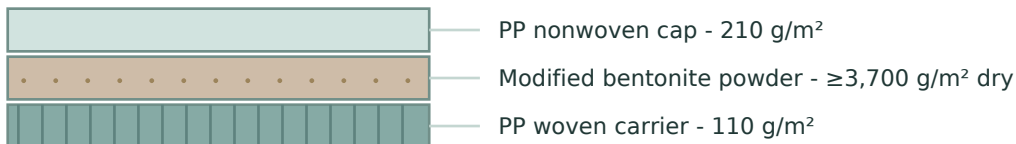


PRODUCT GCL-P

Kontain GCL Polymer

Polymer-modified bentonite for chemical compatibility design.

GCL-P uses polymer-modified bentonite where ordinary sodium bentonite may be affected by salts or aggressive pore water. Select the polymer system against the actual liquid and contact soils. The reference construction below uses modified bentonite powder with a PP nonwoven cap and woven carrier.



Construction schematic. Layers exaggerated; confirm supplied face orientation.

Reference technical data - GCL-P-3700

Property	Declared value	Test method
Dry modified bentonite mass	$\geq 3,700$ g/m ²	ASTM D5993
PP cap / woven carrier mass	210 / 110 g/m ² reference	EN ISO 9864 / ASTM D5261
Total dry GCL mass	$\geq 4,000$ g/m ²	ASTM D5993
Fluid loss	≤ 18 mL	ASTM D5891
Swell index - tap water	≥ 28 mL/2 g	ASTM D5890 basis ¹
Swell index - 20,000 ppm salt water	≥ 22 mL/2 g	ASTM D5890 basis ¹
Hydraulic conductivity - tap water	$\leq 5 \times 10^{-11}$ m/s	ASTM D5887, declared ¹
Hydraulic conductivity - 20,000 ppm salt water	$\leq 1 \times 10^{-10}$ m/s	ASTM D5887, declared ¹
Tensile strength - MD / cross-MD	≥ 10 / ≥ 10 kN/m	ASTM D6768
Peel strength	Acceptance value to confirm	ASTM D6496 ²
Static puncture resistance (CBR)	$\geq 1,600$ N	EN ISO 12236 / ASTM D6241
Hydrated peak internal shear ³	≥ 30 kPa at 10 kPa normal stress	ASTM D6243

¹ Declared test liquids; obtain salt composition, conditioning, confinement and test reports. ² The peel value is withheld until the reported unit discrepancy is resolved. ³ One peak shear point is not a design strength envelope.

Reference values are data-sheet declarations for the stated construction. They are not independent test results, certified acceptance limits or minimum average roll values (MARV). Final values, tolerances, test conditions and quality records are agreed in the order-specific supply schedule.

PRODUCT GCL-P

Match the chemistry

Salt index data guide selection; project-fluid testing governs.

What the reference data establish

The declared 20,000 ppm salt-water results relate to a particular test liquid and method basis. They do not demonstrate performance in seawater, acids, alkalis, metal-rich liquors or every saline soil. Equal total salinity can conceal very different ionic compositions and bentonite behaviour.

Compatibility information to specify

Input	Information required
Actual liquid and soils	Representative liquid and pore-water samples; pH, conductivity, salinity, major ions and relevant contaminants. Include lime or carbonate-bearing contact materials.
Operating conditions	Temperature, hydraulic head, normal stress, hydration source, wet/dry exposure and expected chemical changes.
Acceptance testing	Agree project-fluid swell and hydraulic testing, prehydration sequence, duration/equilibrium criteria and acceptance limits with the designer.
Whole system	Confirm polymer/bentonite formulation, geotextiles, optional membrane, overlaps, sealants and penetration materials against the same exposure.

Construction options

Polymer modification can be requested with a composite base or a laminate. A different powder/granular formulation or base construction needs its own schedule and supporting test results; this standard-base reference is not automatically transferable.

Granular and powder options are available for consideration, subject to the required polymer formulation. Granular handling can reduce airborne dust; it does not demonstrate better hydraulic or chemical performance. Use the matching approved bentonite accessories at cut edges and details.

Placement controls

Provide at least 300 mm clean, direct GCL-to-GCL overlap, with factory-treated longitudinal edges correctly aligned. Self-sealing requires suitable hydration and confinement. Treat roll ends, cuts and penetrations as specified. Protect against uncontrolled wetting and place the approved cover promptly.

Lime-bearing contact soils are unsuitable without compatibility validation. Particle-size limits, protective layers, slopes and plant loads remain grade- and project-specific; polymer modification does not confer a puncture rating or a permissible slope.

Common roll: 5 m × 30 m (150 m² gross), with custom dimensions and plastic or steel cores by order. Confirm dry mass, formulation, bore, roll mass, traceability, acceptance testing and the batch certificate before supply.

Installation details: [Kontain GCL Installation Guide](#)

Product selection and project supply: kontainsolutions.com/products/gcl-systems