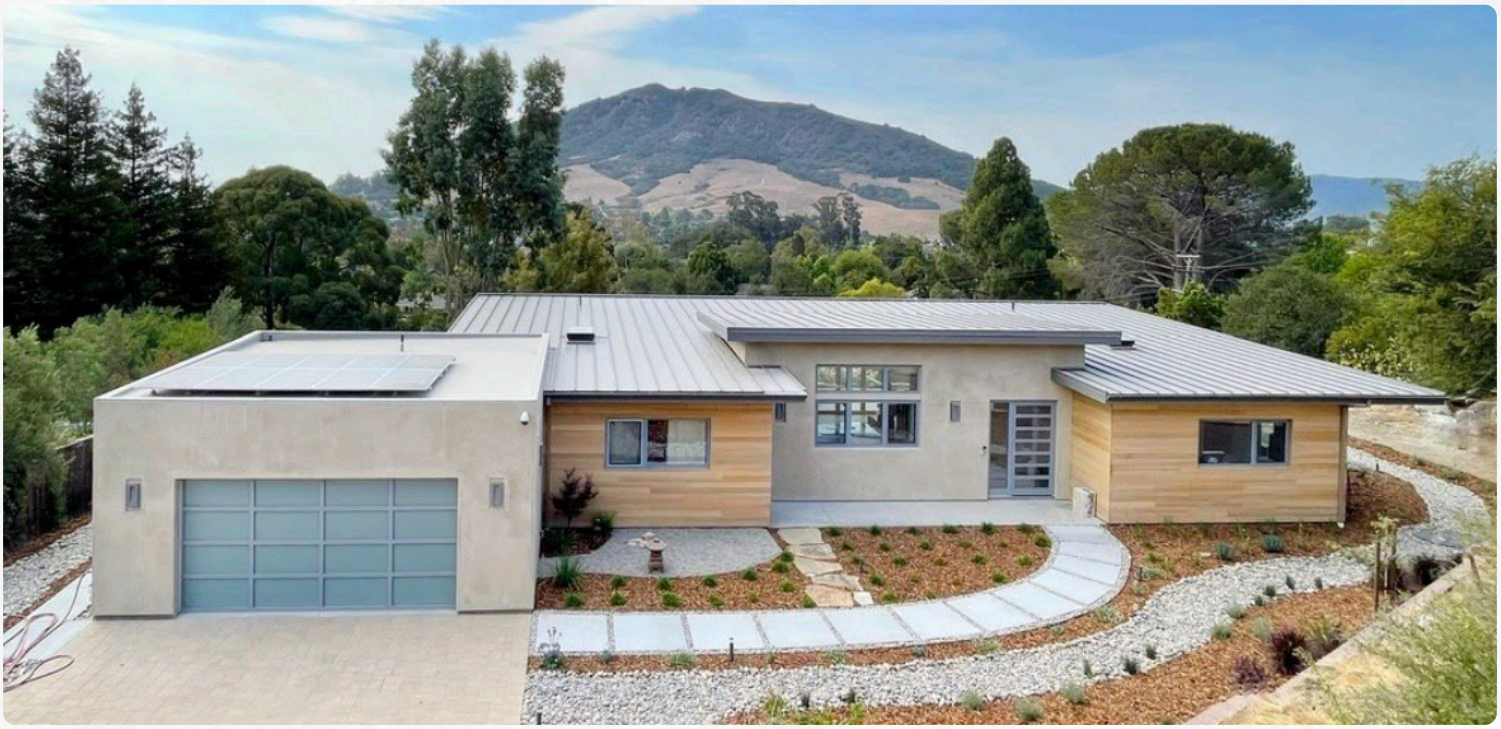
GLAVEL
FOAMED GLASS AGGREGATE®

Bishop Passive House

Location: San Luis Obispo, California
Application: Subslab Insulation
Market: Residential
Volume: 85 cubic yards
Scope Completion: July 2021



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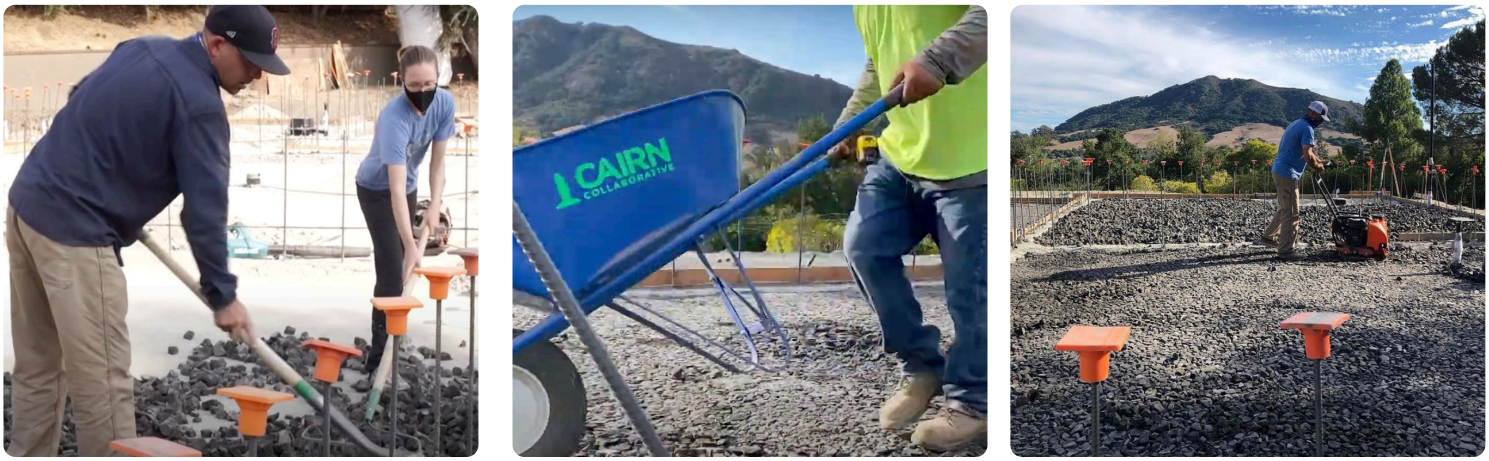
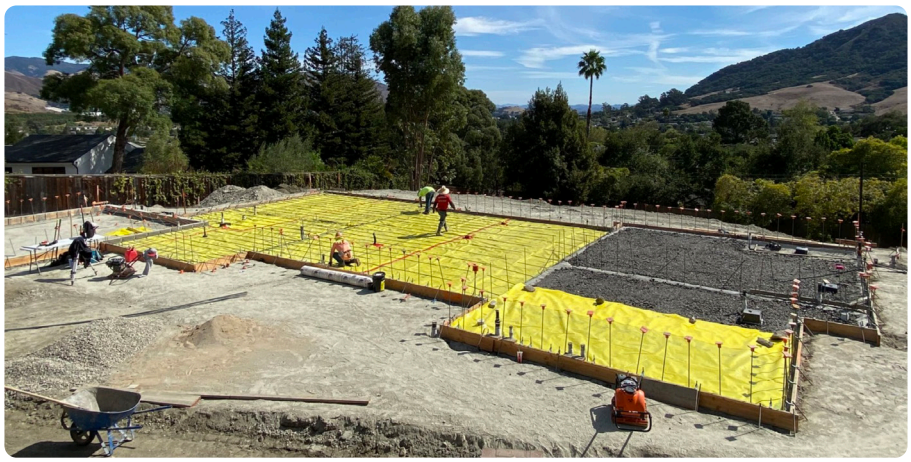
Overview:
The Bishop Passive House in San Luis Obispo, California required continuous insulation to achieve Passive House certification and the targeted 85% reduction in energy use compared to traditional new construction. Traditional foam insulation could have provided the necessary insulation, but didn't meet the project's sustainability goals. The design team needed subslab insulation that satisfied Passive House Planning Package requirements, provided building comfort and efficiency, and kept the project under budget.

Design Challenges
Achieving Passive House Institute certification requires meeting rigorous thermal performance standards that eliminate energy waste throughout the building envelope. The Bishop Passive House faced challenges when procuring materials for their climate zone:

- Thermal bridging elimination: Passive House Planning Package modeling requires continuous insulation beneath the slab to prevent heat loss through the foundation.
- Climate-specific comfort: San Luis Obispo's cool evenings create cold floor temperatures in homes without subslab insulation, which compromises energy efficiency and comfort.
- Material sustainability: Traditional rigid foam board conflicted with the project's environmental values, requiring an alternative that delivered thermal performance without relying on petrochemical-based products.



Placement and compaction of foamed glass aggregate



Vapor barrier installation

Glavel as a Solution
Foamed glass aggregate was the ideal material to meet all the project's diverse environmental and performance needs. Because foamed glass aggregate is made from post-consumer recycled glass, it aligns with sustainability goals and environmental requirements for the project. Foamed glass aggregate provides the thermal break needed for Passive House while also providing additional project benefits. The closed-cell structure of foamed glass aggregate created an effective thermal barrier against the ground and concrete slab, preventing heat loss. The two person installation team spread and compacted the entire slab area in a single day with standard equipment, while the concrete team adjusted to a new material without issues. Foamed glass aggregate provided the needed continuous insulation while supporting the home's airtight construction strategy without compromising the build's efficiency.