

Solarspot® Daylighting Systems installation guide

Please read this guide before commencing work on your installation.

The enclosed information is intended as a guide to installing a Solarspot® tubular daylight system.

Before starting any installation work make sure that you have read and fully understood the installation guide. Ensure that your work area is clear of obstructions and you have taken all necessary safety precautions. Please read the enclosed safety guide before continuing.

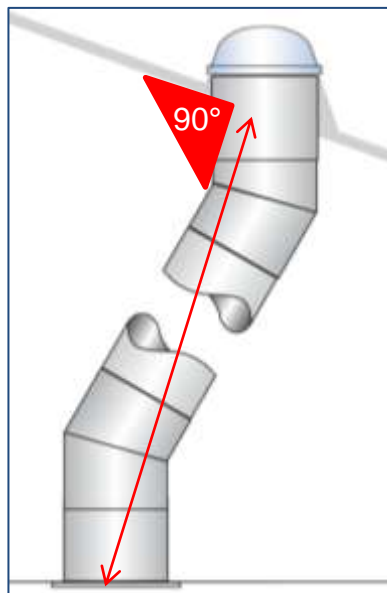
Also, ensure that you have checked the distance between joist and rafters to determine that the system you have purchased will fit through the spaces available.

Solarspot D-25 requires a joist gap of 250mm and the D-38 requires 375mm.

Suggested order of installation

- Locate the position and install the ceiling tube.
- Determine the best route through the loft and fit the flashing.
- Install the tube extensions and adjustable angles.
- Finally, fit the diffuser.

The ideal situation is to have the shortest tube possible. This is normally achieved by taking the tube as close to 90° from the underside of the roof, not 90° from the ceiling. The exception to this would be if the 'shortest' point on the roof was in shade and a brighter location existed that could be easily reached by installing a longer tube extension.



If, having read the installation guide, you'd feel happier getting the system fitted by a professional installer, our team of independent installers are on hand to do the job for you.

For advice, or to contact your nearest installer you can call us on **01908 299117**.

Lines are open Mon – Fri 9.00am to 5.00pm



Solarspot® top tube with RIR™ Light Funnel for unsurpassed light capture and performance.

Solarspot® seamless roof flashings for a totally weather-proof integration into your roof.



99.7% reflective Vegalux® extensions and angles ensure maximum light delivery.



Solarspot® diffusers deliver the daylight evenly into your room.



Before starting any installation work make sure that you have read and fully understood the installation instructions. Ensure that your work area is clear of obstructions and you have taken all necessary safety precautions.

Installing the diffuser – plaster board ceilings.

First decide the position of the diffuser in the ceiling. Where possible, always try and locate the diffuser in the centre of the room. Before making any cuts into the ceiling, check that there are no cables, pipes, joists or other obstructions in the way. Check from inside the roof void or loft that there is sufficient space for your Solarspot system to fit where you want it.

If the space is tight, drill a small locating hole from inside the loft at the centre point of the joists to ensure that you have enough space to fit the system through.

Now remove the diffusing lens from the white ceiling ring on the bottom of the Solarspot – the lens will ease out with just finger pressure. Fig 1

Use the diffuser as a template to draw around – draw around the tabs as well. Fig 2

Safety warning: Protect your eyes from plaster dust when cutting the ceiling aperture!

Installer tip - Alternatively, drill a hole in the ceiling so that you can locate the position in the loft. You can then draw around the diffuser from inside the loft space and cut from above to avoid falling plaster dust.

Use a drill to make a hole in the ceiling then use a plaster board or pad saw to cut around the line. Using your pad saw, enlarge the 'tabs' to 25mm (approx.) to allow for the ceiling clips to fit into place with 2-3mm either side . Fig 3

Slide the three ceiling clips into place. Now push the bottom tube into place and insert the fixing screws (gold screws supplied) – **DO NOT FULLY TIGHTEN AT THIS POINT.** Fig 4. Alternatively you can use some short timber sections located in the loft space or screw directly into the ceiling (wooden ceilings only) or fix with plasterboard plugs (not supplied).

You are now ready to check the position of the tubes through the roof void and select the best location for the roof flashing.

When the tube is fully installed, and the bottom tube is pulled up tightly into position you can tighten the three diffuser screws – do not over tighten – do not refit the diffuser until you have fully completed the installation.



Fig 1 – Use finger pressure to remove the diffuser from the ceiling ring



Fig 2 – Mark the ceiling position



Fig 3 – Avoid dust and cut from above

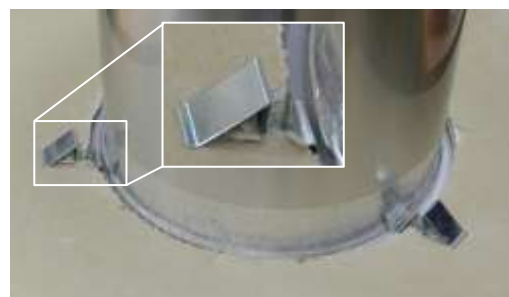


Fig 4 – Shows the clips and screws in place in after fixing – alternatively use wooden blocks to screw into.

Ensure that your work area is clear of obstructions and you have taken all necessary safety precautions – particularly when working at height.

Installing the flashing – Slate and slate style tiles

From inside the attic, having decided on the position of the flashing, push a piece of wire through the felt and under the slate or tile so that you can identify the point on the roof from outside. Now remove a few slates so that you have identified the roof entry point. Offer the flashing into place so that you can mark the position of any tile battens that need to be cut away. Fig 1.

Carefully cut away the roofing felt with a sharp knife and remove any obstructing battens with an appropriate saw.

Next offer up the flashing into position and screw into place using appropriate fixings (not supplied). The bottom of the flashing must rest on the top of a row of slates to adequately support the weight. See fig 2

Now peel the backing from the adhesive on the back of the self-adhesive weathering strip attached to the bottom of the flashing. Starting from the centre, use your hands to firm the weathering strip into the profile of the tiles. With the flashing secured in position you can begin to replace the slates as indicated in figure 2.

Across the top of the flashing is a foam strip. Depending on the configuration and type of tile, you may need to reduce the depth of this using a pair of sharp scissors. Ensure that the tiles rest on the foam to stop rain or birds from getting in under the slate.

Fix the 'half-slates' down either side of the flashing using screws or nails. It is also recommended that you use an appropriate sealant (not supplied) to secure the surrounding slates.

Now fit the top tube and secure in place. Drill a small pilot hole in the metal assembly ring (use the dome screws as a guide) and fix in place using the screws provided. **Don't forget to face the RIR 'light funnel' to the south.**

Important: Remove the protective film from the inside of the tube immediately. Never leave the film in place after fitting the top tube – the sun will bond it permanently if left!



Installing the flashing – profiled interlocking tiles.

Ensure that your work area is clear of obstructions and you have taken all necessary safety precautions – particularly when working at height.



Having decided on the position of the flashing, push a wire through the felt from inside the loft under the tile so that you can identify the point on the roof from outside. Now remove a few tiles so that you have identified the roof entry point. Now offer the flashing into place so that you can mark the position of any tile battens that need to be cut away. Fig 1



Carefully cut away the roofing felt with a sharp knife and remove any obstructing battens with an appropriate saw. Figs 2 and 3



Next offer up the flashing into position and screw into place using appropriate fixings (not supplied). Ideally, the bottom of the flashing should line up with the bottom of a run of tiles. Figs 4 & 5



Before starting the next stage, ensure that the tiles at the bottom of the flashing are clean and free from loose dirt or grit.

Now peel the backing from the adhesive on the back of the weathering strip attached to the bottom of the flashing. Starting from the centre, use your hands to firm the weathering strip into the profile of the tiles. Apply pressure to the lower portion of the weathering strip only. Fig 6





Fig 7

Ensure that the self-adhesive weathering strip is pressed firmly into place – Fig 7



Cut the foam only if required.

Before reinstating the tiles on your roof the flashing should look like the photo above. Fig 8

Note: It may be necessary to cut the foam strip down so that the tiles rest properly around the flashing – see below.



Cut the foam strip to the profile of the tiles if required.

Now that you have fixed the flashing fully into place it is time to replace the tiles on to your roof.



Fig 9



Fig 10

Please note; it may be necessary to remove some of the fixing lugs from behind the tiles or cut some of the tiles to ensure a good fit around the flashing. Make sure that the tiles around the back of the dome have a 25mm clearance and are not resting against the dome or assembly ring when slid back into position.

Safety note: Never cut tiles with an angle grinder when working on the roof. Always take tiles to a safe working area before using potentially dangerous power tools.

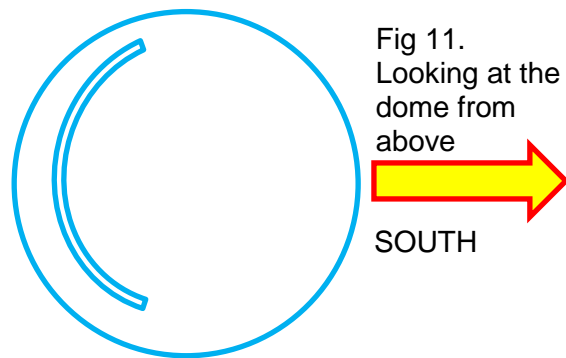


Fig 11. Looking at the dome from above

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IMPORTANT – Remove the protective film inside the top tube before fixing into the flashing.

You can now insert the top tube into the flashing. With the RIR Light Funnel facing south (Fig 11), drill three small pilot holes (in the metal assembly ring below the dome screw) and use the supplied screws to fix the dome in place. Fig 9

Your fully installed flashing and dome should resemble the unit in figure 10. Flashings may vary depending on roof angle and aspect.

Installing the extension tubes.

With the ceiling diffuser and top tube installed in the roof flashing, you can now plan the best configuration for the extension tubes. Using the angle adaptors and straight extensions, roughly determine the position for the tube through your loft space.

Adjustable angles

Before using the Solarspot adjustable angles, first remove the internal protective film and peel away some of the grey tape holding the sections together. To create the desired angle, gently twist one section against the other until the correct angle is achieved. Now hold the sections together by temporarily re-applying the grey tape – it may need minor adjustment when connecting with the extension tubes.

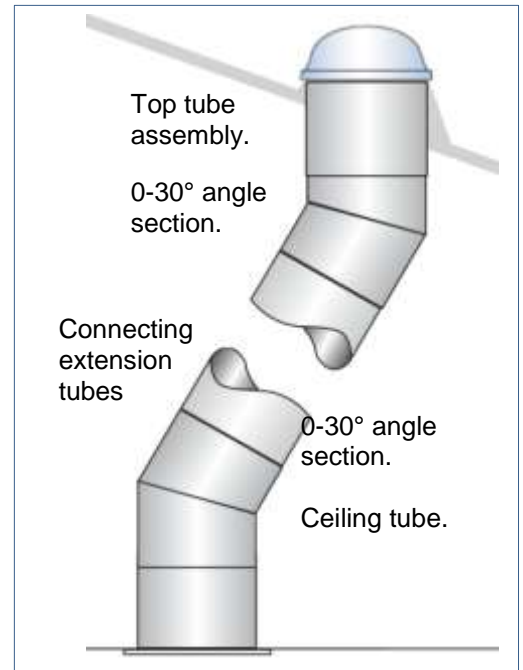


Fig 1. Typical installation example using two 0-30° angles.

Extension tubes

In the loft, insert the lower angled section into the ceiling tube and 'aim' it at the top tube. Now do the same at the top and 'aim' the other angle at the lower tube – use some small pieces of tape to hold the angles in place.

Now measure the gap between the two angles so that you can determine the distance of straight extensions required and offer the tube sections and angles into place – it will probably take several attempts to get the configuration exactly as you want it.

To form the straight extension tubes first remove the internal protective film. Now weave the top of the tube in the shallow notch and the bottom of the tube in the deep notch (depending on configuration) – ensuring that the middle notch is also connected. Use a length of tape to seal the seam of the tube. The extensions should 'telescope' together to the required length. Fig 3.

With the straight section loosely assembled using small sections of tape to hold the extensions together, offer it up into place to join the top and bottom of the system. Hold this in place with more small tape pieces.

Now review the complete system to ensure that the tube has a 'smooth run' from top to bottom. When you are completely happy with the system, the tubes sections and angle joints can be fully sealed using the silver tape provided. Fig 4



Fig 2



Fig 3

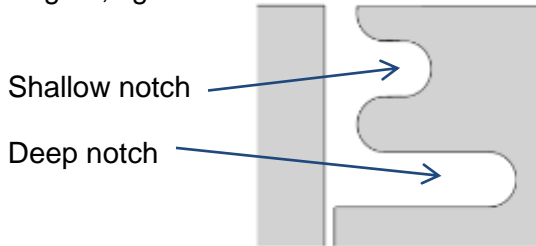


Fig 4

Assembling the tubes

At each end of tube extension you will see a shallow notch and deep notch. By connecting the tubes using the shallow notch you create a wide opening, and by using the deep notch you create a narrower opening. Please see the following examples before assembling your Solarspot system.

Page 6, fig 2.



Single extension example.

For a simple installation using only one extension, join the tube by connecting the deep notches at both ends to create a 'narrow' parallel tube. The top of the extension will slide up inside the top tube and the bottom of the extension will slide over the brush seal on the ceiling tube.

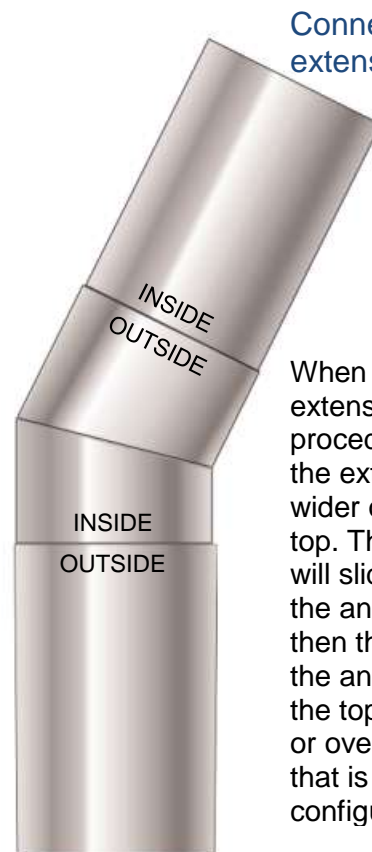


Multiple extension example.

When installing using multiple extensions, join the tubes by connecting in the following manner.

Top extension parallel with a 'narrow' tube.

Second and subsequent extensions join the tubes with a wide top – using the shallow notch – and a narrow bottom – deep notch. The top of the second extension will slide over the above it and into the one below – unless that is the ceiling tube, when it will slide over.



Connecting angled extensions.

When connecting angled extensions the same procedure applies - join the extensions so that the wider opening is at the top. The narrower bottom will slide into the top of the angled extension and then the lower section of the angle will slide into the top of the next tube – or over the ceiling tube if that is how the system is configured.

Please note: The configurations above are shown as examples only. The main rules to remember when joining the tube or angle extensions are; the top of the system, joining the dome tube must be made using an opening created with a deep notch (a narrow opening) and the joint with the last extension or angle should also be made using a 'narrow' opening (deep notch).

Installer tip – when sealing the system with silver tape, wrap a length of the waxy release paper from the tape around your hand and use the shiny side to burnish the foil tape down to create a neat finish.

Please read this guide before commencing work on your flat roof installation.

The Solarspot flat roof kit is suitable for installation into virtually any flat roof application



Bitumen felt
Single-ply membrane
EPDM
Fibre-glass
Liquid membrane

If you are unsure of the suitability for your roof type, please contact the manufacture of your roof membrane.

Before starting, locate the position that your Solarspot will be in the ceiling and ensure that you have sufficient room between the joists for the unit to fit. We suggest locating the internal position first and then drilling a pilot hole through to the outside to locate the position on your roof.

For installation of the diffuser section please see page 2. We recommend cutting the ceiling hole as described but **do not install the ceiling tube until all of the roof work is complete.**

On the roof, using the pilot hole as your centre-point, cut the hole for the top tube – 275mm for the D-25 or 400mm for the D-38.

If you are supplied with a neoprene flashing insulator* install it as follows;
Lay the flashing insulator over the roof aperture, now position the flashing over the aperture. Temporarily insert the top tube into the flashing and ensure that everything aligns. Using appropriate fixings (not supplied) screw the flashing into place and carefully cut away the excess neoprene. Remove the top tube and weather the flashing to the roof using the appropriate roofing materials.

Alternatively, on a warm-roof for example, the flashing turret can be insulated using loose Rockwool type insulation or expanding foam – after the top tube is located in its final position (if using expanding foam, wrap the top tube in a sheet of plastic to avoid it sticking to the foam).

With the top tube now screwed into place – ensure that the RIR Light Funnel lens is facing south (Fig 1) – follow the final stages of the instructions for the ceiling tube and diffuser. The top and bottom sections are sealed using the fitted brush seal, however, a small strip of the silver tape provided can be applied around the joint to provide an addition seal if required.

*In extreme conditions, or for certain roof types, you may be supplied with a self-adhesive insulating collar. This is applied to the **inside of the flashing turret before the flashing is fixed in place.**

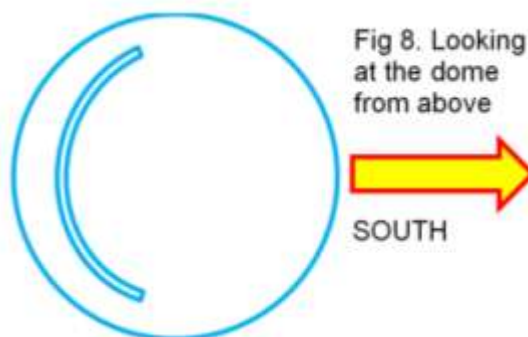


Fig 8. Looking at the dome from above

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For advice, or to contact your nearest installer you can call us on 01908 299117

Lines open: Monday – Friday, between 9am and 5pm.

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