

# Insulation. Air Barrier. Vapor Retarder. Thermal Break. Gaco 183M Closed Cell Foam provides it all...and more.

ENERGY-EFFICIENT.

STRONG.

HEALTHY.

RESPONSIBLE.

QUIET.

# SMART

FROM THE START.

# Gaco 183M

CLOSED CELL FOAM

## CONTRACTOR / APPLICATOR BENEFITS

**EXCEPTIONAL SPRAYABILITY.** Superior formulation provides consistent, forgiving, user friendly foam with predictable yields and less gun clogging.

**WINTER AND SUMMER FORMULATIONS.** Sprays in any climate; expands your spray window in colder temperatures.

**LESS VISCOUS.** Reduces wear and tear on equipment.

**LOWER ODOR.** Improves work environment.

**EXCELLENT ADHESION.** Ideal for use on all types of substrates.

## OWNER / SPECIFIER BENEFITS

**ENERGY EFFICIENT.** Higher aged R-values than conventional insulation and a seamless air barrier reduce uncontrolled air leakage resulting in lower energy costs. ABAA Evaluated and approved for use in air barrier systems.

**DESIGN FLEXIBILITY AND STRENGTH.** Adheres to the substrate, allowing for easy monolithic installation for greater structural strength and stability, and enhances resistance to water damage; expands to fill even irregularly shaped and hard to reach areas.

**SUSTAINABLE AND HEALTHY.** GREENGUARD Gold Certified as safe and healthy for indoor environments; reduces condensation, moisture and mold, provides a sound barrier to help block airborne noise, contains no ozone-depleting chemicals and may contribute up to 20 LEED credits.

**LOWER CONSTRUCTION COSTS/VALUE ENGINEERING.** Achieve insulation, air barrier, vapor retarder and thermal break all in one for reduced material costs; energy efficiency results in smaller HVAC system requirements.

**LONG TERM VALUE.** Customers today are concerned about their building's integrity; spray foam helps a building withstand the tests of the elements and time.



# Insulation. Air Barrier. Vapor Retarder. Thermal Break.

## Gaco 183M Closed Cell Foam provides it all...and more.

As building codes continue to become more stringent, and states and localities continue to adopt codes requiring increased energy efficiency and low emissions, Gaco 183M provides a multifunctional solution to the rising cost of building materials required to meet today's demand for high-performance buildings.

Not only does Gaco 183M offer the exceptional all-around performance that spray foam applicators demand, architects and specifiers will appreciate its design flexibility and sustainable contribution to healthy building interiors, along with the energy efficiency and occupant comfort that owners desire.

An air barrier system stops the uncontrolled flow of air into and out of the building envelope, thereby reducing moisture problems, building heating and cooling costs, and greenhouse gas production; it improves indoor air quality, acoustical isolation and the indoor environment; overall, an air barrier system results in sustainable, durable buildings.

As an ABAA Evaluated Material as part of an ABAA Evaluated Assembly, Gaco 183M Closed Cell Foam is approved for use in air barrier systems.



Building products can have a significant impact on indoor air quality, and can emit hundreds of chemicals into the air that building occupants breathe. GREENGUARD Certification has been widely adopted as a trusted standard for low-emitting products. More than 400 green building codes, standards, guidelines, procurements policies, and rating systems recognize or reference GREENGUARD Certified products.

Gaco 183M is GREENGUARD Gold Certified, signifying that it has been tested and certified to be in compliance with stringent chemical emissions guidelines set by UL Environment, and that it meets some of the world's most rigorous, third-party chemical emissions standards.



**CLASS A (CLASS 1) FIRE RATING**

**AC377 APPENDIX X APPROVED**

**ONE HOUR FIRE RESISTANCE RATING PER ANSI/UL 263 (ASTM E119)**

**MEETS PERFORMANCE REQUIREMENTS OF NFPA 285**

**MEETS OR EXCEEDS TODAY'S TOUGH NEW BUILDING AND ENERGY CODES**

## TESTED AND APPROVED.

Gaco 183M is tested and approved for use in Construction Types I, II, III, IV and V (all construction types applicable to residential, commercial and industrial construction).



### USE IN, ON AND AROUND:

- Walls
- Ceilings
- Floors
- Attics
- Crawlspace
- Foundations
- Concrete Slabs
- Residential Ducts
- Plenums
- Piping

### RECOMMENDED FOR USE IN:

- Commercial and Industrial Buildings
- Metal Buildings
- Military Construction and Renovation
- Agricultural Buildings
- Cold Storage and Freezers
- Storage Tanks
- Other Industrial Applications and More



# Gaco 183M Closed Cell Foam Product Data Sheet

Note: This product is listed as GacoWallFoam 183M  
March 2014

Gaco 183M is a two component HFC-blown (zero ozone-depleting) liquid spray system that cures to a medium-density rigid cellular polyurethane insulation material. Gaco 183M contains polyols derived from naturally renewable oils, post-consumer recycled plastics, and pre-consumer recycled materials.

This closed cell foam is designed to provide: excellent thermal performance; air impermeable insulation; and, an integral part of an air barrier assembly.

Gaco 183M is a Class A (Class 1) fire rated foam that meets the requirements of ICC-ES AC377 Acceptance Criteria for Foam Plastic Insulation. Gaco 183M meets the requirements of AC377 Appendix X for use in attic and crawl spaces without an additional ignition barrier. See Intertek Research Report IRR-1002 for code compliant application information.

## PHYSICAL PROPERTIES

The following physical property tests were conducted by independent certified laboratories with traceable samples in accordance ICC-ES AC377 and ASTM C1029 for Type II foam and ABAA D-115-010 for Air Barrier Materials and Assemblies.

PROPERTY*	ASTM TEST	VALUE	UNIT
Core Density:	D1622	2.0 ± 10%	lbs/ft <sup>3</sup>
Aged R-Value**:	C518	R 6.4 at 1", R 23.3 at 3.5" (R 6.7 per inch at >3.5" and above)	h · ft <sup>2</sup> · °F/Btu
Compressive Strength (Parallel to Rise):	D1621	32	psi
Tensile Strength:	D1623	64	psi
Water Absorption (96 hours, 2" head, 70-74°F (21-23°C)):	D2842	0.71	% by volume
Water Vapor Permeance:	E96 - Method A	1.12	perm-in
Dimensional Stability (7 Days):	D2126	L=6%, W=5%, T=3%	% linear change
Open Cell Content:	D2856	2.6	%
Air Permeance @ 75 Pa (Infiltration/Exfiltration):	E283 E2178	0.00 at 1" 0.013	L/s/m <sup>2</sup> L/s/m <sup>2</sup>
Air Barrier Assembly Testing:	E2357	0.0027	L/s/m <sup>2</sup>
Crack Bridging:	C1305	Pass @ -15°F (-26°C)	Pass
Pull Adhesion Concrete Masonry Unit:		237	kPa
Gypsum Sheathing (Dens Glass):		162	kPa
Oriented Strand Board (OSB):		210	kPa
Fungi Resistance:	C1338	Pass	no growth

\*These items are provided for general information.

\*\*Federal Trade Commission regulations published in the Federal Register 16 CFR Part 460 require that R value testing of polyurethane foam insulation must be conducted on aged samples at a 75°F mean test temperature. Failure to comply can result in substantial fines by the FTC.

## SURFACE BURNING CHARACTERISTICS

Meets Class A (Class 1) requirements when tested in accordance with ASTM E84 (UL 723) as defined in NFPA 101 and Section 803 of the International Building Code (2009, 2012).

SYSTEM	THICKNESS	FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
Gaco 183M	4" (10.2 cm)	10	400

## LARGE SCALE FIRE TESTING

TEST	PERFORMANCE	LOCATION	FOAM THICKNESS / COATING
AC377, Appendix X	Ignition Barrier	Attic and crawlspace walls Attic and crawlspace ceiling	Up to 7.5" (19.05 cm) / no coating required Up to 9.5" (24.13 cm) / no coating required
NFPA 286	Thermal Barrier	Vertical surfaces Horizontal or sloped surfaces	Up to 5.5" (13.97 cm) / DC315 - 20 mil wet Up to 7.5" (19.05 cm) / DC315 - 20 mil wet
NFPA 286	Thermal Barrier	Vertical surfaces Horizontal or sloped surfaces	Up to 5.5" (13.97 cm) / DC315 - 6 mil wet primer & 22 mil wet Up to 9.5" (24.13 cm) / DC315 - 6 mil wet primer & 22 mil wet

Gaco 183M meets or exceeds the IBC requirements for exterior walls in type I, II, III, IV and V construction. This includes NFPA 285 and NFPA 259 testing with Intertek Listings (GWL/FIP 30-02, GWL/FIP 30-01) and one-hour fire resistance rating per ANSI/UL 263 (UL Design W426) which is equivalent to ASTM E119.



# Gaco 183M Closed Cell Foam Product Data Sheet (Continued)

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## VAPOR RETARDER

Gaco 183M meets the requirement for a Class II vapor retarder per the International Code Council and ASHRAE when installed at 1.12 inches in depth.

## AIR BARRIER PERFORMANCE

Gaco 183M is an air impermeable insulation (ATM E283, ASTN E2178); it has passed air barrier assembly testing (ASTM E2357) and has been evaluated by the Air Barrier Association of America in accordance with ABAA D-115-010.

## INDOOR AIR QUALITY

Gaco 183M is a low VOC emitting material and is GREENGUARD Gold Certified (29167-410, 29167-420) (formerly known as GREENGUARD Children & Schools Certification) by UL Environment. This program demands strict certification criteria and considers safety factors to account for sensitive individuals (such as children and the elderly), and ensures that a product is acceptable for use in environments such as schools and healthcare facilities. It is referenced by both the Collaborative for High Performance Schools (CHPS) and the Leadership in Energy and Environmental Design (LEED) Building Rating System.

## LEED INFORMATION

Gaco 183M has a minimum of 8.6% recycled content based on weight, including 6.6% pre-consumer material and 2.0% post-consumer material. Gaco 183M raw materials are blended in Waukesha, WI. Actual polyurethane foam end product production is done on-site by the applicator.

TYPICAL LIQUID CHEMICAL PROPERTIES		“A” Component contains polymeric isocyanate. “B” Component contains polyol, catalysts, fire retardants, surfactants and blowing agents.		
PROPERTY	TEST TEMPERATURE	ASTM TEST	VALUE	UNIT
Viscosity – “A” Component: Viscosity – “B” Component:	77°F (25°C)	D2196	180 ± 20 750 ± 50	cps cps
Specific Gravity – “A” Component: Specific Gravity – “B” Component:	77°F (25°C)	D1638	1.22 1.20	S.G. S.G.
Weight/Gallon – “A” Component: Weight/Gallon – “B” Component:	77°F (25°C)		10.2 10.0	lbs/gal lbs/gal
Mixing Ratio – “A” & “B” Component			1:1	By volume
Stability When Stored at 50°F to 70°F (10°C to 21°C)			“A” Component: 12 “B” Component: 6	Months Months

APPLICATION
To ensure optimum performance, a minimum pass thickness of 3/4" (1.9 cm) is recommended with the maximum not to exceed 2" (5.1 cm) per pass. To obtain optimum results substrate temperature should be within the ranges as stated below. All substrates must be dry at the time of application. Do not apply to wood surfaces with a moisture content above 18%.

MATERIAL	SUBSTRATE TEMPERATURE
Gaco 183M	40 to 120°F (4.4 to 48.9°C)
Gaco 183MW	30 to 100°F (-1.1 to 37.8°C)

  

EQUIPMENT SETTINGS	VALUE	PRODUCT CHARACTERISTICS	VALUE
Pre-Heat: Iso (A)	115°F - 130°F (46.1°C - 54.4°C)	Cream Time	0 - 1 sec
Pre-Heat: Poly (B)	115°F - 130°F (46.1°C - 54.4°C)	Rise Time	3 - 5 sec
Hose Heat	115°F - 130°F (46.1°C - 54.4°C)	Tack Free Time	3 - 5 sec
Recommended Spray Pressure	1,200 - 1,400 psi (dynamic)	Cure Time	4 hours

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For specific Safety and Health information please refer to Material Safety Data Sheet.



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