Gaco Western
SINCE 1955

Product Data Sheet:

GacoOnePass Low GWP F1880
January 2018
Supersedes October 2017

GacoOnePass Low GWP F1880
CLOSED CELL SPRAY FOAM INSULATION

DESCRIPTION

GacoOnePass Low GWP F1880 is a two component low GWP (Global Warming Potential) liquid spray system that cures to a medium-density rigid cellular polyurethane insulation material. It contains polyols derived from naturally renewable oils, post-consumer recycled plastics, and pre-consumer recycled materials.

GacoOnePass Low GWP F1880 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.* It is a Type II foam in accordance with ASTM C1029.

GacoOnePass Low GWP F1880 is designed to be installed in up to five and 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.

RECOMMENDED USES

GacoOnePass Low GWP F1880 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 including:

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

GacoOnePass Low GWP F1880 is FEMA Class 5, the highest rating for flood-resistant materials.

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.

PROPERTY*	ASTM TEST	VALUE	UNIT
Core Density	D1622	2.2 ± 10%	lbs/ft^3
Aged R-Value **	C518	R 7.1 at 1" ***	h·ft^2·°F/Btu
	C518	R 30 at 4" ***	h·ft^2·°F/Btu
Compressive Strength (Parallel to Rise):	D1621	30.7	psi
Tensile Strength	D1623	65	psi
Water Vapor Permeance	E96 – Method A	1.7	perm-in
Dimensional Stability	D2126		
At 158°F(70°C) and 97% RH		L = -2.6%, W = -3.0%, T = 5.4%	% linear change
Closed Cell Content	D2856	>90	%
Air Permeance @ 75Pa (Infiltration/Exfiltration)	E2178	0.001 at 1"	L/s·M^2
Water Absorption (96 hours, 2" head, 70-74°F (21-23°C)	D2842	0.29	% by volume
Water Absorption	C1763	1.63	% by volume
Fungi Resistance	C1338	Pass	no growth
Hot Surface Performance	C411	Pass	No flaming, charring, or smoldering
Potential Heat	NFPA 259	11,141	btu/lb

*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. 3.5 inches and greater can be calculated based on R 7.38/inch

SURFACE BURNING CHARACTERISTICS

GacoOnePass Low GWP F1880 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). GacoOnePass Low GWP F1880 was also tested in accordance with ASTM E2768 for an extended time of 30 minutes and met the requirements of NFPA 13 Section 8.15.1.2.10.

SYSTEM	FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
GacoOnePass Low GWP F1880[1]	0	200

[1] Sample tested at 4" (10.2 cm) thickness. May be installed at unlimited thicknesses when covered with ½" gypsum board.

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

GacoOnePass Low GWP F1880 meets or exceeds the IBC requirements for exterior wall in Type I, II, III IV and V construction through testing for vertical and lateral fire propagation to NFPA 285 and NFPA 259 and evaluation and Intertek listings (GWL/FIP 30-02, GWL/FIP 30-01)

VAPOR RETARDER

GacoOnePass Low GWP F1880 meets the requirement of one perm or less for a Class II vapor retarder per the International Code Council and ASHRAE when installed at 1.7 inches in depth. Water vapor permeability at various thicknesses is provided below:

Thickness	WVP	Thickness	WVP
1.7"	1.00 perms	3"	0.57 perms
1.0"	1.70 perms	4"	0.43 perms
2"	0.85 perms		

AIR BARRIER PERFORMANCE

GacoOnePass Low GWP F1880 is an air impermeable insulation and an air barrier material based on testing in accordance with ASTM E2178 at one-inch depth or more.

LEED INFORMATION

GacoOnePass Low GWP F1880 has a minimum of 6.5% recycled content based on weight, including 1.2% pre-consumer material and 5.3% post-consumer material. It contains 5.7% rapidly renewable content. GacoOnePass Low GWP F1880 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	200 ± 50 1050 ± 100	cps cps
Specific Gravity – "A" Component: Specific Gravity – "B" Component:	77°F (25°C)	D1638	1.24 1.23	S.G. S.G.
Weight/Gallon – "A" Component: Weight/Gallon – "B" Component:	77°F (25°C)		10.3 10.3	lbs/gal lbs/gal
Mixing Ratio – "A" & "B" Component:			1:1	By volume
Stability When Stored at 50°F to 77°F (10°C to 25°C):			A Component – 6 B Component – 5	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 5½" (14 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%. Follow applicable spray guides and GW 6-2 Gaco General Application Guide.

Material	Substrate Temperature
GacoOnePass Low GWP F1880R	40°F to 120°F (4°C to 49°C)
GacoOnePass Low GWP F1880W	Pending

EQUIPMENT SETTINGS		REACTIVITY TIME	
Pre-Heaters - Iso (A):	105°F to 135°F (41°C to 57°C)	Cream Time:	1 second
Pre-Heaters - Poly (B):	105°F to 135°F (41°C to 57°C)	Rise Time:	3 - 6 seconds
Hose Heat:	105°F to 135°F (41°C to 57°C)	Tack Free Time:	4 - 8 seconds
Recommended Spray Pressure:	1,000 to 1,200 psi (dynamic)	Cure Time:	24 hours