



Kabelwerk **EUPEN** AG
cable



The Guadarrama Tunnel



Eupen delivers 60km TETRA-optimised Radiating Cable

Customer AVE Renfe

Situation

The High-Speed line that joins Madrid, Segovia and Valladolid forms part of the European Atlantic Railroad Axis. The High-Speed Line passes through surprising landscapes and delves into the heart of the mountains thanks to two of the three longest tunnels in Spain, the Guadarrama and San Pedro Tunnels.

Crossing the Sierra de Guadarrama mountain peninsula, this dual bore tunnel is 26.5km long, with the wider of the two tunnels 10m in diameter.

The tunnel cost around \$1.6 billion to build and upon completion, trains will be able to pass through at maximum speeds of 350km/h.

Challenges

The lengths of the Tunnel would pose serious challenges to the Rescue Service in case of an incident or fire, making reliable Radio Communications a necessity.

Large intervals between installation locations suitable for RF-Repeaters require industry leading RF performance of the Radiating Cable, whilst at the same time, the very high speed of the trains passing through the tunnels, creating unprecedented shock-waves, require robust Cable Constructions and robust cable hanging system.

Solution

After an extensive pre-qualification and selection process, Eupen Radiating Cable RMC 114-T-HLFR was chosen on technical merit for their outstanding performances on the frequencies that are used for the Digital TETRA Services by the Emergency Services, their excellent Fire Safety features and the robust cable hanging system.

Eupen Cable is worldwide the only manufacturer to offer Radiating Cables that are optimised for the TETRA and TETRAPOL frequencies, providing world leading performances to complement today's high performance TETRA and TETRAPOL RF Re-broadcasting systems.

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