

MasterRoc[®] TSL 865

Elastic polymer-based thin spray-on liner (TSL) for surface reinforcement and weathering protection of soil, rock and coal strata

Description

MasterRoc TSL 865 is a single-component polymer powder for spray-application onto soil and rock for reinforcement or weathering protection. Through good bond to most substrates, high elasticity and high tensile strength, the ground stability and stand-up-time is improved.

Sprayed concrete can be applied against the membrane as soon as it has set.

Applications

Recommended for use in:

- Stabilization of soil and rock
- A possible alternative to mesh/screen protection, with or without bolts
- Preliminary slope protection binding the surface before the area is ready for sprayed concrete
- Helps to reduce hard-rock strain bursting
- Pillar/rib support
- Rehabilitation of collapsed areas
- Vent stopping
- Water retention pond liners

Features

- No toxic components
- No classification needed for transport
- Ready for use
- Fast setting (within five minutes) and gains tensile strength during the following hours, days and weeks

Benefits

- Good bond to concrete, rock and coal
- Spray application by simple equipment
- Rapid set up; allows stop and start at any time; easily cleaned with minimal waste
- Reduces air-slaking and rock weathering

Performance Characteristics

Technical Data

Form	Powder
Color	White
Bulk density powder at 68° F (20 °C)	43.0±0.05 lb/ft ³ (690±90 g/L)
Consumption	0.2 lb/ft ² per 0.04 in. (0.9 kg/m ² per mm)
Application thickness	0.08 - 0.40 in. (2 - 10 mm)
Application temperature	41 - 113 °F (5-45 °C)
Tensile strength:	
> After 4 hours	>29 psi (0.2 MPa)
> After 1 day	>58 psi (0.4 MPa)
> After 7 days	>290 psi (2.0 MPa)
> After 56 days	>725 psi (5.0 MPa)
Elongation at break:	
> After 4 hours	>100%
> After 1 day	>50%
> After 7 days	>60%
> After 56 days	>30%
Bond strength to concrete after 14 days	246.6 psi (1.7 MPa)
Bond strength to coal	Mostly coal failure
Flammability	Self extinguishing

Guidelines for Use

MasterRoc TSL 865 thin spray-on liner must be used under the supervision of a qualified geotechnical engineer. The product should primarily be used to increase safety by application onto potentially unstable ground where other means cannot be effectively applied due to space limitations, restrictions or other considerations. Depending on the specific ground conditions, the effect of MasterRoc TSL 865 thin spray-on liner may in some cases be of a temporary nature, especially if used alone. The need for other support measures to supplement and further strengthen the ground (especially rock anchors and sprayed concrete), must always be carefully considered.

Surface Preparation: For details about this subject, please refer to the "Method Statement" document, Revision 3, Chapter 2.

Equipment: It is required to apply MasterRoc TSL 865 thin spray-on liner by the dry spraying method. Basic recommended equipment set-up:

- Motor 12 round hole 3.5 in. (90 mm) high
- Rotor base 3.5 in. (90 mm) coupling
- Rotor dust collector 3.5 in. (90 mm) high coupling
- Spraying nozzle diameter 1.25 in. (32 mm) plastic tip with collar/conical with 18 hole water ring
- Spraying hose diameter 1.25 in. (32 mm)

Suitable spray equipment should be fitted with a dust collection filter. The supplied compressed air has to run through a de-watering device to avoid too high humidity and material build-up in the equipment and hoses.

Note: Under no circumstances should MasterRoc TSL 865 thin spray-on liner be sprayed without the addition of water at the nozzle.

Spraying Technique: For details about this subject, please refer to the "Method Statement" document, Revision 3, Chapter 3 and 5.

Consumption: Consumption depends on the substrate, but about 1 kg of dry powder per square meter and mm thickness can be used as a guideline (theoretical 0.9kg/m² and mm).

Cleaning: All equipment can be cleaned by blowing compressed air through the system (aiming into water). The nozzle itself should be inspected and cleaned out with water after every break in the spraying process. During continuous application there is no need for nozzle cleaning as long as water and air supply is sufficient and correctly adjusted.

Storage and Handling

Storage Temperature: MasterRoc TSL 865 thin spray-on liner should be stored in original, unopened bags below 104 °F (40 °C).

Safety: The product has no toxic components. The use of gloves, eye protection and a dust mask when spraying are recommended.

Packaging

MasterRoc TSL 865 thin spray-on liner is available in 44 lb (20 kg) bags.

Related Documents

Safety Data Sheets: MasterRoc TSL 865 thin spray-on liner

Additional Information

For additional information on MasterRoc TSL 865 thin spray-on liner, contact your local sales representative.

Master Builders Solutions creates technologies for the construction industry inspiring people to build better. We are active in ~40 countries and operate 35 production sites with over 1,600 employees. We develop, produce, and market high-quality chemical admixtures, as well as adjacent core technologies, to master the challenges of today and support a decarbonized future. Our people are pivotal and pair leading technologies and a strong brand heritage to surpass our customers' expectations and drive continuous value creation.

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