



Lehigh Cement's dome in Indiana can store 169,000 metric tons of clinker.



Structural backfill surrounds on-grade tunnels, and the top is layered with clinker, which functions as the dome "floor."



A high water table required the three tunnels be built at grade.

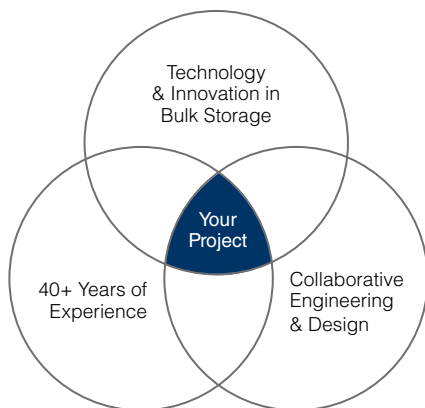
Scope of Work

- FEED Study
- Value Engineering
- Geotechnical Analysis
- Material-Handling Systems Engineering
- Structural Engineering
- Mechanical Engineering
- Electrical Engineering
- Procurement & Subcontract Management
- Dome Construction
- Tunnels Construction
- Material-Handling Systems Installation
- Additional Steel & Concrete Construction

None Some All

Storage & Reclaim

- 1 dome: 40.8m (220ft) wide x approx. 33.5m (160ft) tall
- 169,000 metric tons, clinker
- 83 percent live reclaim



Overview

Lehigh Cement Company contracted with Dome Technology to build a clinker-storage dome in Mitchell, Indiana, USA, one that will increase operational capacity and take the company into the next decade of business.

It's also the largest clinker storage in the Western Hemisphere and second in the world only to a Romanian structure Dome Technology built in 2008.

This dome for Lehigh Cement, a subsidiary of Lehigh Hanson, dwarfs most other bulk storage, standing 220 feet in diameter and 160 feet tall. Its storage capacity maxes out at 169,000 metric tons, and three on-grade reclaim tunnels achieve 83 percent live reclaim.

"It's a colossal project. It's one of our bigger domes as far as storage capacity," said Dome Technology sales manager Lane Roberts.

The project was centered around the second largest kiln in the Americas—an accurate representation of Lehigh's "strong growth in the United States and our continued commitment to our customers to meet the growing demand for a consistent, high-quality cement whilst improving our manufacturing efficiencies and reducing emissions," said Lehigh Cement deputy project director and civil manager Kevin Cove.

Lehigh Cement has operated the Mitchell site for years, but upgrading storage was tricky because a water-table issue prevented tunnels from being placed underground. The reclaim conveyor layout was designed to allow tunnels to be built at grade, and these were buried by structural backfill to the bottom of the stored clinker pile.

With the dome filled, the company could expect 83 percent live reclaim through 10 drawdown hoppers to the three tunnels, and any clinker that remained between the troughs would serve as product reserve. Lehigh approved this option because it met the capacity requirement for 169,000 metric tons and 140,000 live metric tons, plus a reserve of 29,000 tons.

Read more about this project by clicking [here](#).