

# Fibre-reinforced Geosynthetic Clay Liner (GBR-C)



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## Bentofix® X2 BFG 5300

The following table lists properties of **Bentofix® X2 BFG 5300**, a shear strength transmitting geosynthetic clay liner (GBR-C), continuously needle-punched through all components. Additional bentonite powder is impregnated into the complete cover layer. A polyethylene layer is coated to the woven side. The 30 cm longitudinal overlapping area is marked on the coating.

| Property   | Test method*                             | Unit                                | Values               |
|--|--|-------------------------------------|----------------------|
| <b>Geotextile layers:</b>  |  |                                     |                      |
| <b>Polypropylene nonwoven</b> (impregnated with bentonite):                            |  |                                     |                      |
| Mass per unit area   | EN ISO 9864                              | g/m <sup>2</sup>                    | 220                  |
| <b>Polypropylene woven:</b>  |  |                                     |                      |
| 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 ( $\rho_{\text{CLAY}}$ )        | g/m <sup>2</sup>                    | 4,200 + 800          |
| 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>Polyethylene coating:</b>   |  |                                     |                      |
| Mass per unit area   | EN ISO 9864                              | g/m <sup>2</sup>                    | ≥ 200                |
| <b>Bentofix X2 BFG 5300:</b>   |  |                                     |                      |
| Mass per unit area   | EN 14196 ( $\rho_{\text{GBR-C}}$ )       | g/m <sup>2</sup>                    | approx. 5,550        |
| 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<br>(nonwoven vs.woven/coating)   | ASTM D 6496                              | N/10 cm***                          | ≥ 60                 |
|  |  | N/m                                 | ≥ 360                |
| Static puncture strength   | EN ISO 12236 / ASTM D 6241               | N                                   | 2,000                |
| Permeability   | EN 14150 (10 m water head, coating only) | m <sup>3</sup> /m <sup>2</sup> /day | 3 x 10 <sup>-6</sup> |
| Permeability / Hydraulic Conductivity<br>(calculated by testing according to EN 14150) | EN 14150 (10 m water head, coating only) | m/s                                 | ≤ 10 <sup>-14</sup>  |
| Index Flux   | ASTM D 5887 (GBR-C only)                 | (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.