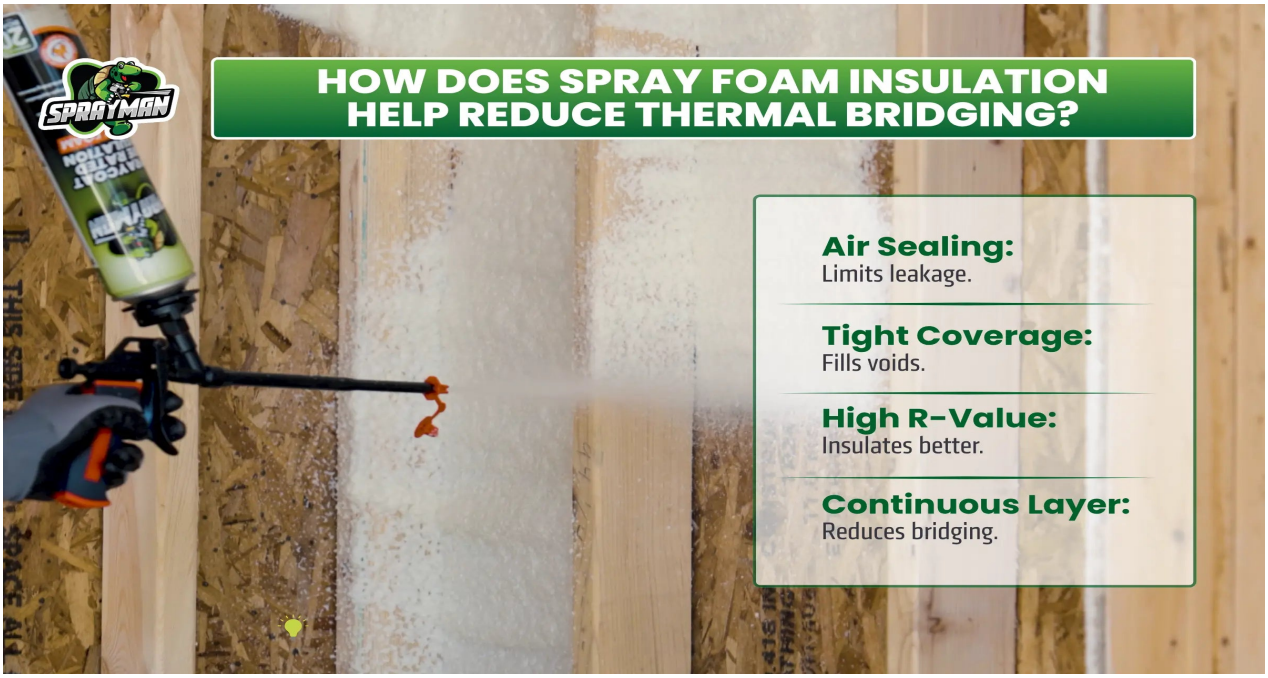


Sprayman Highlights How Continuous Spray Foam Insulation Addresses Thermal Bridging in Peak Summer Cooling Season

August 06, 2026

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As summer cooling costs reach their peak, homeowners are discovering that a quarter of their exterior walls may be bypassing insulation entirely through a phenomenon called thermal bridging. According to ASHRAE's 2003 findings, U.S. residential walls average a 25 percent framing factor, meaning that solid wood framing rather than insulation occupies one-fourth of a typical wall's surface area, creating direct pathways for heat transfer.

The U.S. Department of Energy's Oak Ridge National Laboratory comparative wall-assembly study demonstrates the significant impact of addressing this issue. Test walls using 2 inches of continuous insulation performed 84 percent more energy-efficient than the next-best cladding system that relied on cavity insulation alone. This dramatic difference stems from wood framing's relatively poor insulating properties at approximately R-1.25 per inch, roughly a third as insulating as the cavity fill around it, which typically provides R-3.6 per inch for fiberglass.

"Closed-cell spray foam performs differently from traditional insulation because it adheres directly and continuously across framing members as well as the cavity," said Michael Chen, Director of Technical Services at Sprayman. "Rather than just filling gaps between studs the way batt or fiberglass does, continuous spray foam insulation reduces the thermal bridge itself by creating an uninterrupted barrier over the entire wall assembly."

The 2021 International Energy Conservation Code marked a significant shift in building standards by becoming the first version to require continuous insulation as part of wood-framed wall assemblies in colder climates. This change moved beyond earlier codes that only regulated cavity R-value, recognizing that thermal bridging through structural members significantly undermines overall wall performance.

"Thermal bridging is most costly in specific areas of a home, particularly rim joists, window and door headers, and band joists," explained Sarah Martinez, Building Science Specialist at Sprayman. "Professional assessment helps prioritize which areas to treat first, as these locations can account for disproportionate energy loss despite representing a small percentage of the building envelope."

Sprayman has published a technical guide on identifying and prioritizing thermal bridge locations to help homeowners and contractors understand where energy loss occurs in their structures. The guide provides detailed information on assessment techniques and remediation strategies for various building configurations.

The company's Spraycoat closed-cell spray foam serves as a practical solution to thermal bridging by applying directly over framing members in a continuous layer rather than only filling the cavity between them. This approach insulates the structural elements themselves, providing the real-world equivalent of the continuous insulation concept validated in the Oak Ridge National Laboratory study. The product carries ICC-ES evaluation reports and ASTM E84 compliance, confirming its suitability as a continuous insulation solution.

Building professionals and contractors seeking additional technical guidance can connect with Sprayman on LinkedIn for industry updates and building science insights.

Sprayman specializes in spray foam insulation and sealant solutions for both professional contractors and property owners. Founded in 2021 and headquartered in Chantilly, Virginia, the company provides thermal and sound insulation products designed to enhance energy efficiency and building performance. The company's product line includes closed-cell spray foam systems, specialized sealants, and application accessories developed to meet current building codes and energy efficiency standards.

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SPRAYMAN's official store provides premier spray foam insulation solutions for optimal efficiency and ease. Find polyurethane foams, guns, nozzles, and eco-friendly cleaners.

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