

## Mechanical properties

- One kit provides approximately 11.5 litres of mixed material.
- One kit covers about 3 – 4m<sup>2</sup> of rock surface at 4mm thick, depending on the roughness.
- Pot life is about 10 – 15 minutes at temperatures of 28 - 32°C.
- Final tensile strength > 3, 8 MPa. (CSIR & Wits test results available)
- Bonding strengths to smooth rock sample of > 2. 0 MPa. (CSIR test & Wits test results – available)



## Safety testing

- Toxicity Testing of the Technicrete TSL subjected to fire conditions show that no dangerous levels of toxic gases are emitted. (CSIR report on results available)
- Fire Testing has been carried out at the CSIR Fire Laboratories. Technicrete TSL does not support flame nor propagates flame spread. (CSIR report on results available)
- A comprehensive Risk Analysis is available.

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## TECHNICRETE TSL

A Polymer based fibre reinforced thin sprayed liner

This product is used as a rock support to provide surface stabilisation between rock bolts.

**Technicrete TSL** is supplied in an easy-to-use kit consisting of liquid polymer, a blend of powder chemicals, and graded silica sand with polypropylene fibres.



**TECHNICRETE**  
quality support

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The entire contents of this kit are simply mixed together, to form a thixotropic paste that is sprayed onto the prepared rock face. The applied material hardens rapidly into a resilient fibrous liner. This liner bonds powerfully to rock surfaces, and has a high tensile strength across joints. This sprayed-on liner penetrates open fissures and joints, and bridges across all surfaces to resist surface movement and effectively binds the rock fragments forming a cohesive areal support.



## Application

The contents of the kit are simply emptied into a suitable mixer / pump arrangement and sprayed onto the cleaned rock face to be supported. The spray is directed into any open joints etc for maximum penetration.

The equipment used is a simple mixer / pump arrangement having a positive displacement type pump. The delivery hose should be about seven metres for best effect. Compressed air is added at the nozzle to spray the fresh mix.

Cleaning of the equipment is easy by simply flushing thoroughly with water after the application is complete.



## Features

The freshly mixed TSL is sprayed under pressure directing the material into the open joints and fissures and covering all surfaces. The bonding properties of the TSL bind the rock faces inside the fissures to provide a more stabilised rock surface. This has the effect of minimising the unravelling of the rock mass.

The tensile properties of the TSL spanning across joints and cracks resist shear and direct tensile movement, thereby adding to back-pressure into the rock mass for added stabilisation.

In low stress environments the bonding and tensile strengths help to prevent block movements keeping the rock 'beam' intact.



## Uses

- Can be rapidly deployed in the underground environment as the equipment is easily manhandled in confined areas.
- This sprayed-on support is quick to mix and apply, and hardens rapidly to enable easy application within the mining cycle.
- Used as a rock support for areal stabilisation of rock surfaces.
- Stabilisation of friable ground.
- Sealing of sensitive rock types against water and humidity i.e. kimberlite, smectite, soft shales, etc.
- Preventing the unravelling of fractured ground by holding key blocks in place.
- Sealing of dams, sumps and drains.
- A temporary areal support - prior to overcoating with shotcrete. (Shotcrete has powerful adhesion to Technicrete TSL.)
- Can be safely applied to damp substrates, but not onto surfaces covered in running water.

