



COMFORT FOAM[®]

Residential Insulation and Air Barrier Combined

a closed-cell, spray-applied polyurethane foam insulation system

Insulation alone is not enough. BASF Polyurethane Foam Enterprises LLC offers COMFORT FOAM[®], a closed-cell, spray-applied polyurethane foam insulation system that creates a seamless, insulating air barrier to improve the energy efficiency, comfort and durability of single-family homes.

The U.S. Department of Energy (DOE) reports that 40 percent of the energy cost of heating and cooling a building is wasted by uncontrolled air leakage, which also contributes to premature building deterioration, condensation, spalling, ice damming, poor indoor air quality (IAQ) and mold growth. An effective air barrier system substantially reduces both air leakage and the passage of moisture through the building envelope.

The COMFORT FOAM system eliminates costly uncontrolled air leakage by contributing to a monolithic, air impermeable building envelope system. Our closed-cell technology is unique in the way that it allows design professionals and building owners to specify a material that is engineered to meet and exceed required performance criteria for every code and climate.

The COMFORT FOAM system offers a closed-cell content of greater than 90 percent and meets ASTM 1029/SPFA guidelines. By comparison, open-cell foams used for insulation have approximately 60 percent open-cell content and have far greater air and vapor transmission characteristics. As such, open-cell products only qualify as air barriers, as defined in *ASTM International E 2178, Standard Test Method for Air Permeance of Building Materials*, when applied at maximum thickness – 5.5 inches.

COMFORT FOAM uses the versatility of polyurethane chemistry to combine a superior effective R-value (over 6.0* per inch) with seamless, almost-zero air permeability for increased building energy efficiency, durability and occupant comfort, health and safety. Combining air impermeability with high insulation R-value translates to a highly energy efficient home that costs less to own over time. A residential study by ADVANCED CERTIFIED THERMOGRAPHY shows that COMFORT FOAM installations can help reduce energy costs by as much as 60 percent each year compared with traditional insulation systems.

Helping Make
Buildings Better™

 **BASF**
The Chemical Company

BASF Polyurethane
Foam Enterprises LLC

Criteria	COMFORT FOAM®	Glass Fiber	Wool	Blown Cellulose	Open-Cell Foam
R-Value*	6.0	3.0	3.5	3.0	3.5
Approved Air Barrier System	Yes at 1-inch thickness	No	No	No	Yes at 5.5-inch thickness
Seamless Construction	Yes	No	No	No	Yes
Rigid	Yes	No	No	No	No
Fully Adhered	Yes	No	No	No	Yes
Adds Structural Strength	Yes	No	No	No	No
Long Service Life	Yes	No	No	No	Yes
Absorbs Water	<4% v/v	Yes	Yes	Yes	>40% v/v
Allows Moisture Vapor In	No	Yes	Yes	Yes	Yes

Over 20 years, this can mean as much as \$15,000 in savings at today's energy costs. With escalating energy costs, realized savings may be even greater.

The COMFORT FOAM system is accepted by all major building codes, including the International Code Council encompassing both commercial and residential applications. Accredited third-party testing of the Comfort Foam system using *ASTM E283-(04)*ⁱ proves that COMFORT FOAM insulation is a Building Code-recognized air barrier material.

New homes built with COMFORT FOAM technology may be eligible to obtain energy efficiency incentives under the Federal Energy Policy Act of 2005. Under the Act, builders of site-built or manufactured homes are eligible for a rebate of \$2,000 for energy efficiency measures that achieve 50 percent savings over the 2004 IECC Standard. Envelope improvements to existing homes that meet the 2003 IECC and supplements are eligible for a rebate equal to 10 percent of the cost of improvements, up to \$500.

The U.S. Department of Energy offers financial assistance opportunities through the Office of Energy Efficiency and Renewable Energy (EERE) and other incentives are available through more than 60 ENERGY STAR® incentive programs. In addition, special mortgages for energy efficient homes are offered by more than 40 different agencies across the United States.

Testing conducted by the National Association of Home Builders (NAHB) Research Center shows SPF insulation between wood- and steel-stud wall panels increased rack and shear two to three times over standard stick-built components and glass-fiber insulation when sprayed onto gypsum wallboard and vinyl siding, and increased racking strength by 50 percent when sprayed onto oriented strandboard (OSB).ⁱⁱ Results from testing conducted by the National Research Council (NRC) of the Canadian Construction Materials Centre (CCMC) show SPF air barriers offering long-term durability greater than or equal to the building's expected life span.

The COMFORT FOAM insulating air barrier is a formaldehyde-free formula that emits no volatile organic compounds (VOCs) and uses ZONE3® zero ozone depleting blowing agent technology. By eliminating condensing surfaces and offering no food source, it helps to resist mold, mildew and pest infestations, contributing to a safer, healthier indoor environment.

* The R-value of this insulation. "R" means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy. There are other factors to consider. The amount of insulation will depend upon the climate, the type and size of your house, and the fuel use patterns and family size. If you buy too much insulation it will cost you more than what you will save on fuel. To achieve proper R-values, it is essential that this insulation be installed properly.

This Fact Sheet complies with the Federal Trade Commission labeling and advertising of home insulation rules and regulation, Federal Register, Monday, Aug 27, 1979.

ⁱ Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

ⁱⁱ Canadian Construction Materials Centre (CCMC), Evaluation Report 12932-R, National Research Council (NRC) of Canada.