Focus on History

Geocells: The early days with the Army Corps

Photos courtesy of Presto Products Co.

| Side-by-side cost/performance testing of a geocell (termed "roadbase") and aluminum geocells at the Waterways Experiment Station in Vicksburg, Miss., circa 1979.

| U.S. Army Corps of Engineers testing a nonpigmented, non-UV-stabilized polyethylene grid confinement system at Camp Blanding, Fla., in the early 1980s.

What many people may not know about the early development of the geocell cellular confinement system is that the material wasn't always black.

In fact, early testing of a "grid confinement" system included wax-coated craft paper; a plastic drainage pipe matrix fastened with staples; paper-thin, hexagon-shaped, glued-aluminum; low- and medium-density recycled materials; pure polyethylene without UV stabilization; and square cells similar to old-fashioned egg carton separators.

In the late 1970s, the U.S. Army Corps of Engineers contacted Presto Products Co., a plastics manufacturer, for assistance in developing a stronger grid confinement system that would maintain strength under heavy vehicle loads.

Working with Steve Webster at the Waterways Experiment Station (WES), Presto's Gary Bach devised a method to weld polyethylene strips to form a cellular structure that became known as "Sandgrid" and was used by the military primarily for road applications.

After testing various blends of resin, high-density virgin worked best for weld consistency and structural strength. Since early development with the Corps of Engineers, geocells have been further improved for many other soil-stabilization applications, including the rapid construction of fortified walls in the U.S.'s Mideast combat zones, starting with Operation Desert Storm in the early 1990s.

Source:
Presto Products Co.

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