

**MINING / CONSTRUCTION**

# Tekflex DS - W

## SPRAYABLE WATERPROOFING MEMBRANE

### DESCRIPTION

Tekflex DS-W is a single component powder material based polymer, designed for continuous dry spray applications. The powder is mixed with water at the special nozzle and creates a suspension, which gels within seconds, creating a continuous membrane on the applied surface. After several minutes, it becomes tack free and then rapidly increases in strength over next days. As a result, a strong and elastic sealing membrane is formed. The membrane bonds very well to surfaces such as rock, coal and concrete.



### APPLICATION AND USE

- Waterproofing of concrete in "sandwich" type structures
- Waterproofing of concrete / strata surface
- Anti-weathering agent
- Ventilation control - as a gas barrier
- Sealing complex underground structures

### ADVANTAGES

- Tough and flexible – has the ability to stretch with excellent tensile characteristics assuring coating integrity even when strata deformation occurs
- Simple mixing - one part powder component, simply requires the addition of water and the use of standard equipment for dry spraying
- Fast curing - gels within seconds, after several minutes it is tack free
- Excellent adhesion – the special formulation enables excellent adhesion to rock, concrete and steel, assuring a long-lasting coating

### TECHNICAL DATA

The data below are laboratory data. They may vary in practice due to surface properties of the substrate, humidity, pressure, and other factors.

### PRODUCT CHARACTERISTICS

Reference	Tekflex DS-W
<b>Tensile strength after 28 days</b>	1,7 MPa (> 0,5 MPa)*
<b>Elongation at break after 28 days</b>	300% (> 150 %)*
<b>Hardness Shore A</b>	70°
<b>Bond strength</b>	1,2 MPa (> 0,5 MPa)
<b>Application thickness</b>	3 – 6 mm
<b>Flammability</b>	non-flammable

\* Value in brackets refers to minimum value

**COMPONENT CHARACTERISTICS**

Reference	Tekflex DS-W
Colour / form	white to light beige powder
Odour	weak acetate
Particle size	< 0,5 mm
Mixing ratio	6 ltr of water / 15 kg bag
Consumption <sup>1</sup>	0,7 kg/m <sup>2</sup> /mm
Pot life	~ 5 min. @ 20 °C
Application temperature	min.+1 °C; max +30 °C
solubility in water	creates dispersion

**APPLICATION METHOD**

Tekflex DS-W should be used with a pump designed for the dry spray application of powdered materials. The pump should be equipped with a nozzle with an effective water-jets system and it is recommended that the pump should have a variable output with a recommended configuration of:

- Aliva-237 pump with adjustable speed, hopper with vibrator and dust collector, a rotor size of 0.6 or 0.7 l and a spraying hose diameter 25 or 32 mm
- Velco Gunmix nozzle system

In order to achieve a continuous membrane and to reduce material usage, it is necessary that the substrate surface is smooth enough, with no large irregularities or cavities. It is recommended that the surface is finished with a smoothing sprayed concrete layer containing a sand filler with a maximum 4 mm grain size.

The surface to be sprayed should be thoroughly cleaned to remove any dust and loose particles. After cleaning the surface should remain damp, but with no standing water, if the area to be sprayed dries out then water should be re-applied to ensure that it is pre-wetted prior to application.

Adjusted water/powder ratio should be between 0.35 and 0.5, (0.4 recommended). For application the distance from the surface should be between 1.5 m to 2.5 m. The nozzle should be continuously moved in small circular movements, which follow parallel strokes along the sprayed area to get a membrane with the correct, continuous thickness. In this way a systematic progressive coverage of the area is achieved with the required ~3-4 mm

thick layer in one pass. Optimal thickness is between 3 and 6 mm in order to achieve the best material properties. If the surface is irregular more exact coverage may be achieved applying 2-3 layers giving a total thickness of 3 – 10 mm. Theoretical material consumption is 0.7 kg per 1 m<sup>2</sup> per 1 mm thickness of membrane. In practice the quantity of the sprayed material depends on the roughness of the surface is usually approximately 5 - 8 kg of dry product for 1 m<sup>2</sup> for a thickness of 3 -10 mm.

Cleaning of the nozzle with water should be done after each application. It is recommended that the nozzle be inspected and cleaned after every 500 – 1000 kg of powder sprayed.

On completion of the application the pump and all associated equipment should be thoroughly cleaned with compressed air. Separately clean the nozzle with clean water. When hardened, clean mechanically.

Before any additional layers are applied to the Tekflex DS-W membrane, it should have Shore A hardness of at least 50. This typically takes 5 days.

**SAFETY INSTRUCTIONS AND LIMITATIONS**

Tekflex DS-W onto flowing water is not recommended. Sealing of such areas can be achieved by using Minova resin injection or structural membranes products. Alternatively, a drainage system should be used. Substrate and air temperature during spraying and 7 days after the application should be above +1°C. For optimal performance a minimum temperature of +10°C is recommended and < 80% Relative Humidity. The sprayed area should be well ventilated with a recommended air flow of >1 m/sec. For more information refer to Tekflex DS-W Surface Preparation Guideline.

Failure to follow the application equipment operating manual, and particularly its technical condition, insufficient cleaning and lack of maintenance, lead to decrease of application efficiency or make the application completely impossible.

Do not expose the fresh membrane to frost. It is recommended that gloves, eye protection and a dust mask are used when spraying Tekflex DS-W. For more details refer to the Tekflex DS-W Material Safety Data Sheet.

## **PACKAGING AND TRANSPORTATION**

15 kg bags, 50 bags per pallet.

Other packing units on request.

## **STORAGE AND SHELF LIFE**

Shelf life 6 months when stored in dry and cool conditions (between 5 and 40°C). Do not place pallets in multiple layers – this may cause a caking of the product.

## **DISPOSAL**

Follow local regulations.

## **APPROVALS AND CERTIFICATES**

- Accepted as material fulfilling Bane NOR's (Oslo, Norway) technical specification for sprayable waterproofing membrane.

## **DISCLAIMER**

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## **ADDITIONAL DOCUMENTATION**

- Tekflex DS-W MSDS

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