



# TUNNELING SOLUTIONS



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- SHOTCRETE ADMIXTURES
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- ULTRA / MICRO FINE CEMENTS



# TUNNELING

## COMPLETE CONCRETE SOLUTIONS

With a proven track record of successful partnerships in major tunnel projects across the Americas, Euclid Chemical has solidified its position as an innovative leader in tunneling and underground solutions.

We offer a comprehensive range of products designed to enhance production and performance at every phase of an underground project. Whether it's tunnel construction, soil conditioning, annulus grouting, or repair work, the industry relies on Euclid Chemical to provide quality products and unwavering support.



# CONCRETE ADMIXTURES

## COMPLETE CONCRETE SOLUTIONS

Euclid Chemical is your partner in tunnel projects to provide proven chemical admixture solutions. Accelguard, Eucon and Plastol brands of high-performance concrete admixtures meet the requirements of ASTM C494, providing the highest quality concrete from basic to the most challenging applications.

### WATER REDUCERS

#### HIGH-RANGE WATER REDUCERS

#### RETARDERS/SET STABILIZERS

#### AIR ENTRAINERS

#### ACCELERATORS

### SPECIALTY PRODUCTS

- ▶ Densified Microsilica
- ▶ Corrosion Inhibiting Admixtures
- ▶ Water Repellent Admixtures
- ▶ Crystalline Waterproofing Admixtures
- ▶ Viscosity Modifying/Anti-Washout Admixtures
- ▶ Workability Retaining Admixtures
- ▶ Strength Enhancing Admixtures

# PRECAST CONCRETE ADMIXTURES

Euclid Chemical's admixtures are designed for the production of quality precast concrete for projects of all sizes and under the most demanding of conditions. Whatever the project application calls for, Euclid Chemical's ability to pair technology, engineering and service provides the precise formula needed to optimize precast concrete's function and performance.



# MECHANIZED TUNNELING

## TUNNEL BORING MACHINE (TBM) PRODUCTS

The most demanding tunneling projects rely on Euclid Chemical's innovative cutterhead foams, designed to minimize equipment wear, and our innovative soil conditioners engineered to optimize excavation processes and enhance TBM performance. Tailored to each project's unique requirements, our cutterhead foam products are fully customizable, ensuring superior performance in any environment.

### SEAL GREASES

**Tail Seal Grease for Shielded TBM - EUCON SG Series**

First Filling Material Tail Sealant Grease for TBM

Continuous Tail Sealant Grease for TBM

**Main Bearing Seal Grease for Shielded TBM - EUCON SG-B Series**

Mineral Oil Based Protective Main Bearing Sealant Grease



Main Bearing Seal Grease



First Filling Tail Seal Grease



Continuous Tail Seal Grease

### SOIL CONDITIONING

**EUCON CHF 100 Series**

Standard liquid cutterhead foaming agent designed for soils to make the movement of TBM faster

**EUCON CHF 200 Series**

Polymer based liquid cutterhead foaming agent designed for silty and sandy soils

**EUCON AC 400 Series**

Anti-clay, high efficiency dispersant polymer based cutterhead foaming agent

**EUCON SC-P**

Polymer used to increase performance of TBM foaming agents in difficult soil conditions for shielded TBM

**EUCON ABF 500 Series**

Anti-abrasion and dust control agent for hard rock

**EUCON DUSTROL**

Concentrated agent formulated with special surfactants used specially on hard rock tunnel boring machines, designed to reduce dust

## BACKFILLING ADMIXTURES

As the TBM is advanced, the void behind the segment needs to be filled (overcut plus TBM skin thickness). Euclid Chemical provides chemical admixtures that can be used in the annular grouting to fill in the gap in TBM excavation and segmental lining.

**HIGH-RANGE WATER REDUCERS**

**FLOWABLE FILL**

**CELLULAR CONCRETE**

AERLITE Series

**ACCELERATORS**

EUCON SURESHOT Series

**RETARDERS/STABILIZERS**

**ANTI-WASHOUT ADMIXTURES**





# SHOTCRETE ADMIXTURES

## **EUCON SURESHOT**

Sodium silicate based liquid set accelerator for shotcrete

## **EUCON SURESHOT AF**

Alkali-free liquid set accelerator for shotcrete

## **EUCON SURESHOT AF-2LV**

Low viscosity alkali-free liquid set accelerator for shotcrete

## **HIGH RANGE WATER REDUCERS**

Provides early and final high strength for high consistency shotcrete mixes with low water cement ratio

## **MICROSILICA**

Microsilica is powder additive which is used to improve the pumping and viscosity performance of shotcrete mixtures

## **RETARDERS**

The concrete admixture that prevents the loss of workability of the shotcrete concrete from the plant to the tunnel site

**Dry Shotcrete Powders by request**

# FIBER PRODUCTS

Euclid Chemical provides micro- and macro-synthetic fibers and steel fibers for concrete and shotcrete reinforcement. These products can be used to control plastic shrinkage cracking of concrete, provide equivalent temperature and shrinkage reinforcing to conventional steel and can also replace limited amounts of steel rebar, add toughness, increase impact and abrasion resistance and improve overall durability.

## **MICRO-SYNTHETIC FIBERS**

PSI FIBERSTRAND

## **MACRO-SYNTHETIC FIBERS**

TUF-STRAND SF FIBERS

## **STEEL FIBERS**

PSI STEEL FIBERS



# GROUTING PRODUCTS

Polyurethane chemical grouts are an excellent solution for sealing leaking cracks and fractures within sound substrates, as well as for the stabilization of unsound earthen materials. Cementitious grouts with micro- and ultra-fine cements provide soil consolidation and waterproofing through injection of fissures and micro voids within precast concrete segments.

## **MICRO AND ULTRA FINE CEMENT**

## **POLYURETHANE RESINS**

## **EPOXY INJECTION RESINS**

# OTHER RELATED CONSTRUCTION PRODUCTS

- › VANDEX Crystalline Mortars
- › Patching Repair Mortars
- › Form and Pour Repair Mortars
- › Horizontal Repair Mortars
- › Vertical/Overhead Repair Mortars
- › Non-shrink Grouts
- › Epoxy Grout
- › Packaged Dry Shotcrete



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