

DESCRIPTION

JM MCS+ Closed-cell SPF is an all-season high quality, two-component, medium-density, Class 1 rated, spray polyurethane foam designed for commercial, residential and industrial applications. Its high yield, excellent thermal and moisture performance, and outstanding sprayability and adhesion make it an ideal choice for high-performing energy efficient buildings.

RECOMMENDED USES

- Walls (exterior and interior)
- Floors
- Ceilings
- Unvented Attics
- Vented Attics
- Crawl Spaces

PERFORMANCE ADVANTAGES

- Improves Energy Efficiency
- Provides an Effective Air Barrier
- Increases Racking Strength
- Excellent Adhesion
- Minimizes Sound Transmission

INSTALLER ADVANTAGES

- Outstanding Sprayability
- High Yield
- Wide Processing Window
- Low Application Odor
- Excellent Adhesion

PHYSICAL PROPERTIES*

Property	Test Method	Value
R-Value per inch	ASTM C518 (aged)	7.0 (°F•ft ² •h/BTU)
R-Value at 2"		14 (°F•ft ² •h/BTU)
R-Value at 3"		21 (°F•ft ² •h/BTU)
R-Value at 3.5"		25 (°F•ft ² •h/BTU)
Core Density	ASTM D1622	2.0 lb/ft ³
Compressive Strength (1")	ASTM D1621	36 psi
Closed-cell Content	ASTM D6226	> 90%
Water Absorption	ASTM D2842	0.88%
Water Vapor Permeance	ASTM E96	0.61 perm at 1.5", 1.1 perm at 1"
Air Infiltration	ASTM E283	0.001 L/s/m ² @ 75 Pa
		0.001 L/s/m ² @ 300 Pa
Air Permeance at 75 Pa (3.75")	ASTM E2178	0.00055 (L/s)/m
Dimensional Stability (158°F at 97% RH)	ASTM D2126	12% Change in Volume
Recycled Content of Side B		11% (pre- and post-consumed)
Fungus	ASTM C1338	No Growth
Sound Transmission Coefficient	ASTM E2179	36** (STC)
Service Temperature Maximum		180°F (82°C)
Emissions	GREENGUARD	Pass

FLAMMABILITY CHARACTERISTICS***

Property	Test Method	Value
Surface Burning at 4"	ASTM E84	Class 1
Flame Spread Index		Flame Spread Index < 25
Smoke Developed Index		Smoke Developed Index < 450
Commercial Fire Resistance	NFPA 285	Assembly Passed
TPR2 Thermal Barrier	NFPA 286	Assembly Passed
DC 315 Thermal Barrier		
Attics & Crawl Space Walls & Roof Uncoated Thickness	AC377 Appendix X	Roof 7.5" max thickness
		Wall 5.5" max thickness

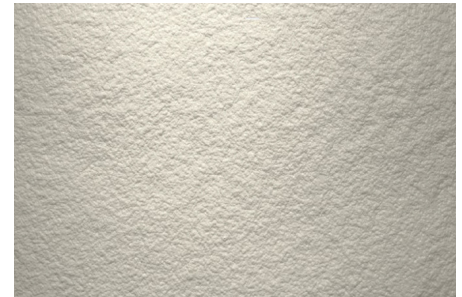
* These items are provided as general information only. They are approximate values and are not part of the product specifications.

** Residential exterior wall with 16" o.c. 2x4 wood studs. 2.76" JM MCS+ Closed-Cell SPF, 15/32" exterior. OSB sheathing, and 1/2" gypsum board.

*** Numerical flame spread and all other data presented are not intended to reflect the hazards presented by this or any other material in actual fire situations.

HEALTH AND SAFETY

For information on Health and Safety, refer to Johns Manville Safety Data Sheets and the Spray Polyurethane Foam Alliance Health and Safety guidance documents at <https://spraypolyurethane.org>.



APPROVALS / COMPLIANCES

- 2015, 2012, 2009 International Building Code (IBC) Types I - V Construction
- 2015, 2012, 2009 International Residential Code (IRC)
- 2015, 2012, 2009 International Energy Conservation Code (IECC)
- IAPMO ES #546
- ASTM C1029, Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation
- Appendix X approval for application in unoccupied attics and crawl spaces without a prescriptive ignition barrier or coating
- GREENGUARD VOC Emission Testing Compliance
- JM MCS+ Closed-cell SPF has zero Ozone Depletion Potential (ODP) and less than 730 Global Warming Potential (GWP)

REOCCUPANCY

- All occupants must vacate the building or the spray area must be cordoned off and remain separated from the occupied space for 24 hours after application
- The application area should be properly ventilated during application and for 24 hours post application
- Re-entry time for non-SPF trade workers: 12 hours
- Re-entry time for building occupants: 24 hours

PACKAGING

- 55 Gallon Drum (850 lbs per set)



The [Installation Guide](#) and the [Side A](#) and [Side B Safety Data Sheets](#) must be read prior to product application.

SUGGESTED PROCESSING PARAMETERS

Drum Storage Temperature	50° – 75°F (10° – 24°C)
Drum Temperature During Application	65° – 80°F (18° – 27°C)
Proportioner Preheat Temperature	Side A 95°F – 120°F (35°C – 49°C) Side B 105°F – 125°F (40°C – 52°C)
Hose Temperature	100° – 125°F (38° – 52°C)
Surface Temperature	35° – 120°F (2° – 49°C)
Viscosity at 75°F	A: 250 cps B: 650 cps

The initial settings are a guideline and ambient and substrate temperatures may require settings outside of the suggested range. Under no circumstances should a temperature of 135°F be exceeded without first contacting a JM technical representative.

DRUM TEMPERATURE

Material will perform better when its temperature is between 65° – 80°F. Drums may be placed into a heated room for two days before use to acclimate.

MIXING / RECIRCULATION

Mixing or recirculating will lead to loss of blowing agent. JM MCS+ Closed-cell SPF should NOT be mixed or recirculated.

HUMIDITY

Care should be taken if the relative humidity is greater than 80%. Excessive humidity will adversely affect system performance and physical properties.

PRESSURE SETTINGS

The finished foam properties are affected by both temperature and pressure settings. The goal of 1100 psi minimum at the gun when the trigger is pulled is an important part of proper mix. To achieve, you must take into account the pressure drop from the machine to the gun. A rough rule of thumb (depending on several parameters) is that the pressure will drop approximately 1 psi per foot of hose. Therefore, set the pressure at the machine so that when the trigger is pulled, the pressure maintained is the target gun pressure plus the pressure drop across the hose length. For example, a machine with 260 feet of hose should have a dynamic spray pressure of 1360 psi.

PASS THICKNESS

JM MCS+ Closed-cell SPF may be applied in a single pass from a minimum of 0.5" to a maximum of 3.0".

Wait until first pass cools before applying a second pass. A wait time of 10 minutes per inch is recommended.

SHUT DOWN

For breaks in application longer than 60 minutes:

1. Park the proportioner according to the manufacturer's instructions.
2. Close the fluid shut off valves on the gun and grease the spray gun according to the manufacturer's instructions when applicable.

PARTIAL DRUM POUR-UP

Residual materials should be properly handled and transferred to a new drum immediately for use within 3 - 5 days.

Collecting multiple partially full drums for combining later is not a recommended practice and may result in poor quality foam.