

Case Study

Swedish

Road Stud Trail



SolarLite Active Road Studs trialled in Sweden to see if they can withstand impact from snow ploughs and cope in extreme cold weather

SolarLite Active Road Studs have been proven to reduce accidents and increase visibility for road users in the hours of darkness. The SolarLite studs contain an in-built solar powered LED to increase visibility to up to 900 metres, 10 times greater than the visibility offered by traditional retro-reflective cat's eye.

Background

The trial was carried out by the Swedish Road Administration, to assess whether the studs would sustain adverse weather conditions and withstand snow plough impact.

Trial Site 1 - E18 west of Västerås, merging lanes 2+1 road at the exit to service area Svedvi, this busy routes average daily traffic is currently 15,000 vehicles.

Trial Site 2 - Road 53 north of Nyköping at Husby, a curved road in Sweden averaging 1000 vehicles a day.

Trial Site 3 - Road 52 West of Nyköping at Larslund, a long straight road with hard shoulder averaging 5000 vehicles each day.

Key Benefits

- Proven reduction in night time accidents by over 70%
- Whole life cost lower than traditional road studs
- 10 times greater visibility for drivers than traditional reflective road studs
- Visible in adverse weather e.g. fog, rain or surface spray
- Highlights sharp bends, dips in the road and other hazard

Solution

SolarLite Active Road Studs were installed in 3 trial sites in Sweden:

44 road studs were installed parallel to the road side in trial site 1;

26 studs were installed at the centre line of the curved road at trail site 2; and

20 studs were installed in trial site 1 at an intermittent line alongside the road.

The positioning of the road studs was carefully designed to provide drivers with advanced indication of the road layout ahead. The use of SolarLite Active Road Studs provided the Swedish Road Administration with a cost-effective, environmentally friendly and long term solution to night-time road safety, with minimal damage to the studs from the snow ploughs.

Outcome

Trial results show that the road studs coped well with extreme cold weather conditions, with minor damages noted on some of the studs due to the sharp steel blades of the snowplough chipping the plastic. For future use, recommendation is that the studs should be lowered into the ground preventing access by the snowplough and instead of protruding 4mm, they should be kept totally flush with the road surface.