



Strata Construction Chemicals

ROCK CONSOLIDATION, WATER CONTROL, VOID FILL



Strata Advanced Foam Solution (AFS)

Rock Consolidation,
Void Fill, Water Control

Strata AFS is a hydrophobic polyurethane, designed to be injected into rock fissures, gravel layers, joints, cracks and voids to fill voids and consolidate strata. It is ideal for controlling and diverting water, including high volumes of gushing water.

SPECIFICATIONS

- Single Component
- Cures to a rigid, closed cell polyurethane foam
- Free foam expansion up to 30 times
- Controlled reaction time
- Catalysts required for optimal reactivity
- Multiple catalyst options for accelerated reaction times
- Resistant to most organic solvents, mild acids, alkali, petroleum and micro-organisms
- Contains no volatile solvents

APPLICATIONS

Void fill, rock consolidation and stabilization, water control

- Longwall extraction
- Tip-to-face void fill
- Rock consolidation above shields
- Floor-to-roof stabilization
- Water diversion and stoppage
- Grouting around surface and drill pipes

APPLICATION & TRAINING

Strata provides teams of experienced personnel to offer on-site training of employees if needed. This ensures safe, accurate and effective product application. Time and materials includes the injection resin, pumping equipment and supervision of skilled mining professionals.



Independent Test Results for Self-Ignitability and Flammability of AFS Extra Fast

Strata is committed to ensuring the safety of its products. Consistent with this commitment, and as a precaution, Strata recently commissioned an independent consulting firm to test AFS Extra Fast foam to determine its degradation point. The degradation point is a proxy for ignition point.

The degradation point of AFS Extra Fast foam occurs at greater than 500° F. The highest temperature of AFS Extra Fast foam occurs during the first ~ five (5) minutes of the curing process after the AFS Extra Fast foam mixture is pumped, and the highest recorded temperature is less than 200° F in test enclosures and as tested in a roof cavity in underground mine conditions. These test results demonstrate that AFS Extra Fast cannot self-ignite.

Copies of the independent testing results are available on request subject to a standard nondisclosure agreement.



Strata Expandable Foams

ROCK CONSOLIDATION, WATER CONTROL, VOID FILL

Strata 600 US

Void & Cavity Fill

Strata 600 US is a fast reacting, foaming, two-component urea-silicate injection grout used for void filling. It is fire resistant to Class M1 according to NF P92-501. Strata 600 US is designed for filling large cavities and voids in mining and underground applications.

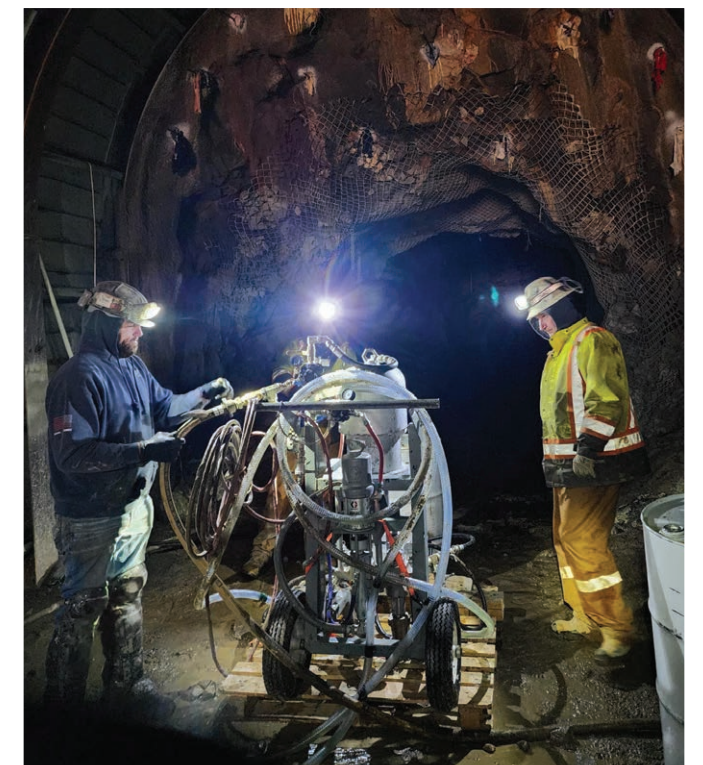
ADVANTAGES

- Strata 600 US is fire resistance class M1 according to NF P92-501
- Rapid reaction allows fast progress of excavation or mining operations
- Low polymerization temperature
- Good compressibility to allow slight movement of strata or consolidated soils
- Phthalate free, REACH compliant
- 1:1 volumetric mix ratio

APPLICATIONS

- Void and gallery filling in mining
- Void filling in tunnel operations
- Consolidation of fragmented strata and crevasses in front of tunneling excavations
- Umbrella injections

Strata 600 US A and B-components are sensitive to moisture and frost. Store in original closed packaging in a dry and frost free area. Storage temperature needs to be between 40°F and 80°F. Once the packaging has been opened, the useful life of the material is greatly reduced and should be used as quickly as possible. Shelf life at 68°F is 1 year.



Strata 500 US & USB

Rock Consolidation & Stabilization

Strata 500 US is a two-component, urea-silicate, non-expanding and fast-acting injection slurry. It is designed to consolidate and join delaminated, fractured and loose strata in underground mining, tunneling and geotechnical applications and other excavations where slurries without expansion are preferred. It has a low exothermic reaction temperature below 110°C (230°F).



ADVANTAGES

- 1:1 volumetric mix ratio
- Good mixing without marbling
- Non-expanding, safe for weak strata and soils
- Reacts under water without dilution, expansion or foaming
- Low exothermic reaction temperature: < 230°F
- High bond strength > 600psi
- Final compressive strength approx. 5000 psi
- Maintains flexural integrity and high flexural strength
- Fire resistant, Class B2 per DIN 4102 Part 1
- Phthalate free, REACH compliant

APPLICATIONS

- Bonding and consolidating strata in underground operations
- Injection into rock and aggregates where grouts are required for consolidation and stabilization without expansion
- Effective water control and sealing in underground excavations
- Anchoring of roof bolts and self-drilling anchors

Strata 500 RBG 350

Injection Resin - Thixotropic Silicate Polyurethane Grout

Strata 500 RBG 350 (Rock Bolt Grout) is an injectable, two-component, silicate modified, solvent-free, polyurea grout. Strata 500 RBG 350 has been formulated for securing and sealing rock bolts in mining and tunnelling applications. It is designed to instantly thicken after injection, retaining a thixotropic pumpable nature within the rock bolt hole to avoid run out.



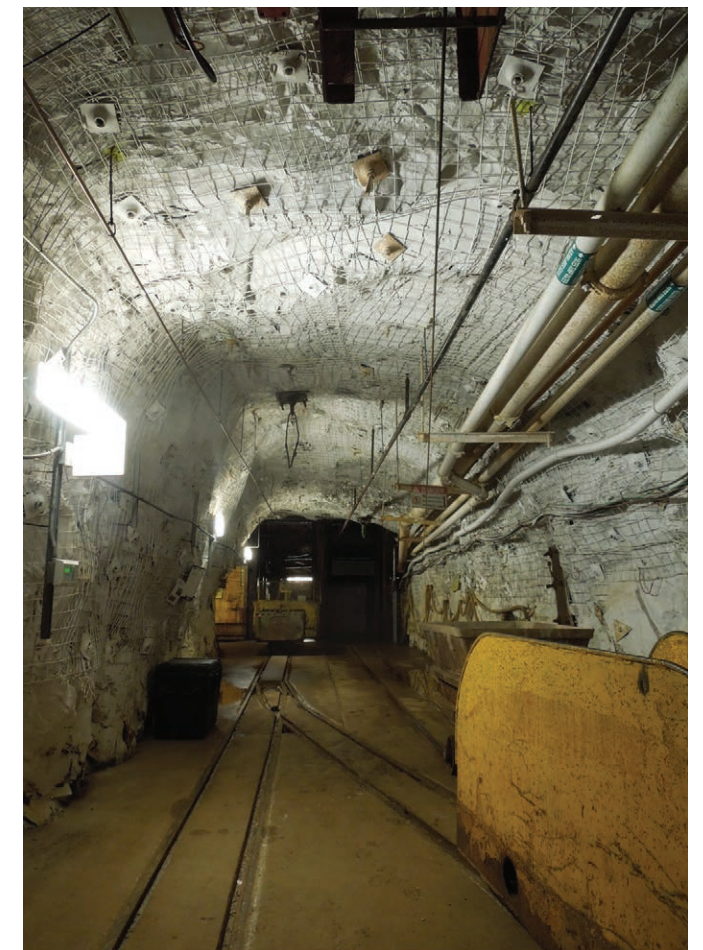
TYPICAL APPLICATIONS

- Rock bolting applications
- Sealing of large rock fissures
- Consolidation of broken ground

KEY BENEFITS

Full encapsulation of rock bolts even in broken, fractured ground, also enabling excellent corrosion protection

- Non-foaming even in contact with water and will not absorb water
- Mixes easily at low temperatures
- Thixotropic properties provide easy, secure and precise injection
- Good adhesion to wet and damp substrates
- Can penetrate small rock fractures and voids
- Fast reaction even underwater
- Fire resistant
- Low odor
- Environmentally friendly
- User friendly – may be injected either manually or automatically



Strata AC42™ & Strata AC52™

Sealing and Consolidation in the Presence of Water

Strata AC42 and Strata AC52 are non-toxic aqueous solutions of multi-functional acrylic monomers. These compounds gel in seconds-to-minutes when an activator/initiator is added just before use. The final product is a crosslinked gel. In wet, or dry conditions, the volume of the gel increases, or decreases, in a reversible and waterproofing manner.



FIELD OF APPLICATIONS

Strata AC42 and Strata AC52 are used for sealing and consolidation works in presence of water. They work by injection via drilled holes or ducts, of a highly fluid, hydrophilic product with a controlled set time.

Applied for:

- Treatment of water infiltration and ground water inrush
- Soil consolidation
- Treatment of voids, in the form of sand grouts, cements

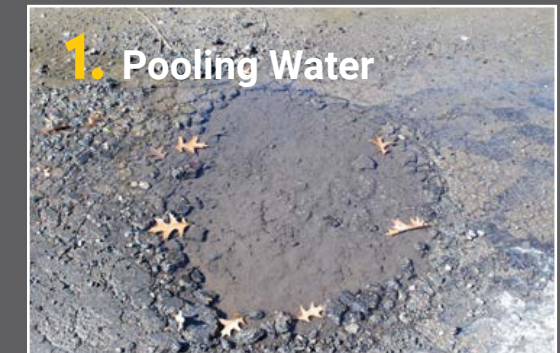
DIMENSIONAL CHANGES OF THE GELS

When immersed in water, the unconfined gel can absorb up to two-times its own weight of water in a few weeks without cracking. Under humid conditions, the volume of the gel remains approximately constant. In the absence of water, the gel shrinks slowly, without cracking. These dimensional changes are reversible and do not degrade the gel.

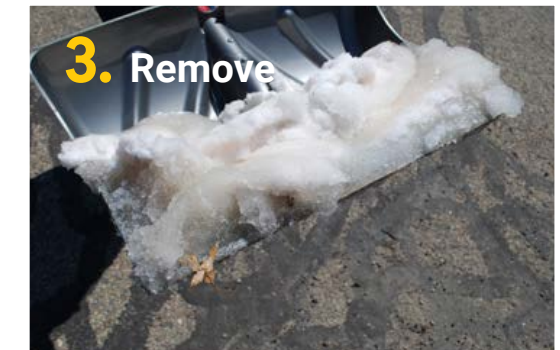
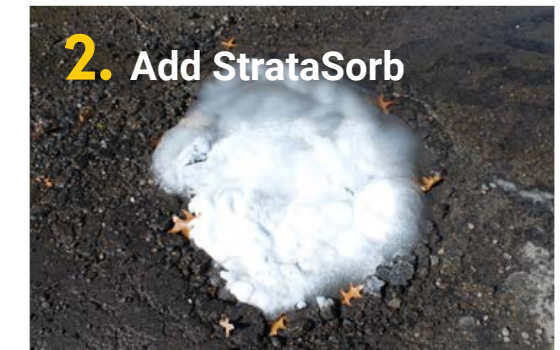
Strata **SORB**™

Super Absorbent Polymer for the Removal of Water

StrataSORB is a highly absorbent polymer that rapidly absorbs waste water and turns it into a lightweight, non-toxic solid that is easy to remove.



- Can be used in any area above or below ground
- Longwall moves, bunkers, transfer points, belt lines
- Fast water absorption and transformation into gel
- 100% non-toxic and environmentally safe
- Manually or mechanically removed
- Safe to deposit on belt line to discard
- Safe for incineration with no PCB or dioxin formation
- Ratio 300 to 1
- 1lb powder absorbs approximately 36 gallons (300lbs) of clean water
- Minimal waste volume — < 1% increase
- Available in super sacks and 50lb bags
- No expiration if stored in dry location





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