



## High Strength Polyurethane Foam Injection System

### Product Description

ShieldMining™ Ground Bond is a highly reactive, solvent free, hydrophilic, 2-component, high strength polyurethane foam injection system. It is rapid setting and has a foam expansion factor of 3, making this an ideal product for rapid ground and strata stabilization. The system contains fire retardants and is self-extinguishing.

### Uses

- ✓ Filling and stabilizing cavities in coal seams.
- ✓ Filling and stabilizing cavities in fractured rock, e.g., roadways, shafts etc.
- ✓ Consolidating other substrates such as sand and gravel.
- ✓ Sealing gas and semi-static water.

### Features

- ✓ A fast-reacting polymer with strength and resiliency.
- ✓ Utilizes foaming agents with Zero ODP and Zero GWP.
- ✓ It is a two-component system, with both components mixed in equal volume proportions (1:1 by volume) using a two-component injection pump coupled with a static in-line mixer.
- ✓ Foam expansion of 3 times without reaction with ground water, and up to 8 times when in contact with and mixing with water.
- ✓ Will penetrate cracks greater than 0.15mm.
- ✓ For water stopping it is recommended to use ShieldMining™ Aqua Stop.

### Product Data

	GROUND BOND PART A	GROUND BOND PART B
<b>Appearance</b>	Opaque liquid	Brown liquid
<b>Viscosity (20°C)</b>	400 cps	200 cps
<b>Density (20°C)</b>	1.04 g/ml	1.24 g/ml
<b>Flash Point</b>	> 200°C	> 200°C

### Technical and Processing Data

Mix Ratio	1A:1B parts by volume
Onset of foaming	~ 40 seconds
Foaming stops after	~ 70 seconds
Foam expansion factor	~ 3 times
Foam Density	~ 300 kg/m <sup>3</sup>
Foam Stability	No shrinkage
Flexural Adhesive Strength	~ 4 MPa
Border Time	~ 30 minutes (time to reach 1 MPa adhesive strength)

Please note that the above figures are those measured in the ShieldCrete® International laboratory. Conditions in the mine may influence these results.

### Cleaning Injection Equipment

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

For long breaks (e.g., 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 ShieldMining™ Ground Bond 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.

### Technical Support

For technical support, please you may send an email to mail@shieldcreteinternational.com.

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