



# CAL POLY CENTER FOR SCIENCE & MATH USES HYDROLITE LIGHTWEIGHT AGGREGATE

## QUICK FACTS:

### Project:

California Polytechnic State University

### Location:

San Luis Obispo, CA

### Notes:

HydroLite is an expanded clay aggregate, with a lightweight ceramic shell and honeycomb core. Produced by firing natural clay to temperatures of 1100-1200°C in a rotating kiln, the rounded pellets are approximately 0-32mm with an average dry bulk density of approximately 350 kg/m<sup>3</sup>. The material is sieved into a number of different grades to suit the application.



**The new Center for Science and Mathematics at California Polytechnic State University, better known as Cal Poly San Luis Obispo, was designed to be a distinctive landmark located in the geographic center of the campus. Under the specifications of the engineer, the concrete mix design for this new structure called for the use of HydroLite™.**

Standing seven stories high, the 187,000 square foot facility will replace the current, but outdated science building and become the largest structure on university grounds.

Funded by bonds and private donations, the \$132 million dollar building's design and construction are based on environmental features that include flexibility, sus-

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tainability and efficiency. The state-of-the-art structure will also allow students to monitor the actual resource utilization of the building through visual real-time displays.

Hanson Ready Mix, the concrete supplier, selected Trinity Lightweight's Frazier Park HydroLite lightweight aggregate to meet the strength and unit weight requirements as well as comply with California fire, seismic and energy efficiency codes.

The Center's construction called for 10,000 cubic yards of concrete which resulted in the use of an estimated 4,000 cubic yards of Frazier Park aggregates. The lightweight nature of the expanded clay pellets makes it an ideal solution for constructing over weak soil deposits or reducing the load behind old and susceptible structures. Highly permeable and very durable, the lightweight aggregate provides excellent thermal resistance when used

as under floor insulation within solid floor construction.

The Cal Poly Center for Science and Mathematics was built to show respect for the environment, energy and natural resources which is demonstrated by its design, construction and selection of materials.

Environmentally-friendly Frazier Park HydroLite was a perfect fit for the sustainability minded Center since it is mostly composed of naturally occurring clay.

Durable with a long life span, the aggregate is not susceptible to chemical attack, rot, or frost and may be used in a variety of applications that include the manufacture of lightweight blocks and in water filtration systems.



Trinity Lightweight is the largest producer of rotary kiln expanded shale and clay lightweight aggregate in North America and is a leading supporter of research, independent testing and field studies to improve the manufacturing process and expand the beneficial uses of the product.

[www.trinitylightweight.com](http://www.trinitylightweight.com)