

COLD WEATHER STORAGE OF GCLs

CETCO's installation guidelines (TR-402) and ASTM Method D6102 (Standard Guide for Installation of Geosynthetic Clay Liners) provide recommendations for proper storage of GCL rolls at job sites. Rolls at the job site should be stored away from high-traffic areas but sufficiently close to the active work area to minimize handling. The designated storage area should be flat, dry and stable. Each roll is individually wrapped at the manufacturing plant; however, an additional tarpaulin or plastic sheet is recommended to protect the rolls from moisture. Rolls should be stacked no higher than the height at which they can be safely handled by laborers (typically no higher than four layers of rolls).

Ideally, for long-term storage through the winter months, rolls should be stored indoors. However, warehouses are a luxury that is not available at most sites. Rolls can also be stored outdoors, but they must be protected from snow and rainfall. A common approach used by installers is to construct a "cocoon", consisting of welded sections of geomembrane, wrapped around stacks of rolls.

As long as they are protected from moisture, GCL rolls are not expected to be affected by cold temperatures. As shown in TR-116, GCLs are not susceptible to low temperature brittleness or cold cracking that can impact geomembranes. TR-104 shows that GCLs exposed to numerous (150) freeze-thaw cycles did not experience any negative impact to hydraulic performance. Past experience has shown that GCLs can also be successfully deployed in cold-weather settings – TR-245 presents a case study where Bentomat ST was installed in northeastern Wyoming in December.