



Pipe system for backfilling of mine shafts

Reference project: Boliden Garpenberg

The existing backfill system caused problems involving heavy and hazardous lifting during assembly. The system was also adversely affected by abrasive media, resulting in the service life not being long enough.

Thanks to close collaboration, Alvenius succeeded in developing a durable lightweight pipe system that stands out in comparison with other systems.



The Project

At Boliden's zinc mine in Garpenberg the residual product enrichment sand is used for backfilling. The enrichment sand is dewatered and mixed with cement or a similar substance, forming a plastic mass or paste. The paste is pumped into piping at high pressure.

The existing pipe system consisted heavy steel pipes, which were subjected to heavy wear by the paste, thus pipes and valves had to be replaced frequently. The pipes were heavy and required high lifting, which meant dangerous and time-consuming steps.

The Solution

Alvenius was selected to supply a quick-coupled steel system made of lightweight pipes, pipe components and quick couplings which can withstand high pressure and long-term wear.

Together with the Alvenius system, automatic paste valves from Victaulic® were used to reduce the number of manual switching underground.

Customer Benefits

The lightweight pipes and quick couplings meant that the paste system was assembled quickly, simply and without any heavy lifting at all, resulting in a better work environment.

The high-strength pipe material and the resistant CorroFlo® coating ensure a high level of reliability and long durability.

Facts

- Complete pink piping system and customer-specific parts
- Dimensions: DN150/168.3 mm.
- Pressure class: 80 bar
- Volume: 1.4 million tonnes of paste per annum



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