TECH FACTS

PolyMaster is a registered trademark.

SPECIFICATIONS: PolyMaster® Foamed-In-Place Insulation — RetroFoam

PRODUCT USAGE

PolyMaster Plastic Foam 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 new or retrofit commercial and residential applications. RetroFoam plastic foam is ideal in block and brick wall applications, but particularly well suited for frame vertical wall applications.

POLYMASTER RETRO FOAM PROVIDES:

- High R-Values from most wall detail
- A non-expanding stable foamed-in-place product.
- Ideal for new or retrofit wall cavity applications.
- Excellent for production line applications where high "R" Value and good acoustical and fire-resistant results are needed.
- Very Cost Effective
- Easy to apply on most new or retrofit jobs.
- Tested and recommended up to 6-inch thickness.
- Economical to ship in dry form with a one-year shelf life.

PRODUCT DESCRIPTION

RetroFoam is a third generation amino-plast polymer which produces a non-toxic and odor-free material which is environmentally friendly. PolyMaster's foaming process, which is unique to the industry, uses two water-soluable components of a free-flowing powdered resin and an aqueous based foaming agent. Compressed air is used to generate a dense closed-cell foam which is then physically coated with the water-soluble resin. The foaming agent reacts with the amino-plast resin within 10-30 seconds, transforming the foam into a rigid, plastic solid. This process is similar to the reaction of a two-part apoxy 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, PolyMaster's kiln-dried polymer resins are complete and only require mixing with water to make consistent foam every time.

INSTALLATION

Retro Plastic Foam reduces air infiltration by filling cracks and other voids as it flows into same during the filling of the cavity. Wires or pipes are not a problem since the product flows around them. RetroFoam has set times as fast as five seconds and may be open-troweled into stud wall providing the fresh foam is covered with an inside vapor barrier within four hours of trowel application. PolyMaster 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 an unlimited shelf life. When needed, the resin is simply mixed with a prescribed volume of water, assuring consistent results without worrying about product shelf-life. During application, PolyMaster 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. Because of its superior insulating properties, final drying to remove traces of water will need at least 48 hours or more before final finishing is performed. To assure proper installation, the application of Retro Foam should be performed by PolyMaster, Inc. trained professionals.

ENVIRONMENTAL "GREEN" CHARACTERISTICS

PolyMaster 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 CFCs
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

PolyMaster • RetroFoam Insulation

EFFECTIVE THERMAL RESISTANCE**

Test	Temp	RetroFoam	ASTM Test Method
R Value 1"	25° F	4.59	C-518
K Value 1"	25° F	.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

Flammability Classification
PolyMaster Retro Foam
94HBF

CLASS 1 SURFACE BURNING CHARACTERISTICS

	RetroFoam	Test Method
Flame Spread	25	
Fuel Contributed	0	ASTM E84
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 ASTM E413-73 (Sound transmission class) for type Retro Plastic foam is STC 44.

PolyMaster Insulation Adds Over Five Times The R-Value To Block Walls

PolyMaster Insulation fills all openings in the block (including joints between blocks) to boost insulation values. Independent testing shows PolyMaster insulation can increase R-values of the wall to more than five times that of uninsulated block. (Tests conducted with standard 105 lb. density concrete block.)

Empty 8" Block	R-Value	2.49
With PolyMaster Insulation	R-Value	11.05
Test Method: ASTM C-236		
Empty 12" Block	R-Value	2.73
With PolyMaster Insulation	R-Value	16.1

PolyMaster Foamed-In-Place Insulation Applications

Block Fill

PolyMaster insulation can be used to insulate concrete block, either by top fill or side or "pressure fill." PolyMaster insulation can be installed in 10' to 12' lifts during construction. It can also be used in fire-rated block walls without detracting from the fireproofing. See ASTM E-119 Test Results.

Cavity Fill

PolyMaster foam completely fills the cavity between double walls, fascia walls, or internal/external cosmetic walls, producing excellent sealing around fittings, conduit, fixtures, and pipe chases, while still allowing the wall to weep as constructed.

Commercial Retrofit

Commercial structures can be easily retrofitted with PolyMaster foamed-in-place insulation to improve thermal and/or acoustic properties.

Residential Wall Fill

Superior R-values can be obtained by pumping PolyMaster foam into the stud wall cavity. PolyMaster insulation eliminates thermal drift, collapse, settling and deterioration inherent in some insulation products.

Speciality Insulation Applications

Products such as steam tables, refrigeration units, over-the-road trucking, containers, and MRI trailers have included PolyMaster insulations as a specified means to insulate.

Sealing Abandoned Underground Storage Tanks

PolyMaster insulation is a proven way of meeting environmental compliance codes for sealing and securing abandoned underground storage tanks. It has also been used to seal old mine shafts and in other situations requiring an inert material to protect the environment.

PolyMaster Plastic Foam Insulation Has The Credentials

The following are current and dated reports.

Listing Agency	Test Results Listed
Southern Building Code SBCCI, CABO PSI & ESI	Report #94163 Refer to this Evaluation Report for Code Compliance.
ASTM	All Materials were run in conformance to American Society for Testing and Materials including: E-96, C-236, C-236, C-335, C-951, C-518, D-1621, D-1692, E-96, E-413-73, E-84, E-119
R&D Services Commercial Testing Company Braun Intertec Galbraith Laboratories, Inc.	Approvals Applied to R-501/505 Approvals Applied to R-501/505 Residue on ignition

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