HOLCIM

GacoONEPass 1850

HIGH LIFT 2 LB. CLOSED CELL FOAM

DESCRIPTION

GacoOnePass F1850 is a two component HFC-blown (zero ozone-depleting) liquid spray system that cures to a medium-density rigid cellular polyurethane insulation material. GacoOnePass F1850 contains polyols derived from naturally renewable oils, post-consumer recycled plastics, and pre-consumer recycled materials. GacoOnePass F1850 is a Class A (Class 1) fire rated foam that meets or exceeds the requirements of ICC-ES AC377 Acceptance Criteria for Foam Plastic Insulation. See Intertek Code Compliance Research Report CCRR-1043 for code compliant application information. GacoOnePass F1850 is a Type II foam in accordance with ASTM C1029. GacoOnePass F1850 is designed to be installed in up to five and one half inch (5½") passes when installation instructions are followed. This closed cell foam is designed to provide: excellent thermal performance; air impermeable insulation; and, an integral part of an air barrier assembly.

CHEMICAL PROPERTIES

(For components)	TEST	ISOCYANATE	RESIN
Viscosity, cps 25°C (77°F)	ASTM D2196	200 ± 50	1080 ± 100
Specific Gravity 25°C (77°F)	ASTM D1638	1.24	1.235
Weight/Gallon 25°C (77°F)		10.34 lbs/gal	10.3 lbs/gal
Mixing Ratio By volume		1	1
Stability When Stored at 10°C to 21°C (50°F to 70°F)		12 Months	6 Months

PHYSICAL PROPERTIES

(Cured Material)	TEST	RESULT
Core Density	D1622	2.1 ± 10% lbs/ft^3
Aged R-Value **	C518	R 6.5 at 1" *** h·ft^2·°F/Btu
	C518	R 25 at 3.5" *** h·ft^2·°F/Btu
Compressive Strength (Parallel to Rise):	D1621	28.5 psi
Tensile Strength	D1623	39.7 psi
Water Vapor Permeance	E96 – Method A	0.44 perm-in
Dimensional Stability		
At 158°F(70°C) and 97% RH	D2126	L=5.2%, W=1.1%, T=8.5% linear change
At 176°F(80°C) and ambient RH	D2126	L=-0.3%, W=-0.2%, T=-0.5% linear change
At -4°F(-20°C) and ambient RH	D2126	L=0.2%, W=0.2%, T=1.7% linear change
Open Cell Content	D6226	4.4 %
Air Permeance @ 75Pa (Infiltration/Exfiltration)	E2178	0.00 at 1" L/s·M^2
Air Barrier Assembly @ 75Pa (Infiltration/Exfiltration)	E2357	0.007 at 1" L/s·M^2
Crack Bridging @ -15°F (-26°C)	C1305	Pass No-cracking
Water Absorption (96 hours, 2" head, 70-74°F (21-23°C)	D2842	2.76 % by volume
Water Absorption	C1763	0.21 % by volume
Water Resistive Barrier	ICC-ES AC71, AATCC Method	127 Pass
UV Weathering	AC71	Pass No blistering or delamination
Accelerated Aging	AC71	Pass No blistering or delamination
Hydrostatic Pressure – 55 cm (21.6") water column	AATCC Method 127	Pass No water leakage
Pull Adhesion		
DensDeck	D4541	39 psi
Concrete	D4541	48 psi
OSB	D4541	43 psi
Fungi Resistance	C1338	Pass no growth
Hot Surface Performance	C411	Pass No flaming, charring, or smoldering
VOC Emissions		
UL GREENGUARD		Pass No harmful effects
UL GREENGUARD Gold		Pass No harmful effects

DISTRIBUTED BY

PINNACLE WEST INC

1-800-901-0088
www.pinnaclewest.net

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APPLICATION

To ensure optimum performance, a minimum pass thickness of 3/4" (1.9 cm) is recommended with the maximum not to exceed 5½" (13.97 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 of above 18%.

MATERIAL	SUBSTRATE TEMPERATURE
GacoOnePass F1850R	30°F to 120°F (-1°C to 49°C)
GacoOnePass F1850W	20°F to 80°F (-7°C to 27°C)

PROCESS SPECIFICATIONS

Equipment pre-heater temperature		
Component A	41°C to 57°C	105°F to 135°F
Component B	41°C to 57°C	105°F to 135°F
Hose temperature	41°C to 57°C	105°F to 135°F
Spray pressure (dynamic)	1,000 to 1,200 psi	69 to 83 Bar
Cream Time	0 - 1 seconds	
Rise Time	3 - 6 seconds	
Tack Free Time	4 - 8 seconds	
Cure Time	24 hours	

RECOMMENDED USES

GacoOnePass F1850 will provide excellent performance in a wide range of residential, commercial and industrial applications where in service temperatures are between -40°F and 200°F (-40°C and 93°C) including:

Walls	Ceilings	Floors	Attics	Crawlspaces	Foundations
Concrete Slabs	Residential Ducts	Plenums	Cold Storage	Freezers	Piping
Storage Tanks	Flotation	Industrial			

GacoOnePass is FEMA Class 5, the highest rating for flood-resistant materials.

SURFACE BURNING CHARACTERISTICS

GacoOnePass F1850 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, 2015).

SYSTEM	FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
GacoOnePass F18501	5	350

LARGE SCALE FIRE TESTING

TEST	PERFORMANCE	LOCATION	FOAM THICKNESS / COATING
AC377	Ignition Barrier	Vertical surfaces	Up to 8.0" (20.3 cm) / No Coating Required
		Horizontal or sloped surfaces	Up to 10.0" (25.4 cm) / No Coating Required
NFPA 286	Thermal Barrier	Vertical surfaces	Up to 7.5" (19.1 cm) / DC315 - 18 mil wet
		Horizontal or sloped surfaces	Up to 9.5" (24.1 cm) / DC315 - 18 mil wet
NFPA 286	Thermal Barrier	Vertical surfaces	Up to 7.5" (19.1 cm) / TPR2 Fireshell F10E/TB - 18 mil wet
		Horizontal or sloped surfaces	Up to 11.25" (24.1 cm) / TPR2 Fireshell F10E/TB - 18 mil wet

GacoOnePass F1850 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).

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VAPOR RETARDER

GacoOnePass F1850 meets the requirement of one perm or less for a Class II vapor retarder per the International Code Council and ASHRAE when installed at 0.44 inches in depth. However, minimum installed thickness recommended by Gaco Western is 0.75 inches. Water vapor permeability at various thicknesses is provided below:

THICKNESS	WVP	THICKNESS	WVP
0.44”	1.00 perms	3”	0.15 perms
1.0”	0.44 perms	4”	0.11 perms
2”	0.22 perms		

AIR BARRIER PERFORMANCE

GacoOnePass F1850 is an air impermeable insulation and an air barrier material based on testing in accordance with ASTM E2178 at one-inch depth or more and has passed air barrier assembly testing in accordance with ASTM E2357 and has been evaluated by the Air Barrier Association of America in accordance with ABAA D-115-010.

INDOOR AIR QUALITY

GacoOnePass F1850 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.

FLOTATION PERFORMANCE

GacoOnePass F1850 meets the requirements of US Coast Guard requirement for flotation materials for both bilge and engine room applications in accordance with Code of US Regulations, Navigation and Navigable Waters Article §183.114 by testing from an independent laboratory.

LEED INFORMATION

GacoOnePass F1850 has a minimum of 9.7% recycled content based on weight, including 1.8% pre-consumer material and 7.9% post-consumer material. It contains 8.5% rapidly renewable content. GacoOnePass F1850 raw materials are blended in Waukesha, WI. Actual polyurethane foam end product production is done on-site by the applicator.

TECHNICAL SUPPORT

We have a dedicated technical support team offering knowledgeable support for everything from preventative maintenance, equipment calibration and servicing through to coating and foam application advice. If you have any questions regarding the use of this product please call us toll free at 1-800-901-0088 or email us info@pinnaclewest.net.

*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.

***To determine R values for thickness not listed: a. between 1 inch and 3.5 inch can be determined through linear interpolation; or, b. greater than 3.5 inches can be calculated based on R 7.2/inch