

MISTER INSULATION

Informational Handout Regarding Insulation Expectations

Mister Insulation

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Homeowner Information Sheet: Understanding Insulation in Extreme Weather

Dear Valued Customer,

Thank you for choosing Mister Insulation!

Our professional installations following the highest industry standards use high-performance materials to create a better thermal envelope, reduce energy bills, and improve year-round comfort in Maryland's climate. Insulation is highly effective, but **no residential insulation can fully prevent heat loss during extended cold snaps or heat gain during prolonged hot spells**. Insulation slows heat flow—it does not create a perfect barrier like a commercial thermos or fridge. Homes always experience some heat transfer, and prolonged extremes (multiple days of extreme cold or extreme heat/humidity) require your HVAC system to maintain indoor comfort rather than simply being well insulated. It obviously helps, but it is not meant to create an environment unaffected by weather.

Key Facts:

- Heat flows from hot to cold until temperatures equalize (basic thermodynamics).
- Even high R-value insulation like we install allows gradual drift against desired heating/cooling.
- In Maryland (IECC Zone 4/5), code requires solid insulation levels, but extremes push beyond what any standard home can handle passively.

Thank you for your trust. Stay comfortable!

Sincerely,

Jeff

Jeffrey Buck

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Additional Resources:

We HIGHLY ENCOURAGE you to do your own research – please don't simply take this as gospel from us. For your own research, here are reliable, third-party sources explaining these principles:

- **U.S. Department of Energy – Insulation Basics** Explains R-values, heat flow mechanisms, and why insulation reduces but does not eliminate the need for HVAC.
<https://www.energy.gov/energysaver/insulation>
- **Building Science Corporation – Thermal Control in Buildings** Detailed building science on why no enclosure achieves zero heat flow, including in extreme cold.
<https://buildingscience.com/documents/digests/bsd-011-thermal-control-in-buildings>
- **ENERGY STAR – Recommended Home Insulation R-Values** Climate-specific guidance showing limits and the role of HVAC. https://www.energystar.gov/saveathome/seal_insulate/identify-problems-you-want-fix/diy-checks-inspections/insulation-r-values
- **Oak Ridge National Laboratory (via SIPA) – R-Values in the Real World** Shows how extreme temperatures and real conditions reduce effective performance. <https://www.sips.org/resources/r-values-in-the-real-world>
- **Department of Energy – Why Insulation Can't Maintain Perfect Temperatures** Related explanations on heat flow and system reliance. <https://www.energy.gov/energysaver/insulation> (see sections on heat flow and limitations)

These resources from government, labs, and experts confirm: insulation dramatically improves performance, but **prolonged extremes require HVAC stress and support** for consistent indoor temperatures.

Questions? Contact Mister Insulation — we're happy to discuss your home's setup!