

300 Furrer+Frey conductor rail setups in 30 countries

The Furrer+Frey conductor rail system is to be found not only in our home country, Switzerland. It is renowned throughout the world for its superior standards of quality. Sound commercial sense, technical expertise and pioneering innovation have all contributed to ongoing enhancement of the system since it was invented. Our conductor rail profiles are made of aluminium alloy and meet all the demanding requirements of a modern overhead contact system.

The Furrer+Frey conductor rail system increases safety because of its high short circuit and fire resistance. Long service life is assured because of its unique design features and product quality. It requires little headroom and can be installed and integrated (almost) anywhere – even in existing overhead lines and on open track sections.

Furrer+Frey is the authentic original, with all the many outstanding features pioneered

and perfected by our company. Our conductor rail system has already been installed in 300 projects in 30 countries with a proven track record of troublefree operation.

The following pages highlight the major milestones in the development and worldwide implementation of the Furrer+Frey conductor rail system. They represent a brief but remarkable record of a long and successful history.



Robust, rapid, pivoting, retractable, elegant, highly conductive
In tunnels, in the open, on bridges, in workshops and depots

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Furrer+Frey[®]
Overhead contact lines

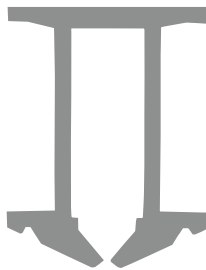
THE ORIGINAL

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Overhead contact lines

30 years of reliability

Thirty years ago, Swiss Federal Railways were planning for their first underground S-Bahn station in Zurich. They wanted it to be as fail-safe and reliable as possible. It was then that Furrer+Frey proposed to install an overhead conductor rail system, which was not only robust but offered high conductivity combined with ease of installation and integration in an existing overhead contact line system. The fact that neither tensioning equipment nor balance weights were required was an additional asset.

Profile CR1



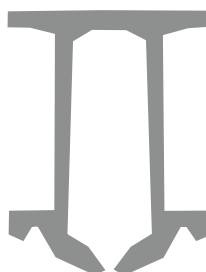
The first conductor rail, installed in 1984 in Zurich Opfikon, has been in service ever since without any need for maintenance. Today, the Furrer+Frey® overhead conductor rail system has been installed and has proven its reliability on close to 2000 km of track with voltages ranging from 750 V DC to 25 kV AC.

Opfikon 1984

30 cm less encumbrant

The Furrer+Frey® overhead conductor rail system has little sag and no contact wire uplift. Design contact wire height can therefore be lower than with traditional overhead contact lines and pantograph uplift is avoided, which helps keeping it clear from tunnel vaults and arched bridges.

Profile CR2



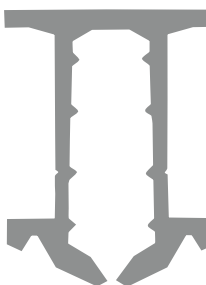
Thanks to the big cross section with a copper-equivalent of more than ten times that of a contact wire feeder wires can be avoided. All this makes it possible to electrify tunnels from the steam age or to reduce cross sections of new bores.

Galleria Bastardo

3 minutes to retract the overhead line

The absence of mechanical tension in the conductor rail makes it possible to remove portions of it in order to free the space above the track for maintenance works on vehicles' roofs. In maintenance shops, the traditional overhead contact line system is terminated at the face of the building. From there conductor rails continue into the hall, where movable portions can be installed, which swing away in a matter of minutes on their swivel arms when rolling stock needs to be serviced.

Profile CR3HS



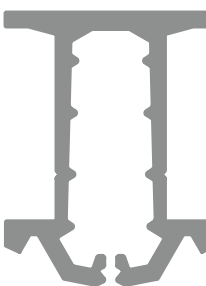
Similar arrangements can be installed on swing or bascule bridges or, temporarily, for repair works in tunnels or over construction sites of underbridges. Removing a few meters of conductor rail at the beginning of the shift and reinstalling it in the morning takes only five to ten minutes.

Bascule bridge over the river Peene

300 km/h

Electrical and mechanical testing, fire resistance tests and, finally, actual operational experience of the Furrer+Frey® overhead conductor rail system have demonstrated that the overhead conductor rail can perform reliably at speeds of up to 250 km/h.

Profile CR4



In the morning of November 17, 2014, at 03.00h, a German measuring train ICE reached the speed of 300 km/h on the conductor rail in Sittenberg-Tunnel in Austria!... And it can be set up in aesthetically pleasing form to underline the elegance of historic and modern station buildings...

Sittenberg-Tunnel