JM ocSPF

Open-cell Spray Polyurethane Foam

PRODUCT DESCRIPTION

JM Open-cell Spray Polyurethane Foam (ocSPF) insulation is a two-component, low-density, nonstructural insulation system designed for commercial, residential and industrial applications. The low-density nature of JM ocSPF insulation allows for tremendous yield while still affording critical air sealing of the home, office space or classroom—resulting in better air quality and increased comfort for building occupants. The JM ocSPF insulation system comprises an "A" component or aromatic diisocyanate and a blended "B" component, which includes polyols, fire-retardant materials, catalysts and a water-blown agent.

RECOMMENDED USES

- Walls
- Floors
- Unvented attics
- Vented attics
- Ceilings

ENVIRONMENTAL CONSIDERATIONS AND SUBSTRATE TEMPERATURES

Applicators must recognize and anticipate weather conditions prior to application to ensure highest-quality foam and to maximize yield. Ambient air, substrate temperatures and moisture are all critical factors. Extremes in 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 optimum results, JM ocSPF insulation should be spray-applied to substrates when ambient air and surface temperatures fall within a range of 40ºF to 120ºF. All substrates to be sprayed must be free of dirt, soil, grease, oil and moisture prior to the application of JM ocSPF insulation. Moisture in any form—excessive humidity (>85% R.H.) rain, fog or ice—will chemically react with components and adversely affect system performance and corresponding physical properties. Precautions must be taken to prevent damage to adjacent areas from overspray.

PROCESSING PARAMETERS

Store at 65ºF to 85ºF in a dry and well-ventilated area. Material in containers should be maintained at 80ºF to 90ºF while in use. Heated trailers or conditioned tank storage may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun if calibrated for drum material.

JM ocSPF insulation should be mixed once a day with a high-speed mixer for 15 to 30 minutes prior to application. JM recommends the use of a through-bung mixer equipped with three sets of mixing blades: 2 six-inch and 1 eight-inch. To properly drive the mixer, 20 cfm of air is preferred. Using less air volume may require extended mixing times. A thorough high-speed mix is an essential step in high-quality foam production.

Do not recirculate or mix other suppliers' "A" or "B" components into JM ocSPF insulation containers. 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. Heaters should be set to deliver 115ºF to 140ºF materials to the spray gun. Proportioner dynamic pressures should be 1000–1500 psi range. These settings will ensure thorough mixing in the spray gun mix chamber in typical applications. Optimum hose pressure and temperature may vary as a function of the type of equipment, ambient and substrate conditions, and the specific application. It is the responsibility of the applicator to properly interpret equipment technical literature, particularly information that relates 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.

CAUTION: Extreme care must be taken when removing and reinstalling drum transfer pumps so as NOT to reverse the "A" and "B" components.

PERFORMANCE ADVANTAGES

- Mold and mildew resistant
- Provides an effective air barrier
- Minimizes sound transmission
- Provides R-3.8 at 1 inch

TYPICAL PHYSICAL PROPERTIES*

Properties	Test Method	Values
Fungi Resistance	ASTM G21	Zero Rating
R-value (aged)	ASTM C518	3.8 at 1 inch 13 at 3.5 inches 19 at 5.5 inches
Air Leakage Rate	ASTM E283	< 0.02 (L/s)/m²
Compressive Strength	ASTM D1621	< 5 psi
Apparent Density	ASTM D1622	0.5 pcf (Normal)
Open-cell Content	ASTM D2856	> 90%
Tensile Strength	ASTM D1623	< 5 psi
Permeability	ASTM E96	21 perm-in
Dimensional Stability	ASTM D2126	<15% Change in Volume
Surface Burning Characteristics	ASTM E84	Flame-Spread Index <25 Smoke-Developed Index <450 (at 4 inches)

**These items are provided as general information only. They are approximate values and are not part of the product specifications.*

PROCESSING PARAMETERS AND PHYSICAL CHARACTERISTICS

Pre-heater Temperature	"A" and "B" 115–140°F
Hose Temperature	"A" and "B" 115–140°F
Pressures	1000–1500 psi (dynamic)*
Mix Ratio Parts	1 to 1 by volume "A" to "B"
Viscosity at 75°F	225 cps "B"
Shelf Life	6 months @ 65–85°F

**Dependent upon hose length.*

Thermal Barrier
The Model Building Codes require that SPF insulation 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, and successful testing in accordance with room corner protocols. Local building codes may vary and must be consulted for applicability of thermal barrier exceptions.

Vapor Retarder
JM ocSPF insulation is intended for indoor applications and is not a vapor retarder. It is vapor permeable and will allow diffusion of moisture through the insulation. For some applications of JM ocSPF insulation, installation of a vapor retarder may be recommended. Refer to local codes and manufacturer's written specifications to ensure compliance.

Application Thickness
Applicators should limit JM ocSPF insulation thickness to six inches per pass for optimal processing and physical properties.

Safety and Handling
Applicators should ensure the safety of the job site 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.

Appropriate literature has been assembled that provides information concerning the health and safety precautions that must be observed when handling JM ocSPF insulation. Before working with this product, you must read and become familiar with the available information on its risks, proper use and handling, as well as required personal protective equipment. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. More resources are available at polyurethane.org, sprayfoam.org, specJM.com or by contacting your Johns Manville representative.

Note: The information contained in this bulletin is current as of April 2012. Please contact Johns Manville to determine whether this publication has been revised.

Distributed by:

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BID-0116 04/12 (Replaces 05/11)

JMSPF120051