

SMART FOAM INSULATION™

Physical Properties

Properties	ASTM Test Method	Results
Thermal Conductivity (1) (Cured density .80 lbs/ft ³)		
K Factor	ASTM C-1 77	
@75°F Mean		0.229
@35°F Mean		0.216
R Factor	ASTM C-1 77	
@75°F Mean		4.37
@35°F Mean		4.63
Surface Burning Characteristics (2)	ASTM E-84	20
Flame Spread	UL 723	80-145
Smoke Developed		
Water Vapor Transmission perms/inch	ASTM C-355	10
Moisture Absorption		2
24 hours in wet cavity wall, percent by weight		
Linear Shrinkage (3)	HUD/UMB-74	0.8
normal percent @ 90 days		
Density		0.8
Standard (cured), lbs/ft ³		

(1) R value means resistance to heat flow. The higher the R value the greater the insulating power.

(2) This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(3) Rapid or forced drying may cause shrinkage in excess of 0.8 percent.

Characteristics

Volumetric and Thermal Stability

Temperature or humidity variations will not cause the material to change volume or exert pressure. There is no thermal degradation or reduction in R value over time with **Smart FOAM Insulation**.

Pest and Mold Resistance

The de-oiling effect of **Smart FOAM Insulation** makes it a hostile environment for rodents and insects. The material is completely resistant to the common Mucor, Aspergilli and Alternari types of mold. In addition, the foam is mildly anti-bacterial.

Acoustic Data

The cellular structure of the material creates an effective airborne sound transmission barrier. For particular acoustical data and applications, please contact the manufacturer.

Sound Transmission

Based on an independent laboratory field test an STC of 53.7 is provided in an apartment partition composed of 5/8" gypsum board, 35/8" metal studs with **Smart FOAM Insulation** in cavity and 5/8" gypsum board. Field test conducted by Wingerter Laboratories, Inc. report #22100.

Sound Absorption

STC 56

Provides 83-92% sound absorption @ 2" thickness.

Foam Thickness	SOUND ABSORPTION								
	Percent of Sound Absorption								
	Frequency (in Hertz)								
(inches)	100	200	400	800	1600	3200	6400		
11/4"	9	23	58	70	89	78	77		
11/2"	10	34	78	85	93	86	79		
2	12	44	83	92	95	92	83		
3.5	14	52	92	95	97	95	92		

Ideal insulating material for pipe chases and other cavities. Smart FOAM Insulation reduces the transmission of annoying or embarrassing sounds while providing efficient insulation for hot and cold pipes.

Structure and Density

The structure is a microscopic sized cell agglomeration interspersed with microscopic capillaries which are irregular and discontinuous.

The standard density of **Smart FOAM Insulation** is 0.7 lbs./cu. ft., although the density can be varied from 0.6 to 1.0 lbs./ cu. ft. When fresh, it weighs 2.5 lbs./ cu. ft. at the standard density. It has 60% closed cells and 40% open cells.

Volumetric Stability

Temperature or humidity variations will not cause **Smart FOAM Insulation** to change volume or exert pressure.

Normal shrinkage during the drying out period is 1.8% to 3% linear.

Resilience

Smart FOAM Insulation is a resilient material with a very high vibration resistance. The foam will support only light loads.

Moisture Effects

Smart FOAM Insulation will not hydrolyze. Moisture absorption in wet cavity wall over 24 hour period, 2% by weight. Water vapor transmission 32-38 perms (ASTM C 355).

Fire Behavior

Will not ignite up to 1208° F. ASTM E 84, UL 723 with foam exposed. Flamespread 20; Smoke development 80-145; Fuel contribution 0. Meets ICBO requirements for non-combustible wall assemblies - maximum BTU content per square foot is 4,500. **Smart FOAM Insulation** at a thickness of 4" comes in @ 3,696 BTU/square foot. A 2" layer of **Smart FOAM Insulation** covered both sides with aluminum foil will maintain a 2000° F temperature differential for 13 minutes. It will char but not flame. (NASA test August 9, 1971)



Classified By Underwriters Laboratories Inc. @ As to Surface Burning Characteristics R15032 14NF
See complete LIL classification information on the product container.

4/04