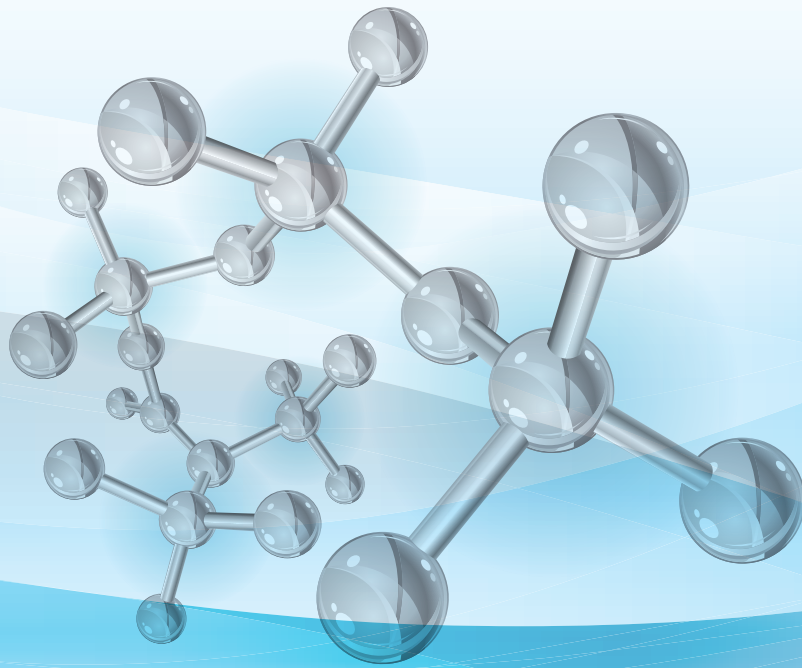


CETCO[®]



GEOSYNTHETIC CLAY LINERS

GCL

GROUNDWATER PROTECTION SOLUTIONS

Geosynthetic Clay Liners (or GCLs) are comprised of two geotextiles that are needlepunched together, encapsulating a layer of sodium bentonite clay between them. GCLs are known for having consistent, very low permeability. They have the unique ability to seal around penetrations, self-heal punctures and self-seam at the overlaps.



FEATURES

Supergroove™ Technology:

CETCO products are the only GCLs that feature a groove in the nonwoven fabric that allows the bentonite to migrate out and self-seam at the overlap. This feature decreases bag bentonite costs and the labor to apply it by a factor of ten.

Granular Bentonite:

CETCO GCLs feature granular bentonite, which creates less dust during installation than powdered bentonite and is less likely to shift through the needlepunch reinforcement, thus providing consistent hydraulic performance.

Durable Needlepunched Reinforcement:

CETCO reinforced GCLs can withstand shear stresses on steep slopes. The high needlepunch density provides higher peak internal shear strengths, without relying on supplemental processing.



Advantages Over Compacted Clay

- ▶ *Better hydraulic performance*
- ▶ *Installed in wider temperature spectrum*
- ▶ *Consistent, known and tested quality*
- ▶ *Technical and design assistance*
- ▶ *Reduced carbon footprint*

LINING TECHNOLOGIES

DESIGNED TO MEET YOUR DEMANDS



UNMATCHED CHEMICAL RESISTANCE

Bentomat® GCLs

Standard bentonite-based GCLs are designed to provide a hydraulic barrier against many leachates. The swelling bentonite fills up pore space and constricts flow paths to water, resulting in a low-permeability hydraulic barrier. More than 1 billion square feet of this material has been installed worldwide.

**Available in DN, ST, 200R*

DN: Nonwoven/Nonwoven, Reinforced
ST: Woven/Nonwoven, Reinforced
200R: Woven/Nonwoven, Unreinforced

Resistex™ GCLs

Dry blended, polymer-treated GCLs are designed to provide improved chemical resistance in moderately aggressive leachate environments. The polymers help to reduce the effects of cation exchange by swelling and partly offsetting the reduced bentonite swell.

**Available in DN, ST, 200R*

Continuum™ GCLs

Bentonite Polymer Alloy GCLs contain a proprietary technology where the polymer is synthesized in bentonite. The bentonite polymer alloy provides the highest level of chemical resistance, even in extremely aggressive leachates.

**Available in ST, DN, 200R*

SUPERIOR HYDRAULIC PERFORMANCE

Bentomat® GCLs

Standard bentonite-based GCLs are frequently used in environmental containment applications and are a high-performance, cost-effective alternative to compacted clay liners.

**Available in DN, ST, 200R*

InterLoK™ GCLs

Low Permeability GCLs are attained by adding non-biodegradable, high-viscosity polymers to sodium bentonite to even further reduce available pathways for water flow. These GCLs have a maximum permeability 100 times less than conventional compacted clay liners.

**Available in DN, ST, 200R, SDN*

Bentomat® Composite Laminate GCLs

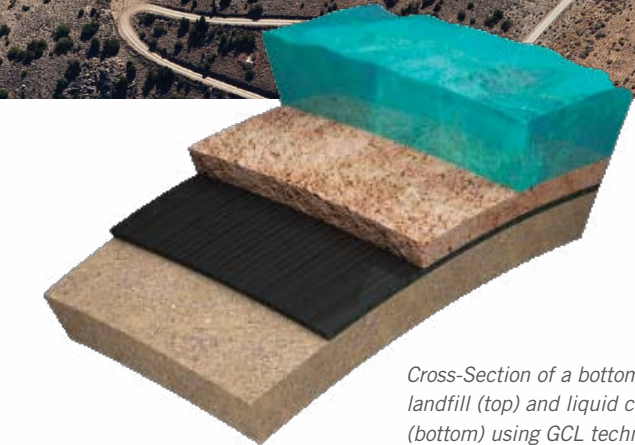
Composite Laminate GCLs consist of bentonite clay and a flexible plastic membrane. The bentonite clay is encapsulated between two geotextiles that are needlepunched together, and the flexible plastic membrane is laminated to the outer geotextile surface. These GCLs have a maximum permeability 200 times less than conventional compacted clay liners and 10 times less than standard bentonite-based GCLs.

**Available in CLT, CL, 600CL.*

Technical Support

In addition to offering high quality products, CETCO provides unparalleled engineering support. Our technical staff is well trained in specification review and can offer testing or design assistance. CETCO also maintains a full library of laboratory test reports from past projects and reference articles to assist you on your project.

CETCO can assist in determining the right clay technology based on your leachate. Contact your local technical sales manager about any of our GCL technologies for your next project.



Cross-Section of a bottom liner in a landfill (top) and liquid containment (bottom) using GCL technology.





ABOUT AMCOL® INTERNATIONAL CORPORATION

Established in 1927, AMCOL International currently trades on the New York Stock Exchange under the symbol "ACO". With approximately 2,400 employees and over 68 facilities across 6 continents, AMCOL produces and markets a wide range of specialty mineral products used for industrial, environmental, and consumer-related applications. Headquartered in Hoffman Estates, Illinois, AMCOL prides itself in designing and delivering value-added, world-class quality products and services specially suited to fit our customers' needs.



www.AMCOL.com



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