felt roof. If your roof covering is being installed at the same time as the Solatube® Daylighting System, it is possible to install the roof flashing to the decking, with the felt or membrane covering the metal flashing/upstand.

## Positioning

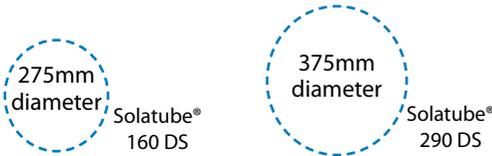
Select the desired location for the ceiling diffuser and roof flashing. Ensure the tube's path from the ceiling to the roof is free from any obstructions.

Note that you will be able to align the ceiling and top tube assemblies by rotating their 0-30° adjustable angle adaptors as required.



## Cut the ceiling aperture

Carefully cut the appropriate sized aperture in the ceiling, avoiding joists and obstructions:



## Install the ceiling tube assembly

Insert the ceiling tube assembly into the aperture and turn the twist-lock fastening clamps clockwise with a screwdriver to clamp the ceiling tube assembly lightly in place (do not over tighten). These clamps may be loosened later to allow the ceiling tube assembly to be rotated to help alignment with the top tube.

Locate the centre point above the aperture in the ceiling and mark the position for the roof flashing so that it can be located from the rooftop.



At the centre point above the ceiling aperture, sweep away any gravel or embedded grit from the roof area where the flashing will be located. If the roof is felt or roll roofing, remove any dirt or loose granules with a wire brush. If the roof is hot-tarred and gravel, scrape away the embedded gravel and excess tar with a flat- or spud-bar. The roof surface under the flashing and 75mm beyond the edge must be smooth, level, clean and dry.

Drill eight additional 5mm diameter holes around the edge of the flashing base between the eight existing holes.

Centre the flashing over the centre point marker. Using the inner circumference of the flashing as a guide, mark a circle onto the roof surface. Remove the flashing and cut 20mm inside the marked circle. Clean any sawdust from around the roof aperture and temporarily place the flashing and top tube in position to check alignment before proceeding. Mark around the outer edge of the flashing.

Apply several generous lines of sealant around the underside of the flashing, 25mm in from the outer edge. Re-position the flashing onto the outer edge marks, ensuring that it is seated correctly and the sealant has made a complete and watertight seal.

Ensure the flashing insulator makes contact with the flashing to eliminate any condensation (refer to page 9).

Screw the flashing in place, ensuring that the sealant is compressed evenly around the underside of the flashing. Screws should be firm, but not over tightened. Smooth any sealant along the edges of the flashing. Apply sealant to all screw heads. If there is gravel on the roof, sweep it back over the base of the flashing.

Proceed with top tube and dome installation as detailed on page 8 to complete your installation.



# Solatube® accessories

## Solatube® Electric Light Add-on Kit

Fits into your Solatube® Daylighting System to provide the convenience of a switchable electric light for night time use. The fitting must be positioned 220mm distance from the lower lens. Edison screw fitting and rated up to 75w, may be used in conjunction with the Bathroom Ventilation Kit to provide a neat 3-in-1 system.



## Solatube® Daylight Dimmer™

The Solatube® Daylight Dimmer™ gives complete control of the amount of light entering the room. Ideal for bedrooms or entertainment areas, the electronically operated butterfly valve is integrated into the Solatube® Daylighting System and can be operated from a low-voltage, wall-mounted switch or a remote control.

## Solatube® Bathroom Ventilation Kit

Available for the Solatube® 160 DS only, this innovative accessory not only delivers excellent ventilation, it also provides a neat and stylish 2-in-1 unit. Ideal for use in wet rooms, shower rooms, bathrooms and en-suites. Requires a roof void clearance of at least 500mm. May also be used in conjunction with the Solatube® Electric Light Add-on Kit.



## Solatube® 0-90° Angle Adaptor

In more complex installations with unusual corners and obstructions, it may be necessary to make further turns in the tube. The 0-90° angle adaptor simply twists from a straight tube through to a full 90° bend. Made from 99.7% reflective Spectralight® Infinity tubing.

# Guaranteed quality and performance

## Highest Performance Guarantee

We are so confident that no other tubular daylighting system will give you more light – all day long, all year long – than a Solatube® Daylighting System, we offer a money-back guarantee.

For more information please contact your Solatube® supplier or visit our website at [www.solatube.co.uk](http://www.solatube.co.uk).



## 10 year product warranty

Solatube® manufacturers guarantee that all non-electrical component parts of Solatube® Daylighting Systems are free from defects for 10 years from initial purchase date. Electrical options come with a 5-year warranty from initial purchase date.

You can register your Solatube® product warranty online at [www.solatube.co.uk](http://www.solatube.co.uk).



# SOLATUBE®

[www.solatube.co.uk](http://www.solatube.co.uk)