KLIMKOVICE TUNNEL

Technical assistance

Country: Czech Republic
Client, year: Solel Bone International CZ - 2001
Client, year: Metrostav a.s. - 2004

Project Description:
The Klimkovice tunnel forms part of D47 motorway between Bílovec and Ostrava Rudná. The main purpose of the tunnel construction was a protection of the nearby Klimkovice-Hýlov spa with curative springs against the impact of road traffic. The tunnel has two 2-lane tubes with gradient 0.6%. The tubes are 1080 m long, 865m is mined section and 220 m is cut and cover section. Both tubes are connected with 5 cross passages designed for an emergency escape. In a central cross passage area 40 m long lay-bys were designed, this cross passage is connected with the surface via a vertical shaft. Design speed within the tunnel is 80 kph. The rock mass was formed by flysh development - variation claystone and sandstone layers, maximum overburden is only 25 m. NRTM excavation was split into top heading, bench, and invert. The final was designed from in-situ cast reinforced concrete with polypropylene fibres and with final coating protecting the lining against the effects of chemicals used for winter road maintenance.

Project contribution:
D2 Consult provided technical assistance to the client during preparation of construction. Moreover D2 Consult also assisted to constructor to evaluate geotechnical conditions.

Activities:
- Tender documentation check
- Evaluation of geotechnical conditions
- Rock mass classification (QTS, RMR, Q)
- Alternative design of support classes
- Economical evaluation of the project cost
- Suggestions for cost reduction