



SHOTCRETE, TUNNELING & MINING

SIKA MINING SOLUTIONS

BUILDING TRUST



WITH OVER A CENTURY OF PROVEN EXPERIENCE AND A GLOBAL REPUTATION FOR EXCELLENCE, Sika is committed to being your innovative and reliable partner in modern mining technologies.

Our expertise, combined with a comprehensive range of high-performance products and solutions, ensures that we can meet the unique demands of today's mining industry. Sika offers tailored, efficient, and sustainable solutions for every challenge you encounter in mining, from ground support and water management to operational efficiency and safety. Our worldwide presence, coupled with local production facilities near your mine site, guarantees that we can deliver our products reliably, minimizing delays and maximizing productivity.

At Sika, we are dedicated to driving success in your mining operations through cutting-edge technologies and personalized service, supporting you every step of the way.

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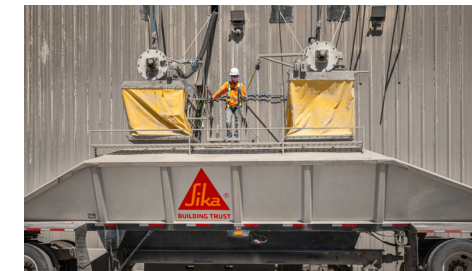
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A COMPLETE RANGE OF SOLUTIONS FOR THE MINING INDUSTRY

**BULK AND BAGGED
SHOTCRETE**

**SHOTCRETE EQUIPMENT AND
PARTS**

**MBF (MINE BACKFILL)
ADMIXTURES**

**CONCRETE
ADMIXTURES**

**SHOTCRETE
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**SHOTCRETE
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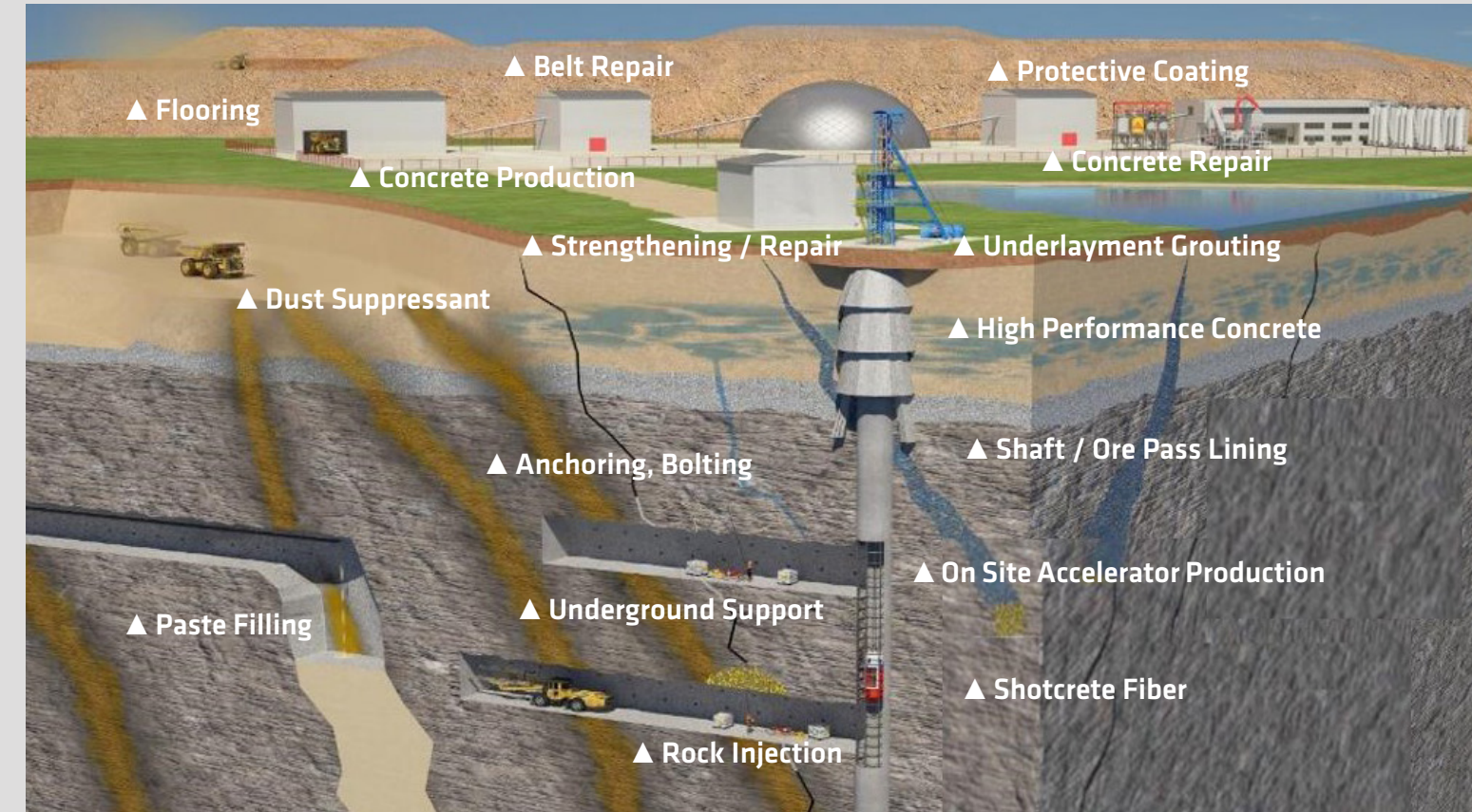
**GROUT EQUIPMENT
AND PARTS**

**CEMENTITIOUS AND
CHEMICAL GROUTS**

**OTHER CONSTRUCTION
SOLUTIONS**

**EXPERT SERVICE AND
SUPPORT**

TODAY'S MINES



CONCRETE SOLUTIONS

Over the past century, Sika continues to make significant contributions to the advancement of concrete as a durable and sustainable construction material. As a company, we address the complexities of concrete production and construction processes with both proven and innovative solutions, designed to meet a wide range of demanding challenges found in the mining industry.

CONCRETE APPLICATIONS IN THE MINING INDUSTRY

CONCRETE LINING

Fast and efficient construction of safe, durable concrete structures is made easier with Sika's advanced admixture technologies. Our solutions ensure excellent pumpability, flow, and compaction, followed by high early strength and low permeability—critical characteristics for optimal concrete lining. Sika admixtures provide the performance needed to meet the demands of modern mining, ensuring both safety and long-term durability.

HIGH PERFORMANCE CONCRETE

Sika admixtures designed for high strength and abrasion resistance are essential for mining operations. They provide durability and performance in critical areas such as drawpoints, extraction levels, haulage drifts, and ore pass linings. These different admixtures enable concrete to withstand the harsh conditions of mining operations, offering long-term strength and protection in demanding environments.

PRODUCTS

Sika® ViscoCrete® - Superplasticizer

Sikament® - Superplasticizer

Superplasticizers with strong water-reducing properties and extended workability times, ideal for mining applications requiring efficient concrete placement and high performance.

Sika® ViscoFlow® - Workability Enhancer

A specially designed admixture that extends workability times, crucial for mining operations in challenging conditions such as long transport distances and extreme temperatures.

SikaRapid® - Concrete Accelerator

Accelerators that deliver precise, high early strength development, reducing cycle times and increasing efficiency in underground mining operations.

Sika® Stabilizer - Viscosity Modifying Agent / High Range Water Reducer

Sika® Stabilizer-322 MBF

Sika® Stabilizer-323 MBF

Sika® Stabilizer-324 MBF

Sika® WT - Water Resistant Admixture

Sika's specialized admixtures are designed to enhance the performance and durability of concrete in mining applications. Products like Sika Stabilizer for consistent quality across raw material variations, and Sika WT for added water resistance, these solutions, ensure durable, resilient concrete in demanding mining conditions.

Sikacrete®-950 DP - Densified Silica Fume Powder

Fine silica fume added to concrete mixes to significantly improve performance and extend durability, crucial for the long-term demands of mining infrastructure.

SikaTard® - Concrete Retarder

Slump retention admixtures specifically formulated for shotcrete, allowing for controlled workability times in varying temperature conditions commonly found in mining.

SikaFiber® - Synthetic or Steel Fibers

Micro and macro fibers that improve the ductility, impact resistance, and tensile strength of concrete, making it more resilient in the harsh conditions of mining operations.

King® Technologies - Pre-bagged Concrete

Thiessen® Technologies - Pre-bagged Concrete

Sikacrete®

King® and Thiessen® offer a range of high-performance, pre-blended, and pre-packaged dry-process mixes, each specifically formulated to meet the varied demands of mining and construction projects. Each mix is engineered for durability, stability, and ease of application in challenging conditions, from cold climates to high-impact zones.

SHOTCRETE SOLUTIONS

Shotcrete, or sprayed concrete, integrates various aspects of concrete technology with admixture chemistry and modern material handling and delivery methods. Sika brings extensive expertise and experience in mastering these technologies to meet the most demanding requirements. This includes comprehensive capabilities in both wet and dry spray applications.

SHOTCRETE APPLICATIONS IN THE MINING INDUSTRY

ROCK SUPPORT

Rapid early strength development of shotcrete is critical in mining operations to enable short cycle times and ensure efficient progress. Achieving quick stabilization allows for continuous work in underground environments, enhancing both safety and productivity in the mining process.

SLOPE STABILIZATION

Shotcrete is an ideal solution for slope stabilization in mining, particularly when dealing with steep slopes and pit wall angles. It provides essential protection for workers and machinery in critical areas such as portals, galleries, and ramps, ensuring safety and stability in challenging mining environments.

SIKA ADDED VALUE

- High Early Strengths Achieved Using Sigunit® Accelerators
- Extended Slump Retention with Sika® ViscoCrete® SC Technology
- On-Site Testing
- Trouble-Free Applications

PRODUCTS

Sika® Sigunit® - Shotcrete Accelerator

Shotcrete accelerators designed to meet high early strength requirements. Available in both liquid and powder forms, the Sigunit® range offers flexibility for challenging logistics and various operational needs in mining environments.

Sika® ViscoCrete® - Superplasticizer

Sikament® - Superplasticizer

Superplasticizers that provide high water reduction and extended workability times, ensuring efficient concrete placement even under challenging mining conditions.

Sika® ViscoFlow® - Workability Enhancer

A specially designed admixture that extends workability times, crucial for mining operations in challenging conditions such as long transport distances and extreme temperatures.

SikaTard® - Shotcrete Retarder

Slump retention admixtures specifically formulated for shotcrete, allowing for controlled workability times in varying temperature conditions commonly found in mining.

SikaFiber® - Synthetic or Steel Fibers

Sika's micro and macro fibers significantly enhance the ductility, impact resistance, and tensile strength of shotcrete, providing improved durability in harsh mining environments.

Sikacrete®-950 DP - Densified Silica Fume Powder

Fine silica fume added to concrete mixes to significantly improve performance and extend durability, crucial for the long-term demands of mining infrastructure.

King® Technologies - Pre-bagged Shotcrete

Thiessen® Technologies - Pre-bagged Shotcrete

Sikacrete®

These product ranges englobe a selection of high-performance, pre-blended dry-process shotcrete mixes tailored for mining and construction needs. Comprising Portland cement, silica fume, blended aggregates, and specialized admixtures, these mixes offer enhanced impact resistance, rapid strength development, and excellent shooting characteristics. Designed for durability and ease of use, they perform reliably in challenging environments, including cold climates and high-impact areas.



GROUTS & ANCHORING

Sika offers a comprehensive range of solutions for injection and anchoring applications in the mining industry, ensuring ground stability and structural integrity in challenging conditions. Sika's advanced grouts and injection systems are designed to enhance safety, efficiency, and durability. These solutions are tailored to address the unique demands of mining operations, providing reliable performance to support both new construction and maintenance projects.

INJECTIONS & BOLTING SOLUTIONS IN THE MINING INDUSTRY

ROCK BOLT & CABLE ANCHORING

Sika's anchoring grouts provide secure, durable bonds for rock bolts and cables, ensuring ground stability in mining environments. Engineered to withstand dynamic loads and ground shifts, they offer fast setting and reliable reinforcement, enhancing safety and efficiency in underground operations.

GROUND STABILIZATION

An efficient method for stabilizing unconsolidated geological perimeters, fractured rock strata, or permeable soils in mining is through the injection of specially formulated grouts, typically cementitious. These grouts help reinforce weak ground conditions, ensuring stability and safety while improving the overall efficiency of the mining operations.

REBAR ANCHORING

In both new construction and refurbishment projects, secure anchoring of rebar and steel reinforcement is essential for structural integrity. Sika provides high-performance anchoring solutions that deliver strong, reliable bonds, ensuring stability and durability even in challenging conditions. Our epoxy and cementitious grouts are designed to withstand tension and shear stresses, making them ideal for critical applications in mining.

PRODUCTS

King® Cable - Cable Anchoring Grout

The King® Cable range includes high-performance, shrinkage-compensated anchoring grouts designed for securing cables, tendons, or bolts in rock or soil. These Portland cement-based, unsanded grouts incorporate silica fume for strength and durability, offering excellent washout resistance in challenging conditions.

King® MS-Cable

Neat, high performance, shrinkage-compensated, anchoring grout

King® Nordic

Sanded grout specifically designed for cold weather applications

King® Nordic Cable

Anchoring grout specifically designed for cold weather applications

KingAnchor

KingAnchor is a prepackaged, non-shrink, non-metallic, and cementitious grout material for anchoring applications with a unique two-stage shrinkage compensating mechanism. With a special blend of shrinkage-reducing and plasticizing/water-reducing agents, this product compensates for shrinkage in both the plastic and hardened states.

Sika® AnchorFix® - Adhesive anchoring system

Sika® AnchorFix® is a two-part epoxy anchoring adhesive for securing rebar, steel reinforcement, threaded rods, bolts, and fastening systems. It provides high compressive strength, excellent adhesion, and a long open time, making it ideal for new and refurbishment projects.

MINE BACKFILL (MBF)

Sika's admixtures for paste backfill operations are specifically formulated to optimize performance while significantly reducing water and binder consumption and associated costs. These advanced admixtures also ensure the desired rheology and stability of the paste, helping to lower the pressure in the backfill line. By improving flow properties and reducing operational strain, Sika's solutions enhance both efficiency and cost-effectiveness in your backfill processes.

MINE BACKFILL TYPES IN THE MINING INDUSTRY

CEMENTED ROCK FILL (CRF)

Cemented Rock Fill is a cost-effective solution for backfilling underground mines, requiring no large paste backfill plants but relying on mobile equipment for placement. Sika admixtures in CRF serve to:

- Extend cement hydration window for flexible handling and transport.
- Improve compaction rates for efficient and stable placement.
- Optimize binder usage to reduce costs while maintaining performance.
- Enhance strength development to ensure structural integrity for mining operations.

CEMENTED HYDRAULIC FILL (CHF)

Cemented Hydraulic Fill is commonly used when local sand is available, often mixed with tailings, creating a coarser fill prone to water and slime bleed, which may carry cement and fine material, negatively impacting the strength of the placed fill. Sika admixtures in CHF aim to:

- Optimize binder usage for required strength with minimal waste.
- Enhance stability and reduce segregation, preventing line blockages.
- Minimize decant water to ease pumping challenges.
- Reduce slime run-off for consistent fill strength.
- Lower pump pressure and equipment wear, improving operational efficiency.

CEMENTED PASTE BACKFILL (CPB)

Cemented Paste Backfill admixtures offer a significant opportunity to improve the cost-efficiency and performance of the paste mix in mining operations. The key objectives of using Sika admixtures in a CPB mix are to:

- Reducing binder content while maintaining strength and workability.
- Lowering yield stress to decrease pumping pressures and machinery wear.
- Increasing solid content for faster and more efficient backfilling.
- Ensuring consistent reliability, strength, and workability of the paste.
- Minimizing bleed and segregation for improved quality.
- Enhancing paste plant efficiency, enabling higher fill capacity and shorter cycles.

PRODUCTS

Sika® Stabilizer-317 MBF

Sika® Stabilizer-514 MBF

Sika® Stabilizer-515 MBF

Sika® Stabilizer-316 MBF

Complete range of backfill admixtures, providing the most cost-effective solutions tailored to handle the variations in tailings from diverse geological deposits and ground conditions. These admixtures are designed to adapt to the specific characteristics of your operation, ensuring reliable performance and efficiency in even the most challenging environments.

EQUIPMENT & ACCESSORIES

Sika offers an extensive line of consumable products including shotcrete concrete and grout accessories, concrete blocks and barriers, wire mesh panels, underground ventilation (FRP Fiber Reinforced Plastic, Layflat Ducting, Spiral Ducting, DuoDuct, Inflatable Bulkheads, Inflatable Headcovers), ground support, grout packers drilling fluids, core lube, and mud mixers & tanks.

EQUIPMENT

- Rock Breaking Equipment and Parts
- Breaker and Boom Parts
- Dry Shotcrete Equipment, Parts & Accessories
- Wet Shotcrete / Concrete Equipment, Parts & Accessories
- Grout Equipment and Parts
- Self Cleaning Cameras
- Vent Tubing
- Abrasion Resistant Shotcrete (Metalcrete)



GROUT PUMP & MIXER



HYDRAULIC MUD MIXER



WIRE MESH PANEL



JERSEY BARRIERS & MODULAR CONCRETE BLOCKS



ALIVA 237



ALIVA 503.3

SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION:



WATERPROOFING



CONCRETE



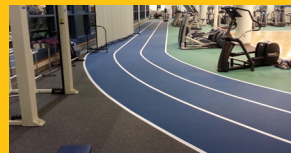
REFURBISHMENT



SEALING AND BONDING



ROOFING



FLOORING

All sales of Sika products are subject to Sika's current Terms and Conditions of Sale available at usa.sika.com or by calling 800-933-7452. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Product Data Sheet, product label and Safety Data Sheet, which are available at usa.sika.com or by calling Technical Services at 800-933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instructions for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.

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