

# Bituseal® Field Joint Membrane Product Data Sheet

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## Product Description

The Bituseal® Field Joint Membrane comprises a woven glass fibre carrier incorporating a tough and flexible polymer modified bitumen.

The outer surface of the membrane is applied with a thin polyolefin film on the back side and a white polyethylene on the front side which provides both mechanical and solar protection.

The Bituseal® Field Joint Membrane has excellent mechanical and elastic properties. These are also maintained at low temperatures, thus ensuring that the product is resistant to mechanical damage and has a wide service temperature range.

Bituseal® Field Joint Membranes are used as the field joint corrosion protection on oil, gas and water pipelines where field joints of good mechanical properties and long service life are the principal requirements.

Bituseal® Field Joint Membranes were originally developed to be applied on Bituseal® coated pipes, but has also successfully been used for polyethylene and polypropylene coated pipes (see technical data). Furthermore the membrane can be used as corrosion protection of pipe work, tanks and other installations.

The Bituseal® Field Joint Membrane system also includes a fast drying polymer compatible primer: Bituseal® Synthetic Primer.

## Application

Before applying the Bituseal® Field Joint Membrane it is important that the steel surface is oil and grease free. The steel should be cleaned to

the minimum of Sa 2 using a wire brush or by blast cleaning. The surface roughness should be minimum 50µm.

The cleaned area must be primed using either the Bituseal® Synthetic Primer, which has to be spray or brush applied.

Application of the Bituseal® Field Joint Membrane is performed manually. The technique require that the adhesive backing of the field joint membrane is pressed firmly against the pipeline steel whilst being heated by a propane torch.

The membrane is progressively unrolled around the pipeline circumference, keeping a thin bead of molten adhesive between the steel and the membrane, until it encircles the joint completely. This technique ensures that all air is excluded from under the membrane.

When applying the Bituseal® Field Joint Membrane to bends and specials, a hand application technique is used, and the membrane may be readily tailored to suit surface contours.

## Storage

The product should be stored upright on a dry surface. It should be protected against the ingress of moisture and direct solar heating.

The Bituseal® Field Joint Membrane may be stored at a maximum of two layers.

Provided that the product is stored under these conditions it has a shelf life of 2 years.

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Technical Data				
Test	Comments	Method	Requirement	Typical production value
Carrier	Glass tissue			175 g/m <sup>2</sup>
Thickness		DIN 30 672, part 1	>4.0 mm	4.7 mm
Weight		PHOENIX 6.10.009	>4400 g/m <sup>2</sup>	5170 g/m <sup>2</sup>
Tensile strength		DIN 30 672, part 1		1400 N/50 mm
Tensile strength after ageing at 70°C		DIN 30 672, part 1	Ratio >0.8	0.93
Impact resistance	Stress class C	DIN 30 672, part 1	No penetration	No penetration
Resistance to peeling at 23°C and 50°C	Stress class C	DIN 30 672, part 1	23°C: >15 N/10 mm 50°C: >3 N/10 mm	23°C: >90 N/10 mm 50°C: >25 N/10 mm
Resistance to peeling after ageing at 70°C		DIN 30 672, part 1	Ratio >0.8	0.97
Indentation resistance	Stress class B	DIN 30 672, part 1	>1.5 mm remaining	23°C: 2.5 mm 50°C: 1.3 mm
Bituseal® Enamel softening point		EN 1427, 1999	>115°C	120°C
Penetration of Bituseal® Enamel		EN 1426, 1999	<30 dmm	23 mm
Cathodic disbonding, 28 days 1500mV - at 23°C 1500mV - at 60°C		BS 3900, F 11		< 5 mm < 7 mm
Dielectric breakdown at 25°C		BS 1858		>20 kV
Adhesion to polyethylene/polypropylene at 25°C		DIN 30 762, part 1		>400 N/50 mm
Adhesion to polyethylene/polypropylene at 50°C		DIN 30 762, part 1		>250 N/50 mm
Water absorption		ISO 5256		<0.7 g/m <sup>2</sup>
Steel surface temperature during application	10°C to 60°C and >3°C over dew point			
Service temperature	-20°C to 90°C			
Product Code	100-610			