

# Closed-cell spray foam insulation



## advantages over other building insulations:

- highest R-value per inch
- air barrier material using as little as 1 inch
- negligible bulk water and water vapor absorption
- adds significant structural strength

**Honeywell**

# benefits of closed-cell spray foam

## Greater Energy Savings & Comfort

Closed-cell spray foam is one of the most advanced insulation and building envelope systems on the market today. Foam insulation with the Honeywell Enovate insulating gas can achieve R-values of over 6 per inch, the highest R-value of any commonly-used stud cavity insulations. Closed-cell spray foam is also 100 times better as an air barrier material than the next closest insulation. This combination can lead to energy savings of up to 60% and may also allow cost reductions from a smaller HVAC system, shallower framing, etc. And lets not forget the benefits to comfort, indoor air quality, reduced drafts and noise all from an insulation product with so many great features (see chart below).

## Simplified Construction

Installing roughly 3 inches of closed-cell spray foam in between your studs will meet most R-value, air barrier and water vapor retarder requirements in the US.\* As little as 2 inches will meet code requirements in most southern states. Open cell foams, on the other hand, do not qualify as air barrier materials or vapor retarders at standard wall thicknesses.

By combining all these desirable characteristics into one product, closed-cell spray foam reduces your chances for mistakes and allows you to confirm multiple requirements have been met in one inspection. And, its expansion, strength, durability and water control characteristics make your entire structure more forgiving of smaller construction errors both today and in the future.

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## Increased Design Flexibility

Closed-cell spray foam gives you unsurpassed flexibility in design. Its high R-value allows you to use shallower framing in new construction and to pack as much R-value as possible into existing cavities in retrofits. Its bulk water and water vapor characteristics make it suitable for use both on the interior or exterior of a building above ground or in basements. You can use this flexibility to either help standardize your construction or be more creative in meeting a specific customer need.

## Enhanced Durability

Wall racking strength is up to 3 times stronger than fiberglass in framed walls with closed-cell spray foam. It basically glues together many of the hundreds of wood pieces that make up

your home. Combine this with its extremely low water absorption and you can make your sheathing into a decent backup water barrier. Other cavity insulations add virtually no structural strength or water control. The water, air and heat controlling characteristics of the foam help assure you keep the outside environment out and the inside environment in, helping the HVAC system to do its job better. Closed-cell spray foam can improve your buildings performance even in the harshest of environments, like floods, hurricanes and tornadoes. FEMA reports that closed-cell foam is so resistant to floodwater damage that it is the only insulation product approved for use below the base flood elevation plane in special flood hazard areas. Talk about durability in extreme conditions!

## Comparison of Closed-Cell Spray Foam vs Other Cavity Insulations

Features	Benefits	Closed-Cell SPF	Open-Cell SPF	Cellulose	Fiberglass Batts	Fiberglass Loose-Fill
R-value per inch (avg.)	Reduces wall thickness saves framing cost	6.2	3.6	4.0	3.7	3.2
Air-barrier material	Maximum energy savings, reduces draft, improved air quality	✓	✗ <sup>1</sup>	✗	✗	✗
Expand to fit	Provides labeled R-value and no settling	✓	✓	✗	✗	✗
Low water vapor transmission	Provides moisture control	✓	✗	✗	✗ <sup>2</sup>	✗
Low water absorption	FEMA-approved flood resistant insulation	✓	✗ <sup>3</sup>	✗	✗	✗
High strength and stiffness	Improves structural integrity and durability	✓	✗	✗	✗	✗
No measurable formaldehyde	Improves indoor air quality	✓	✓	✓	✗	✓

1. Not considered an air barrier material per Air Barrier Association of America.
2. Will qualify as an integral vapor retarder when facings are attached.
3. Closed-cell absorbs minimal amounts of water (from 0 to a maximum of 4%, depending on manufacturer). Open-cell foams absorb in excess of 30% by volume.

\*3 inches has R-value of roughly R-19, as little as a 1-inch qualifies as air barrier material, roughly 2-1/2 inches qualifies as a vapor retarder.

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