

SolarLite F Series Flush Stud with snowplough housing

Always read these instructions even if you are familiar with the installation process for Clearview Intelligence Road Studs.

Clearview Intelligence are the creators of the Intelligent Road Stud and have designed and developed the solar powered inset mounted, flush, road stud. These provide a flexible and innovative approach to traffic safety. Designed to provide guidance and advance warning to drivers day and night.

Under no circumstances should the stud be dismantled. Failure to comply with this or these installation instructions will invalidate the warranty.

The positioning and colours of the installed studs should conform with the existing laws and regulations, where applicable, of the country of installation.

Correct installation is essential if the road markers are to achieve good adhesion to the road surface. Solarlite flush studs must only be installed in hard-aggregate surfaces such as tarmac or concrete with an approved installation compound as listed in this document. It is the responsibility of the installer to ensure that road construction and weather conditions are suitable for the installation of studs.

To maximise the effectiveness of the enhanced delineation provided by Clearview Intelligence studs, Clearview studs should commence at least 100m prior to the start and continue 100m from end of the bend in addition to the bend itself. When multiple bends are in close proximity to each other, it is also recommended that Clearview studs are installed between the bends to ensure continuity of the visual effect.

-  Do not attempt installation work if the road surface is wet, damp or when the road/surface temperature is below 5°C.
-  Ensure that the correct Personal Protection Equipment is worn at all times.
-  Always refer to the handling and usage instructions provided with the fixing materials.

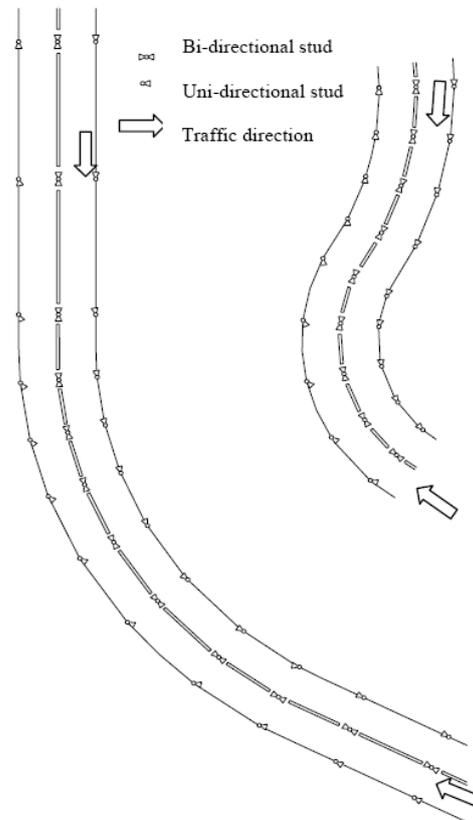
Alignment

When placing the stud into the cavity, ensure that the reflective face of the stud is orientated correctly facing the traffic.

It is recommended that on curves, bi-directional studs in the centre of the road be positioned such that the light output is seen clearly and as early as possible by motorists travelling in either direction.

On tight radii bends it is good practice to align every other bi-directional stud to be optimum for one direction of travel then the other. On such tight radii bends the use of red unidirectional nearside studs is also highly recommended.

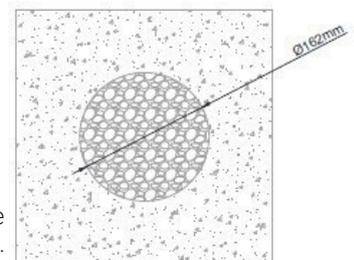
Refer to the diagram on the right for examples of typical layouts showing the direction of light output together with the direction of traffic.



Installation Step by Step Instructions

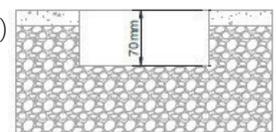
Step 1

Using chalk or an environmentally friendly aerosol spray, accurately mark on the road surface, the correct positions for the stud cavities. Solarlite flush studs **must** only be installed in a hard-aggregate surface such as tarmac or concrete.



Step 2

Drill a circular hole, 162mm (± 2 mm) by 70mm (± 2 mm) deep with a core cutter that produces flat-bottomed cavity with perpendicular sides. The



core cutter can be of the wet diamond core type or the tyne based router type (used for Halifax studs). Endeavour to ensure that the top rim of the hole is maintained.

Step 3

After drilling, remove the centre core from the cut to expose the cavity. Make sure the bottom of the cavity is flat. If necessary trim flat.

Step 4

Remove all debris from the cavity, either using compressed air or vacuum removal.

 Ensure that when using compressed air that the correct Personal Protection Equipment (PPE) is worn and that blown debris is not directed at persons or vehicles.

Step 5

Ensure all cavities are clean, dry, and free from dust and debris prior to installation, if any surface shows signs of moisture; the moisture must be removed either using a compressed air lance or a propane gas torch.

Ensure that the correct Personal Protection Equipment is worn and that any blown debris is not directed at persons or vehicles.

Mix an appropriate amount of fixing material. An appropriate grade of two pack bitumen extended epoxy resin should be used such see approved resins note below.

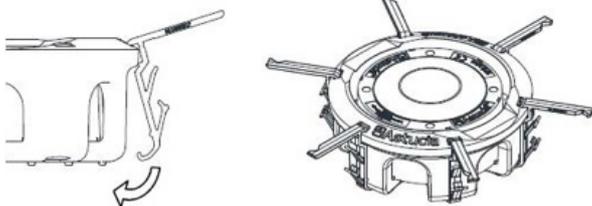
 Caution should be used when using the gas torch so as not to overheat and damage the cavity. As overheating the road bitumen will allow the polymers to burn off causing the road surface to break up over a short period of time. This in turn could allow the stud to become dislodged from the road.

Step 6

The stud and snowplough housing are supplied as a single assembly. Attach the Six installation clips to the cast snowplough housing. Position the installation clips into each recess on the top rim of the housing and push the installation clip towards the base rim of the housing to clamp onto the housing.

The stud housing must be thoroughly cleaned and decontaminated using white spirit applied with a clean lint free cloth. The stud housing must be clean to provide a good bonding surface for the resins and sealants. The stud should be dry before being fixed into place.

Approved installation compound is Robnor Polyurethane Stud Sealant EL628SS (referred to as resin)

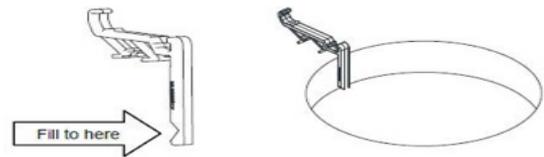


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Step 7

The fixative resin (730ml / 805g per stud) should be poured to a level of 35mm from the road surface. This level is a guideline and may have to be varied slightly in order to achieve the correct amount of resin. As a guide, a fixing clip positioned on the road surface with the top flat down the side of the cavity, has the 35mm dimension marked as an arrow. Pour in the resin until the level aligns with the point of the arrow.



Always refer to the handling and usage instructions provided with the fixing materials.

If alternative resin is to be used to that recommended, the compound must have a Shore A hardness of not less than 85A or more than 87A at 20°C and not more than 95A or less than 87A at minus 20°C and be capable of bonding metal, plastic and road surface.

Step 8

Insert the stud and housing with its fixing clips attached into the cavity making sure the LEDs are correctly facing oncoming traffic. Make sure that the stud housing is fully inserted into the cavity and level, with each fixing clip resting on the surface. The recesses in the casting for the LED light output should be flush with the road surface.



Ensure that once the stud is inserted into the cavity some of the installation compound poured in step 7 has been displaced around the edge of the stud.

After the stud is inserted, if required, immediately top up the resin around the edge of the housing to a level of 1mm (± 1 mm) below the road surface. Ensure an identical level has been reached between the housing and the road stud. Allow a minimum of 30mins to cure. Ensure that the lens remains clean at all times. If the compound gets on the lens, wipe clean immediately. To aid the accuracy of the pour the use of a funnel or pouring jug will be required.

Step 9

Clean site after the installation and remove all debris from the carriageway. Installation complete.

Clearview Intelligence reserve the right to change or modify product specifications.

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World wide patents coverage.

All values are nominal.