

# Strata & Foundation Stabilization Injection System



**REZOLUTION MINING POLYMERS**

**Strata Bond Thixotropic**  
Strata & Foundation Stabilization Injection System

## DESCRIPTION

Strata Bond Thixotropic is a two component (1:1 by volume) fire resistant injection system using a two-component injection pump coupled with a static in-line mixer head; based on urea silicate technology. It is designed to rapidly stabilize strata and coal by giving them structural strength and flexibility.

Based on standard liquid Strata Bond, this version will, upon machine mixing, instantly form a smooth pumpable gel which is thixotropic, ie it exhibits shear thinning. This enables the material to flow easily under the pressure/force eg through the injection machine. When the pressure/pumping stops, the material reverts to the gel and stops flowing thereby preventing the material from running out of cracks or adjacent injection ports.

In addition to being fire resistant owing to its unique silicate chemistry, the maximum exotherm reached during cross linking is well under the maximum 150°C allowed as specified by the NSW government Trade and Investment Mine Safety guideline MDG 3608 August 2012, Appendix D1-TM003.

## USES

- Rapid stabilization and strengthening strata and coal
- Rapid consolidation of other substrates such as sand, gravel, fractured road rock etc.
- Crack repairs above and below water.
- Bolt and cable grouting.

## CHARACTERISTICS / ADVANTAGES

- Instantly forms a pumpable gel when processed through plural component high pressure injection machinery.
- Fire resistant due to its unique silicate chemistry.
- Very fast reactivity with structural strength and resiliency.
- Suitable exothermic behavior for use in coal mines.
- Same reaction and cured properties in dry or underwater situations.
- Penetrates cracks greater than 0.15 mm.
- Does not expand its cured volume. Does not absorb water.
- Very good adhesion to wet surfaces.

## PRODUCT DATA TECHNICAL DATA

|                     | Part A  | Part B       |
|---------------------|---|--------------|
| Appearance/Colours  | Opaque liquid   | Brown liquid |
| Viscosity (20°C)    | 400 cps   | 200 cps      |
| Density (20°C)      | 1.48 g/ml   | 1.24 g/ml    |
| Flash point         | Not applicable  | > 200°C      |
| Working time (25°C) | Approximately 2.0 minutes from mixing                     |              |
| Working time (40°C) | Approximately 1.0 minutes from mixing                     |              |
| Exothermic Cure     | Starts after 4 minutes                                    |              |
| Border time         | 5 minutes (time to reach 1 MPa adhesive strength at 25°C) |              |
| Hard and tough      | 10 minutes  |              |

# Strata Bond Thixotropic

|                              |                         |
|------------------------------|-------------------------|
| Maximum bond to substrate    | Attained within 2 hours |
| 1 hour compressive strength  | > 30 MPa                |
| 24 hour compressive strength | > 45 MPa                |
| 7 day compressive strength   | > 50 MPa                |

## Technical Data Continued

Please note that the above figures are laboratory test results. Conditions in a mine may influence results obtained.

## CLEANING INJECTION EQUIPMENT

For short breaks, pump only Strata Bond Thixotropic Part A through the mixer.

For long breaks (eg storage, or after job is complete) pump clean water through Part A pump/injection lines; and pump clean engine oil through Part B pump/injection lines.

## SAFETY PRECAUTIONS

Please refer to the Material Safety Data Sheets for full details. Although **Strata Bond Thixotropic** contains isocyanates, the cured product is inert.

Nevertheless, only experienced operators should mix and install this product.

Wear appropriate PPE and avoid contact with skin and eyes.

Mop up any spills with absorbent materials such as zeolite or sand, and dispose of in accordance with local regulations. Prevent unreacted product from entering drains.

## STORAGE

12 months if stored in dry, unopened containers within temperature range +5° to +35°C.

Beware of frost sensitivity for **Part A**.

## REZOLUTION MINING POLYMERS

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*Excellence in subterranean  
chemistry*



## REZOLUTION MINING POLYMERS

ReZolution Mining Polymers, a division of Polymer Group Ltd was established in 2013 with the goal of developing a high-performance range of mining industry strata reinforcing and strata control materials.

The technical group associated with ReZolution Mining Polymers comprises research and development chemists, experienced mining industry personnel, together with construction industry applicators.

Polymer Group Ltd is seeking world-wide representation through regional distributors who are experienced in supply to construction (tunneling and related infrastructure activities), mining material suppliers and geothermal/ground control professionals and contractors.



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