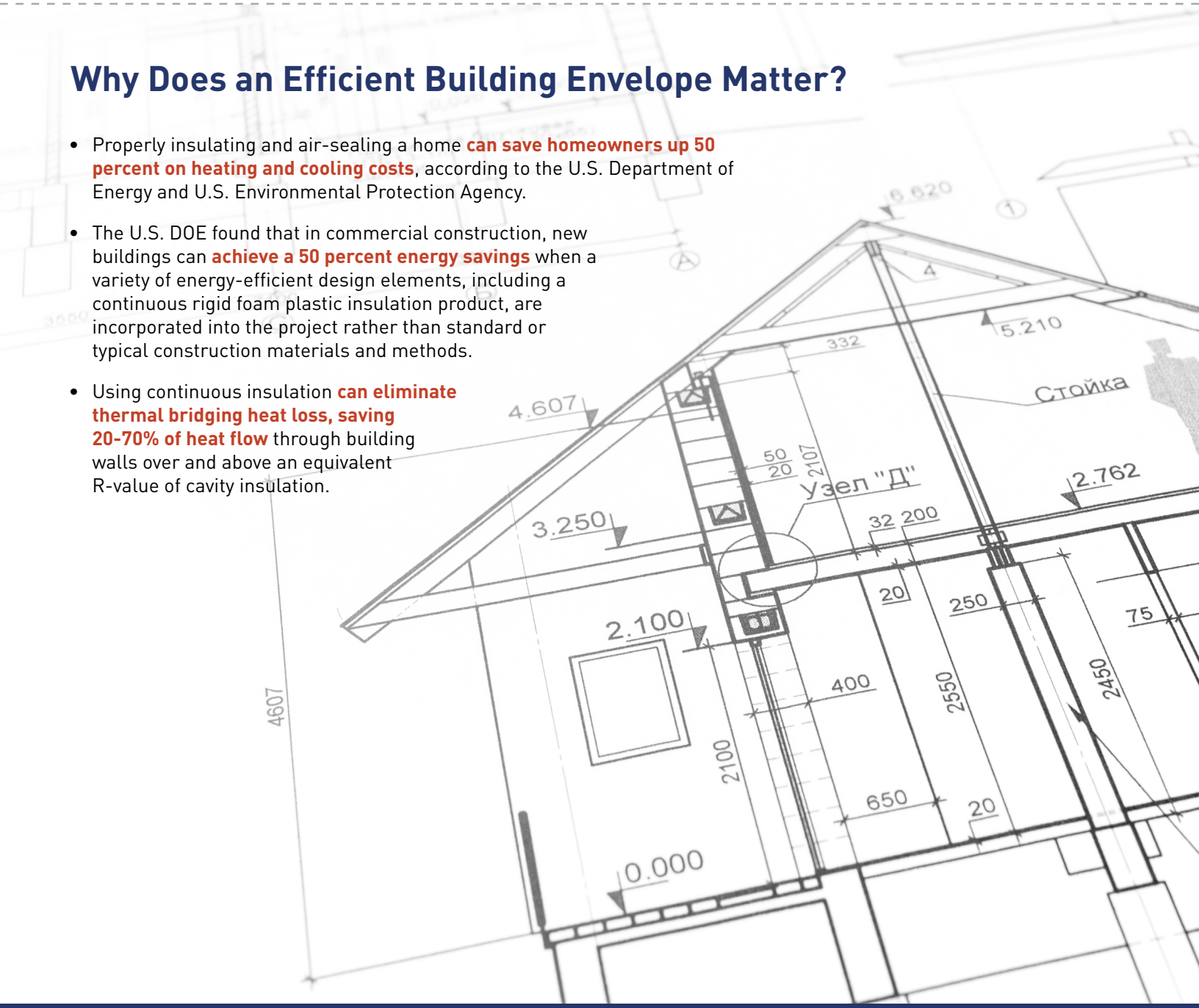
# Foam Plastic Insulation: Modern Energy Efficiency

Foam plastic insulation products are modern materials for residential and commercial buildings that be made of a variety of plastics, including polyisocyanurate, polystyrene and polyurethane. They help architects, contractors and other construction professionals meet the stringent energy code standards of today and tomorrow for both new construction and renovation projects. Foam plastic insulation products are available in rigid boards or spray foam. They are durable, energy-efficient, and versatile. They can insulate and effectively seal gaps and close air leaks, which helps maintain indoor comfort and improve a building's energy performance. When used in walls, roofs, and below-grade, insulation products are part of the assembly of materials that make up a building's envelope.

## Why Does an Efficient Building Envelope Matter?

- Properly insulating and air-sealing a home **can save homeowners up 50 percent on heating and cooling costs**, according to the U.S. Department of Energy and U.S. Environmental Protection Agency.
- The U.S. DOE found that in commercial construction, new buildings can **achieve a 50 percent energy savings** when a variety of energy-efficient design elements, including a continuous rigid foam plastic insulation product, are incorporated into the project rather than standard or typical construction materials and methods.
- Using continuous insulation **can eliminate thermal bridging heat loss, saving 20-70% of heat flow** through building walls over and above an equivalent R-value of cavity insulation.



# Why is a foam plastic insulation product an energy-efficient choice?

It can help create air barriers. Sealing a building with a foam plastic insulation product helps reduce drafts and control indoor temperature, which can lower energy use.

It can help create moisture barriers. Properly managing moisture transmission and accumulation of the building envelope is essential to performance and durability of buildings.

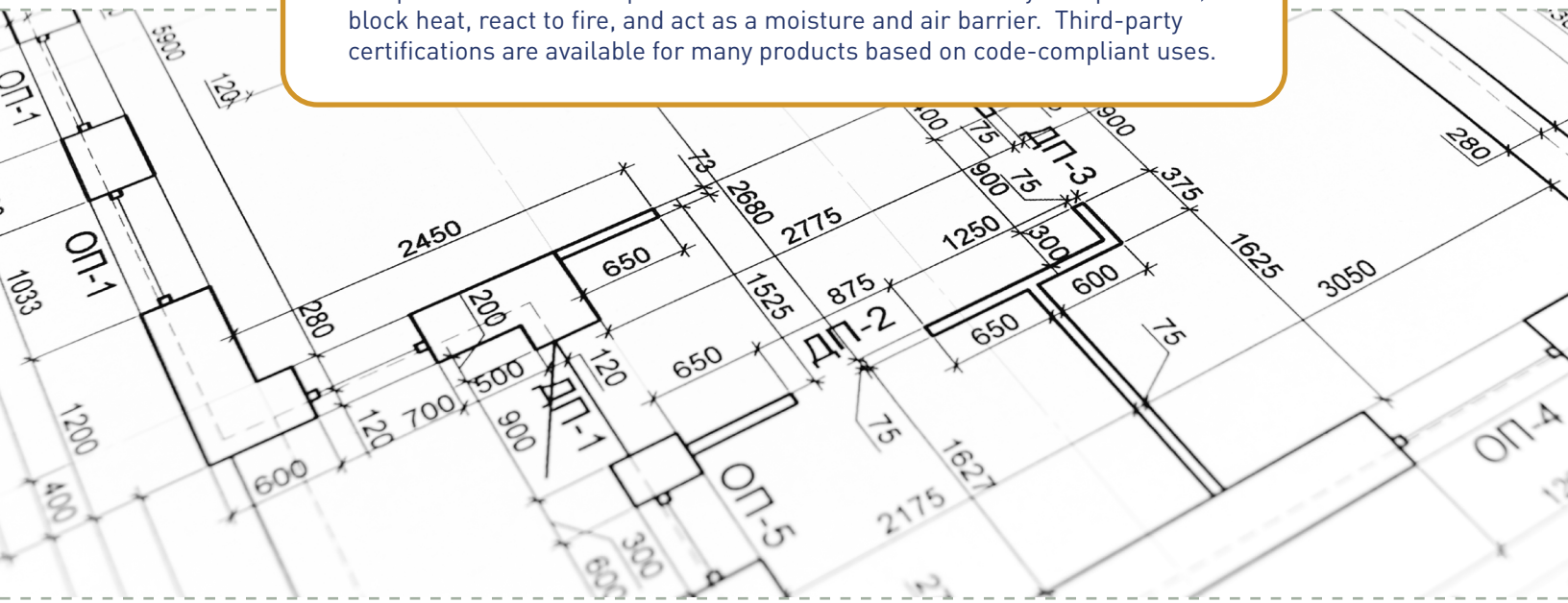
It is a critical tool used by designers to eliminate thermal bridging, a significant cause of energy loss.

It is durable. When properly installed, foam plastic insulation products will perform for the life of the building.

It has high R-value per inch of thickness. R-value measures the ability of insulation to resist the flow of heat.

It is easy to install. A foam plastic insulation product can insulate almost any part of a building—from the roof, to the walls, to the foundation.

**Performance Requirements:** Foam plastic insulation must meet a comprehensive set of requirements that evaluate their ability to repel water, block heat, react to fire, and act as a moisture and air barrier. Third-party certifications are available for many products based on code-compliant uses.





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