Tech Facts

SPECIFICATIONS: RetroFoam Foamed - In - Place Insulation.

PRODUCT USAGE

RetroFoam wall insulation is designed for thermal and acoustical reduction. The product is highly cost effective as an insulating material. It is designed to be used in occupied residential and commercial retrofit applications. RetroFoam is particularly well suited for frame vertical wall applications.

POLYMASTER RETROFOAM PROVIDES:

- A non-expanding stable foamed-in-place product that is ideal for retrofit wall cavity applications
- High "R" Values and good acoustical and fire-resistance properties
- Low cost insulation
- Easy application
- Great results up to 6 inches thick
- A fresh product every time made from dry powder resins

PRODUCT DESCRIPTION

RetroFoam is a new-generation tri-polymer resin which produces a non-toxic and odor-free material which is environmentally friendly. RetroFoam's foaming process, uses two water-soluble components of a free-flowing powdered resin and an aqueous based foaming agent. Compressed air is used to generate a dense, 60% closed-cell foam which is physically coated with the water-soluble resin. The foaming agent reacts with the resin within 10-30 seconds, transforming the foam in to a rigid, plastic solid when dry. This process is similar to the reaction of a two-part epoxy resin and produces a finished product that is inert, light-weight and non-flammable.

Unlike resins used for conventional foamed-in-place materials made from liquid formaldehyde and urea, RetroFoam's kiln-dried polymer resins are complete and only require mixing with water to make consistent foam every time.

INSTALLATION

RetroFoam reduces air infiltration by filling cracks and other voids as it flows into the cavity. Wires or pipes are not a problem since the product flows around them. RetroFoam is ideal for acoustical applications in party walls, conference room walls or patient exam rooms.

The RetroFoam product (resin) is shipped in dry powder form and has a shelf life of approximately one year. As needed, the resin is simply mixed with a prescribed volume of water , assuring consistent results without worrying about product shelf-life. During application, RetroFoam can be injected into a wall cavity through a hole as small as 5/8 inch and can be installed into drywall, frame, brick or block construction cavities. Final drying requires at least 48 hours or more. To assure proper installation, the application of RetroFoam must be performed by Polymaster, Inc. trained professionals.

ENVIRONMENTALLY "GREEN" CHARACTERISTICS

RetroFoam is an environmentally safe and friendly product made from nitrogen-based organic polymers. The foam is non-toxic and contains no solvents or petro-chemicals. Other "green" characteristics of Polymaster foam are:

- Biodegradable—no disposal problems
- No CFC's
- No ozone depleting off-gassing
- No container disposal problems
- Does not require potable water
- Ships dry—utilizes less energy for transportation
- Pollution prevention alternative to rigid foam boards
- No residues following incineration

R-Values and U-Values for wood and frame walls Insulated with RetroFoam Plastic Foam Insulation* calculated using series-parallel heat flow model of ASHRAE

Test	Temp	Wall Size	RetroFoam
R-Value	25° F	2x4x16	15.7
	25° F	2x6x24	23.4
U-Value	25° F	2x4x16	0.0637
	25° F	2x6x24	0.0428

***Resistance (ft.² hr. °F/BTU)**

Outside Air Film	0.170
Siding	0.810
Sheathing	1.320
Wood Framing	0.9, 1.0, 1.1
Cavity Insulation	listed above
Gypsum	0.450
Inside Air Film	0.680

e.g. 2x4x16 @ 25° = R-20.03 for wall assembly

RETROFOAM DEALER:

RetroFoam
800-580-FOAM (3626)
retrofoam.com

Flammability Classification
RetroFoam
94HBF

CLASS 1 SURFACE BURNING CHARACTERISTICS*

	RetroFoam	Test Method
Flame Spread	25	ASTM E84
Fuel Contributed	0	
Smoke Developed	40 (unreinforced)	

* This numerical flame spread rating is not intended to reflect hazard presented by this or any other material under actual fire conditions.

SOUND TRANSMISSION

Decibel sound reduction in range of 500 to 4,000 HZ is a loss of 45 to 50 dB (average) with a 3 1/2 inch wall cavity.

The E 90-02/NVLAP 08/P06 (Sound transmission class) for type RetroFoam Plastic Foam is STC 41.

EFFECTIVE THERMAL RESISTANCE**

Test	RetroFoam	ASTM Test Method
R Value 1"	4.59	C-518
K Value 1"	.218	C-518

** R means resistance to heat flow. The higher the R-Value, the greater the insulating power.

WATER RESISTANCE

Perms Per Inch	6.631	ASTM E96
Permeability	270C/50% UR	μ=3.36
Surface Absorption	<1% by vol.	PM/MAT