



**POLYCOAT  
PRODUCTS**  
A Division of American Polymers Corp.

## FOAMTHANE® 200

*Closed-Cell Spray Insulation  
ICC ESR File # 11-0709 Pending  
Technical Data Sheet*

### Product Description

Polycoat **Foamthane® 200** is a closed-cell spray-applied polyurethane foam insulation is a two component, HFC-245fa blown, medium density, structural system designed for commercial, industrial and residential insulation applications.

Closed-cell polyurethane foam yields a high *R*-value and minimizes air and moisture infiltration. **Foamthane® 200** increases structural integrity of a structure. This product also contributes to a healthier indoor environment by controlling problems associated with moisture vapor drive. The fluid applied, expanding nature of **Foamthane® 200** foam-forming system during application provides increased performance value by sealing the building

The **Foamthane 200** closed-cell foam-forming system consists of an "A" component or aromatic diisocyanate blended with a "B" component which includes polyols, fire retarding materials, and additives.

Contractors and applicators must comply with all applicable and appropriate storage, handling, processing and safety guidelines. Polycoat Products technical service personnel should be consulted in all cases where application conditions are questionable.

### Recommended Uses

Walls	Attics	Ceilings
Floors	Crawl Spaces	Piping
Foundations	Concrete Slabs	Ducts
Cold Storage	Freezers	Coolers

### Typical Foamthane® 200 Physical Properties\*

<u>Properties</u>	<u>Test Method</u>	<u>Value</u>
Fungi Resistance:	ASTM G-21	Zero Rating
R Value (aged):	ASTM C-518	6.5 at 1 inch 23 at 3.5 inches 36 at 5.5 inches 51 at 7.9 inches
Compressive Strength:	ASTM D-1621	29 psi (nominal)
Core Density:	ASTM D-1622	2.0 lbs./ft <sup>3</sup> (nominal)
Closed Cell Content:	ASTM D-2856	> 90%
Tensile Strength:	ASTM D-1623	74 psi (nominal)
Water Vapor Permeability:	ASTM E-96	0.80 perms at 1" 0.23 perms at 3.5" 0.14 perms at 5.5" 0.10 perms at 7.9"
Dimensional Stability: (158°F at 97 % R.H.)	ASTM D-2126	< 2% change in volume
Surface Burning Characteristics**	ASTM E-84 4-inches	Flame Spread Index <25 Smoke Developed Index <450

\* **Foamthane® 200** Typical Physical Properties are provided as general information only. They are approximate values and are not part of the product specifications.

\*\* These numerical flame spread values are not a true reflection on how this or any material will perform in actual fire conditions.

### Environmental Considerations and Substrate Temperatures

Applicators must recognize and anticipate environmental conditions prior to application to ensure highest quality foam and to maximize yield. Ambient air temperature, humidity, substrate temperatures, substrate moisture, and wind velocity are all critical determinants of foam quality. Extreme ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the yield, adhesion and the resultant physical properties of the foam insulation.

To obtain desired physical properties, **Foamthane® 200** foam-forming system should be spray-applied to substrates when ambient air and surface temperatures are greater than 50°F but less than 120°F. All substrates to be sprayed must be free of dirt, soil, grease, oil and moisture prior to the application of **Foamthane® 200** foam-forming system. Moisture in any form: excessive humidity (>85%R.H.), rain, fog, or ice will react chemically and will adversely affect system performance and corresponding physical properties. Application should not take place when the ambient temperature is within 5°F of the dew point.

### Processing Parameters

Store materials between 65° to 85°F in a dry and well ventilated area. Material in containers should be maintained at 65°F to 75°F while in use. Conditioned trailers or tanks may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun.

**Processing Parameters and Physical Characteristics**

Pre-heater Temperature:	"A" and "B" 115-140°F
Hose Temperature:	"A" and "B" 115-140°F
Pressures:	1200-2000 psi (dynamic)*
Mix Ratio Parts:	1 to 1 by volume "A" to "B"
Viscosity at 75°F:	400-500cps "B" component

\* *Dependent upon hose length*

### SHELF LIFE AND STORAGE CONDITIONS

**Foamthane® 200** has a shelf life of approximately three months from the date of manufacture when stored in original, unopened containers at 50-80°F. As with all industrial chemicals this material should be stored in a covered, secure location and never in direct sunlight. Storage temperatures above the recommended range will shorten shelf life. Storage temperatures above the recommended range may also result in elevated headspace pressure within packages.

### Processing Equipment

2:1 transfer pumps are recommended for material transfer from container to the proportioner. The plural component proportioner must be capable of supplying each component within ± 2% of the desired 1:1 mixing ratio by volume.

Hose heaters should be set to deliver 120°F to 135°F materials to the spray gun. These settings will ensure thorough mixing in the spray gun mix chamber in typical applications. Optimum hose pressure and temperature will vary with equipment type and condition, ambient and substrate conditions, and the specific application. Some equipment may require you to warm containers to achieve optimum material temperature. It is the responsibility of the applicator to properly interpret equipment technical literature, particularly information that relates to acceptable combinations of gun chamber size, proportioner output, and material pressures.

The relationship between proper chamber size and the capacity of the proportioner's pre-heater is critical. Contact your Polycoat Products representative for specific recommendations of spray and auxiliary equipment.

### CAUTIONS AND RECOMMENDATIONS

**Foamthane® 200** is designed for an application rate of ½ inch minimum to 2 inches maximum per pass. Once installed material has cooled it is possible to add additional applications in order to increase the overall installed thickness of SPF. This application procedure is in compliance with the Spray Polyurethane Foam Alliance (SPFA). **Foamthane® 200 is NOT designed for use as an EXTERIOR roofing system.**

**Foamthane® 200** is designed for installation in most standard construction configurations using common materials such as wood and wood products, metal and concrete. **Foamthane® 200** has performed successfully when sprayed onto wood substrates down to 60°F. For other substrates, please consult your Polycoat Products sales or technical service representative for specific recommendations.

Foam plastic materials installed in walls or ceilings may present a fire hazard unless protected by an approved, fire-resistant thermal barrier with a finish rating of not less than 15 minutes as required by building codes. Rim joists/header areas, in accordance with the IRC and IBC may not require additional protection. Foam plastic must also be protected against ignition by code-approved materials in attics and crawl spaces. See relevant Building Codes for more information.

## Thermal Barrier

The Model Building Codes require that SPF be separated from the interior of a building by an approved fifteen (15) minute thermal barrier, such as 1/2" gypsum wall board or equivalent, installed per manufacturer's instructions and corresponding code requirements. The Model Building Codes allow for omission of the prescribed thermal barrier in certain instances by way of diversified testing, such as:

- attics and crawlspaces with limited access.
- successful testing in accordance with room corner protocols.

Local building codes may vary and must be consulted for applicability of thermal barrier exceptions.

## Handling Information

Applicators should ensure the safety of the jobsite and construction personnel by posting appropriate signs warning that all "hot work" such as welding, soldering, and cutting with torches should not take place until a thermal barrier or approved equivalent is installed over any exposed polyurethane foam.

## Vapor Retarder

**Foamthane® 200** foam is intended for indoor applications, and is not a vapor retarder. It is vapor permeable and will allow for some diffusion of moisture through the insulation. The following considerations are needed: (1) A vapor retarder needs to be considered in the design of the building envelope in cold climates, such as zones 4 and higher in the U.S., as defined in 2004 Supplement To The IRC, Table N 1101.2; (2) A vapor retarder also needs to be considered where high interior humidity conditions exist. Refer to local codes and manufacturer's written specifications to ensure compliance.

## Per Lift Application

Applicators should limit per lift thickness of **Foamthane® 200** to 2 inches for optimal processing and physical properties, with the following exception: If the lift encapsulates CPVC piping the maximum lift thickness is 1 inch. Second lifts, if necessary, should be applied after 10 minutes of cure time. If additional lifts are needed, applicators should wait 30 minutes between lifts for optimal foam processing.

## Health and Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling **Foamthane 200** foam-forming system. Before working with this product, you must read and become familiar with the available information on its risks, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets, safe use and handling brochures, and product labels. More resources are available at [spraypolyurethane.com](http://spraypolyurethane.com), [polyurethane.org](http://polyurethane.org), [sprayfoam.org](http://sprayfoam.org).

---

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local Polycoat Products representative or visit our website for current technical data and instructions.

### LIMITED WARRANTY

Polycoat Products warrants its products to be free of manufacturing defects and that they will meet Polycoat Products current published physical properties. Polycoat Products warrants that its products, when properly installed by a state licensed waterproofing contractor according to Polycoat Products guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. There are no other warranties by Polycoat Products of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Polycoat Products shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. Polycoat Products shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Polycoat Products reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

### DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Polycoat Products makes no claim that these tests or any other tests, accurately represent all environments.