

# Fibre-reinforced Geosynthetic Clay Liner (GCL)

## Bentofix® NSP 4900



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The following table lists properties of **Bentofix® NSP 4900**, a shear strength transmitting geosynthetic clay liner, continuously needle-punched through all components. Additional bentonite powder is impregnated into a 50 cm overlapping area on both longitudinal sides of the cover layer. The 30 cm longitudinal overlapping area is marked on the bottom side.

Property	Test method*	Unit	Values
<b>Geotextile layers:</b>			
<b>Cover layer</b> (polypropylene nonwoven):			
Mass per unit area	EN ISO 9864	g/m <sup>2</sup>	220
<b>Carrier layer</b> (polypropylene woven):			
Mass per unit area	EN ISO 9864	g/m <sup>2</sup>	110
<b>Bentonite layer</b> (sodium bentonite powder):			
Mass per unit area	EN 14196 ( $\rho_{TON}$ )	g/m <sup>2</sup>	4,670
Swell index	ASTM D 5890	ml/2g	24
Fluid Loss	ASTM D 5891	ml	≤ 18
Water content	DIN 18121 / ISO 11465 (5hrs, 105 °C)	%	approx. 10
<b>Geosynthetic Clay Liner:</b>			
Mass per unit area	EN 14196 ( $\rho_{GBR-C}$ )	g/m <sup>2</sup>	5,000
Thickness	EN ISO 9863-1	mm	6.0
Max. tensile strength, md/cmd**	EN ISO 10319 / ASTM D 4595	kN/m	12.0 / 12.0
Elongation at break, md/cmd**	EN ISO 10319 / ASTM D 4595	%	10.0 / 6.0
Peel strength	ASTM D 6496	N/10 cm***	≥ 60
		N/m	≥ 360
Static puncture strength	EN ISO 12236 / ASTM D 6241	N	2,000
Permeability / Hydraulic Conductivity	DIN 18130 / ASTM D 5887	m/s	2 x 10 <sup>-11</sup>
Index Flux	DIN 18130 / ASTM D 5887	(m <sup>3</sup> /m <sup>2</sup> )/s	5 x 10 <sup>-9</sup>
<b>Roll dimensions:</b>			
width x length, / diameter	-	m x m / m	4.85 x 40 / Ø 0.65

\* = based on; \*\*md = machine direction, cmd = cross machine direction; \*\*\*max. peak

The listed technical values are guiding values, achieved in our laboratories and/or independent testing institutes. Our products are subject to changes without prior notice.