

Nominees of the viscom Best Practice Award Light Advertising



Solar pylons

"9 solar pylons advertising the town of Filderstadt"

At the opening of the "Stuttgart Trade Fair" in Filderstadt, the town authorities didn't want to miss an opportunity to do some advertising on their own behalf - promoting Filderstadt as a business centre close to the Exhibition Centre and the Airport.

The idea of the commissioning advertising agency, f-com from Stuttgart, was to have the Filderstadt town logo shine out on all the access routes. The aim was also to make Filderstadt visible when approaching from the air. The idea was to greet both national and international visitors in this way. An outside inscription was mounted close to the airport's runways. This, too, was made by Kreder Neon Stuttgart GmbH and mounted on a hypermarket car park.

The idea was to raise Filderstadt's profile by giving it a uniform CI. The town's image should come across as modern, progressive, innovative and contemporary.

450 cm high and 100 cm wide pylons were planned for the 9 access roads and roundabouts. And the advertising symbols had to be visible at night, of course.

It quickly became apparent that it would not be feasible to run power lines to the access roads as this would be too costly. A completely self-sufficient solution had to be found. And the themes of innovation and "blue energy" were also to be incorporated. And so the idea of the alternative and self-sufficient energy solution based on solar modules was born.

After carrying out intensive research, Kreder Neon Stuttgart GmbH soon came to realise that this would take them into unexplored advertising technology territory. This exciting task was picked up with enthusiasm by the whole team.

The compatibility of different modules and components was checked and tested. To blend in with the overall design, the solar panels had to be small and narrow. Nevertheless they should produce a first-class lighting result. It was also crucial that the solution was maintenance-free and environment-friendly.

The orientation of the roads had to be taken into consideration - not all of which were aligned north-south. It was clear that compromises would have to be made. One of the main problems associated with the individual locations was the road layout which made it difficult to position the pylons. Each location had to be analysed individually. This meant calculating special operating hours and solar orientation for each individual pylon.

The next challenge was that the illumination time was to be set individually. After carrying out various experiments it was decided to use a programmable photoelectric/time-switch controller.

The controller registers the time of day and night.

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The batteries were specially chosen to be able to continue functioning for up to a week without sunshine. It was also crucial for the battery to be maintenance-free. The gel battery selected is practically maintenance-free and can be used in a wide range of temperatures.

A further challenge was the tight schedule. The pylons had to light up punctually at the start of the Stuttgart Trade Fair.

After a planning phase of roughly 6 months the final production, including erection and start-up, had to be completed with just 2 months.

Creating 9 double-sided pylons

These consisted of a rigid inner structure made from galvanised steel tubing with single-sided casings applied to each side. These were made from a raspberry-coloured, thermolacquered aluminium material from which the "Filderstadt + logo" inscription was scroll-sawed. They were then given a white acrylic plastic backing.

Illumination is provided by white LEDs, emitting a neutral-white luminous colour.

The LEDs provide a total output of 32 W on each side. One converter was installed for each side.

The solar unit for each pylon was fitted with 4 solar modules. 3 modules were installed vertically into the side of the pylon. 1 module was mounted on the top of the pylon with a rotating and pivoting mechanism, allowing it to be oriented north-south. The upper solar panel generates between 60 and 85% of the total power, depending on the location and orientation of the pylon.

A gel battery measuring 50 x 26 x 23 cm and weighing 68 kg was fitted to each pylon. Each unit delivers 270 Ah (Ampere hours)

Each pylon also has a 12V charge controller for regulating the light at night. A generator disconnect box with overvoltage protection and a battery switch were installed for safety purposes. During daylight the current flows from the solar panel to charge up the gel battery. At night the gel battery then releases the charged current to the LEDs. The gel battery has a charge controller which prevents the battery from discharging completely. This would damage it irreparably. The battery would then have to be removed and charged back up using a special battery charger.

A precisely calculated illumination period is set during winter. During this period the LEDs are lit for between 4 and 6 hours, depending on the location. In summer this illumination period extends from sunset to sunrise.

Despite the fact that these pylons were the first of their kind and the designers had no experience to fall back on, all of them are still shining - maintenance-free - today.

Although that's not quite true - one pylon had to be repaired and certain components replaced when a lorry-driver decided to use a pylon to help him brake, i.e. his trailer crashed into it!

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Kreder Neon Stuttgart GmbH carried out all the tests and fitted all the parts in its own workshops; the employees were especially proud of the fact that all the tests and experiments paid off and that we and our client are still entirely satisfied.

About the company

Kreder Neon Stuttgart GmbH has offered the full spectrum of light advertising products since being founded in 1950. We combine the traditional with the innovative. Up to 85% of our illuminated signs feature LED technology. However, we still produce all-glass lettering and, above all, neon works of art in our glass blowing workshop. One of our main strengths is the production of custom-built illuminated signs, as there is nothing we enjoy more than an unusual challenge.

Since 2008 we have been planning, producing and assembling in our new 1100 square metre location close to Stuttgart.

Sustainability is very important for us, and not only when it comes to energy. This is why we regularly take on apprentices in the fields of signmaking and light advertising.