

# Fibre-reinforced Geosynthetic Clay Liner (GCL)



NAUE GmbH & Co. KG  
Gewerbestrasse 2  
32339 Espelkamp-Fiestel, Germany

Phone: +49 5743 41-0 · Fax: +49 5743 41-240  
E-Mail: info@naue.com · Internet: www.naue.com

## Bentofix® NSP 4300



Global Synthetics

www.globalsynthetics.com.au

Sydney 8/28 Oranqui Rd, Girraween, NSW 2145  
Phone: 02 9631 0744 · Fax 02 9631 0755

Australian Company – Global Expertise

Brisbane 44 Telford St, Virginia, QLD 4014  
Phone: 07 3865 7000 · Fax 07 3865 4444

info@globalsynthetics.com.au

Perth 17 Church Rd, Maddington, WA 8109  
Phone: 08 9459 4300 · Fax 08 9459 4311

The following table lists properties of **Bentofix® NSP 4300**, 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 ( $\rho_{CLAY}$ )	g/m <sup>2</sup>	4,000
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>	4,330
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	$2 \times 10^{-11}$
Index Flux	DIN 18130 / ASTM D 5887	(m <sup>3</sup> /m <sup>2</sup> )/s	$5 \times 10^{-9}$
<b>Roll dimensions:</b>			
width x length, / diameter	-	m x m / m	4.85 x 50 / Ø 0.70

\* = 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.