

CASE STUDY

FLEXIBLE MARKING SOLUTIONS FACILITATE FTTH PROJECT

Siegrist-Orel's innovative cable marking solutions are playing an important role in a massive FTTH (Fibre-to-the-Home) project in Denmark.

The project, which involves the provision of television, internet and telephony services to Danish households via the installation of a fibre optic network is being rolled out by TRE-FOR Broadband, branded under the name Profiber, one of Denmark's leading providers of TV, internet and VOIP. FTTH, which is set to transform the telecom environment worldwide over the next decade, is ready to be provided to over 250,000 homes in the centre of Denmark.

Siegrist-Orel has been working closely with Profiber for six months to develop cable marking solutions suitable for identifying the huge numbers of fibre optic cables used in the project.

Bespoke print technique

These included bespoke print identification techniques for identification on splice joints and a flexible cable marking solution for the fibre optic cables themselves.

Each of the two patch cables inside the POP station (Point of Presence) required two markers: one to indicate the cable's current location; the other its destination.

'Stretchable' solutions

The Siegrist-Orel solution involved silicone sleeving, selected because of its tear strength and its exceptional 'stretchability'.

Silicone markers can be stretched up to 400% larger than their original size without tearing or distortion of printed characters.

Thanks to this built-in flexibility, Profiber's installation team were able to affix the marker to the boot of the connector. Using a special stretching tool, the marker was slid over the connector then released to fit snugly onto the boot. If necessary, this process can be reversed to remove the marker, which can then be re-used on a different patch cable if required.



The marking kit folder and cards developed for Danish company Profiber.

Siegrist-Orel's unique method of ink transfer ensures that the ink penetrates the sleeve material and bonds with the molecules of the material substrate. The integrated ink is then sealed in, so that the characters will not rub off or wear, however adverse the conditions.

Customised kitting

Profiber's cable markers were supplied in a special customised kit, which has been developed by Siegrist-Orel to drive down the time and cost of marker installation.

Profiber first provided Siegrist-Orel with the marker specifications in Excel format. The printed markers were then supplied ready cut to size, mounted on easy-peel adhesive on A4 cards, with reference numbers alongside. All the cards are contained in a bespoke lever-arch folder, which includes a special stretching tool for mounting the markers. At the front of the file is an index card which the installers can refer to for rapid pickability.

Once the markers had been removed, the index cards in the file were retained inside the POP station, providing Profiber's engineers with an accurate 'map' of the cabling. The file will be retained inside the POP station during the lifetime of the installation, so it can be referred to when additional work is done.

To simplify installation even further, Siegrist-Orel provided Profiber with markers in two colours: yellow to indicate the current location of the cable, and blue to indicate the cable destination.

Splice joint id

Siegrist-Orel also developed a bespoke solution for identifying the splice joints housed in the casettes within the POP stations and in the street enclosures, from which the cables are run to the end users. This involved developing a special print technique whereby the characters are printed directly onto the plastic casing of the splice joint itself, helping to reduce installation costs and provide clear, permanent identification.

The project has been a steep learning curve for both Profiber and Siegrist-Orel, according to Lars Honore, Siegrist's international sales manager: "Although the solutions we developed may seem simple, in reality they were quite complex. Our research team worked closely with Profiber to engineer a solution for the specific connections. We considered not only the marker material, size and diameter, and the position and font of the identification characters, but also how and where the markers should be installed - and how we could help Profiber reduce the time and cost of installation and provide them with an accurate record.

"Cable markers are small and apparently insignificant items within a project of this size and scale, but a great deal depends on them. If cabling is destroyed for any reason, for example by fire or accidental damage, and there is no record of the installation on file, restoring connections to end-users is virtually impossible."

Martin Boisen, project manager at Profiber, agrees: "We have about 750 clients per POP station and we will have 212 POPs when the project is completed. We use 1,500 patch cables per POP and it is, therefore, essential to have good cable marking, in order to know exactly where the cables lead.

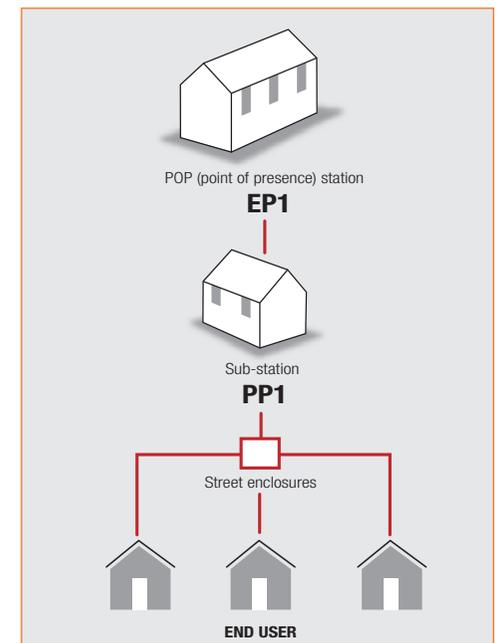
"Siegrist-Orel's solution is flexible and very readable. It is tailored to our needs, reusable and convenient to install."



Stretching tool expands silicone marker.



The expanded marker is slid over the connector, then released to fit onto the boot.



A typical fibre optic installation.