


Safety in Tunnels Metro Amsterdam



The Quality Connection

LEONI
 **STUDER CABLES**

Renovation of the Metro Amsterdam

The project Tunnelwerk 2008 is a part of a major renovation of the Oostlijn Metro in Amsterdam. Tunnelwerk 2008 can be divided in two parts:

- Renewal of the train track
- Increasing the safety in the tunnel



The safety concept

Since 2005 Amsterdam has a concept for all new built tunnels concerning safety in the tunnel. This project, the renovation of a 30 year old tunnel, was realized according this concept. Because there are less passengers during the months of July and August, it was decided that these two months were used for a complete shut down of the Oostlijn. In these 8 weeks everything had to be done. The safety concept for the Oostlijn section comprises an elevated escape path, lighting and passenger guidance all along the tunnel. The requirement for functionality of the electrical installation was fulfilled with safety cables having the fire approvals according to DIN 4102-12 laid in robust conduits with the same fire certification.

LEONI Studer safety components

Cable Masters, LEONI Studer's sales partner in Netherlands, supplied the safety components for the tunnel evacuation system:

- 6.000m LEONI Studer BETAfixss® G-conduit
- 15.000m BETAflam® NHXH power cables and
- 10.000m BETAflam® JE-H(St)H signal cables, all with reduced smoke and corrosivity in case of fire.

Between the stations there is a LED guidance system that will lead the passengers to the nearest emergency exit. This guidance system is meant to work during all sorts of calamities. Therefore it is all installed with BETAflam® E60 and E90 Safety cables of LEONI Studer.

Path breaking installation

The use of the LEONI Studer Safety Solutions was initiated because tailor-made installations were needed to fit the narrow tunnel space and the restricted time slots for underground work. The wide variety of the BETAfixss® laying system with flexible components allows easy and quick installations.

The benefits for all involved parties were noticeable. In the year 2009 all stations will be updated to make the safety circle complete. Cable Masters, LEONI Studer, MNO-Vervat and Koldijk intend to work together again for realizing that part of the project as well.

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