



Taking the track under the Homolka and Chlum hills in the Czech Republic

Project overview >

Project title: Ejpovice Railway Tunnels

Client: Metrostav / SŽDC (The Railway Infrastructure Administration)

Location: Ejpovice, Czech Republic

Distance: 4,150 metres

Internal diameter of the tunnels: 8.7 metres

Duration: 2014-2018

ArcelorMittal Fibres used: HE+ 1/60

Dosage: 40 kg/m³

“The technology of steel fibre reinforced concrete has proved to be successful. We consider the greatest advantage to be the major acceleration and simplification of the manufacturing process leading to significant cost savings. The collaboration with ArcelorMittal has been flawless in all respects. Besides the guaranteed quality of the steel fibres, it was extremely important that the deliveries were in line with the tunnel lining segments production schedule and they did this very well.”

The challenge >

The Rokycany – Pilsen Railway Line project is an ambitious modernisation program addressing the need to shorten travel time, increase passenger comfort and increased the safety of railway operations.

The modernisation follows the existing railway line with the exception of the route between the Ejpvovice and Plzeň Doubravka stations where the design calls for the relocation of the railway line passing the Chrást u Plzeň station. The new route follows the prospective route of a high-speed rail line over new land, and through tunnels running beneath the Homolka and Chlum hills.

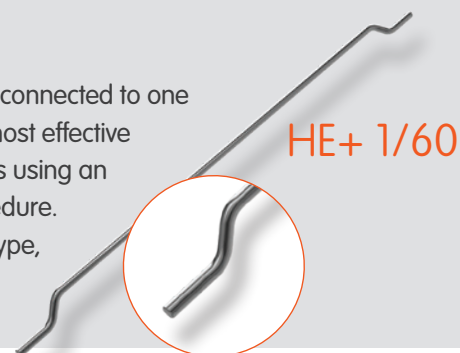
The length of the two single-track tunnels running from the eastern to western portal is 4,150 m and this will shorten the distance by approximately 6,100 m. The technical parameters for the modernised railway line were developed with full consideration of the future use of the tunnel section for the high-speed rail line. The connection of the corridor track in the direction of the Chrást u Plzeň station will be preserved as a single-track line, with a branch to run from the newly built Ejpvovice railway station.

The client (The Railway Infrastructure Administration) required a cost effective solution compared to original NATM technology.



The solution >

The key focus for ArcelorMittal Fibres lies in the construction of two single-track tunnels connected to one another by corridors. ArcelorMittal Fibres worked with Metrostav/SŽDC to identify the most effective solution. The ArcelorMittal Fibres team has helped to optimise the fibres dosing process using an automatic dosing unit and assisted during verifications of the mixing and casting procedure. The originally planned fibre type HE 75/60 was successfully replaced by the HE+ 1/60 type, which made it possible to significantly improve the concrete workability.



The result >

The decision by Metrostav/SŽDC to contract with ArcelorMittal Fibres was based on ArcelorMittal's:

- Reliability and professionalism
- Guarantee of quality
- Ability to deliver the required volumes of fibres on time
- Offer to provide dosing equipment
- Offer to provide local technical services
- The time and cost savings achieved with steel fibre reinforced concrete.

Our solutions driven service is delivering the Rokycany – Pilsen railway line modernisation program. The fibre reinforced concrete used in the Ejpvovice railway tunnels will make a significant contribution to the Czech Republic's transport infrastructure and improve passenger comfort and safety.

The world is building on our expertise.

Contact: tunnels@arcelormittal.com

Visit: www.arcelormittal.com/steelfibres