KRAMPE HAREX®

KNOW WHY.

Reference | Mine

GRUBE CLARA Ground-Support

WOLFACH | DEUTSCHLAND

Optimization of the steel fibre for a lower dosage rate and better performance.

PROJECT INFORMATION

Project	Grube CLARA, Ground-Support
Location	Wolfach, Germany
Application	Mine
Attribute	Shotcrete
Mining material	Fluorspar / Barite
Requirements	Optimization of dosage rate
Total volume of concrete	4,000 m^3 per year

Fibre type	DE 35/0.55 N
Fibre content	27 kg/m^3
Amount of fibres	> 100 t per year

BESONDERHEITEN

In Ground-Support protection, it is important to achieve safe and permanently reliable results when spraying the steel fiber concrete. An optimized concrete composition and coordinated fiber dosage is required.

KrampeHarex GmbH & Co. KG **Strahlmittel und Fasern** · Abrasives and fibres **Anschrift** Pferdekamp 6–8 · D-59075 Hamm
Fon +49 (0)2381 - 977 977 **Fax** +49 (0)2381 - 977 955 **Internet** www.krampeharex.com **E-Mail** info@krampeharex.com

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GROUND-SUPPORT WITH STEEL FIBER CONCRETE **OPTIMIZATION OF THE RESULTS**

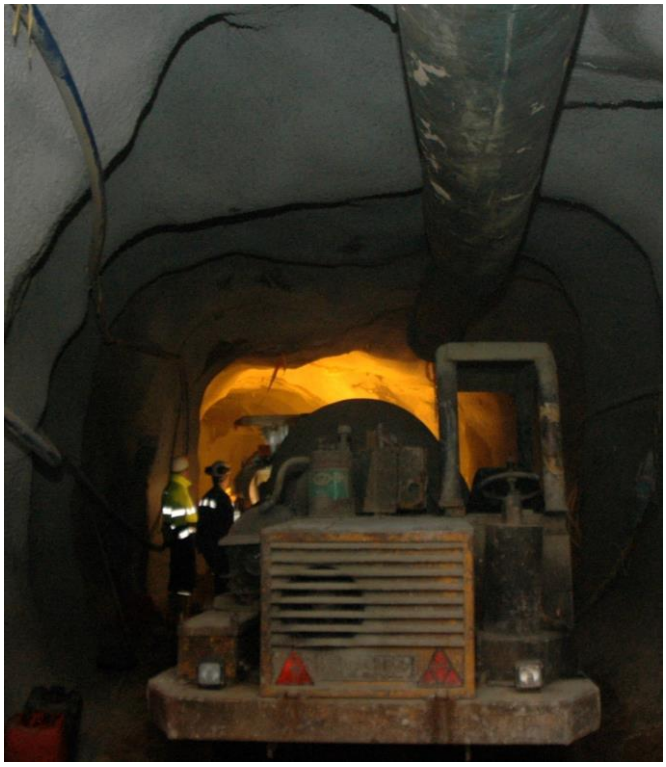
The company Sachtleben Bergbau has so far used a steel fibre shotcrete with a dosage of 40 kg/m³ for the tunnel support in the mine “Grube CLARA”. The aim was to reduce the dosage rate and achieve at least the same performance. Numerous tests confirmed that the same or better results could be achieved with the steel wire fibre DE 35/0.5 N from KrampeHarex and a dosage of 26.7 kg/m³ or the DE 35/0.6 N with 33.3 kg/m³.

The steel fibre shotcrete is applied in the pit with a mobile sprayer with a smaller compressor to reduce dust generation and minimize fibre rebound. After the material is excavated and conveyed, the steel fibres are collected out through liquid separators and magnetic separators to obtain a pure product.

The concrete formulation considered and optimized consists of 425 kg of cement, 1,670 kg of sand and 210 kg of water. The w/c ratio is 0.5 and about 11% accelerator is dosed.

345

12 different minerals have already been found in the mine “Grube CLARA”.



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