Because Sustainability Matters

Gaco ONE Pass™ LOW GWP
CLOSED CELL FOAM

Because Sustainability Matters

Gaco is a Firestone Building Products brand.
GacoOnePass Low GWP closed cell foam is manufactured with zero ozone-depleting chemicals. It contains polyols derived from naturally renewable oils, post-consumer recycled plastics, and pre-consumer recycled materials.

Because Sustainability Matters

GacoOnePass Low GWP also contains a new blowing agent that can contribute to decreased environmental risk due to its low Global Warming Potential (GWP) and reduced carbon footprint.

GacoOnePass Low GWP achieves zero ozone-depletion and low GWP characteristics all in one.

What is Global Warming Potential (GWP)?

Greenhouse gases warm the Earth by absorbing energy and slowing the rate at which the energy escapes to space; they act like a blanket insulating the Earth. The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. The larger the GWP, the more that a given gas warms the Earth compared to carbon dioxide over that time period.

Due to greater awareness and/or regulations, GWP is an important consideration for some building owners, architects specifying a project, and eventual occupants who may have a commitment to contributing to a smaller carbon footprint.

- Low Global Warming Potential Product
- Reduced Carbon Footprint
- Exceptional Sprayability
- 4+” Passes
- 1 Hour Reentry for Trades with 10 ACH
The easy to use spray foam with the easy-on-the-eye finish.

GacoOnePass has become well-known for its exceptional sprayability, excellent adhesion and smooth finish – the unique formulation provides consistent, forgiving, user-friendly foam with predictable yields and less gun clogging. The low viscosity reduces wear and tear on equipment and the ability to install quickly in 4+" passes saves time and reduces labor costs. Plus, the low odor of GacoOnePass contributes to a more comfortable work environment. All of these recognized benefits of GacoOnePass are present in GacoOnePass Low GWP. With a reenter time of 1 hour trades can get back to work faster to improve scheduling time lines.

A valuable solution for homeowners and specifiers alike.

Energy Efficiency is Job One

GacoOnePass Low GWP has higher R-Values than conventional insulation and a seamless air barrier reduces uncontrolled air leakage resulting in lower energy costs.

Design Flexibility for a Variety of Applications

GacoOnePass Low GWP adheres to the substrate, allowing for easy monolithic installation for greater structural strength and stability, and enhances resistance to water damage. It expands to fill even irregularly shaped and hard to reach areas.

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.

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**Recommended uses include:**

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

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**GacoOnePass Low GWP F1880 Closed Cell Spray Foam Insulation | May 2019**

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. GacoOnePass Low GWP F1880 contains polyols derived from naturally renewable oils, post-consumer recycled plastics, and pre-consumer recycled materials.

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**Recommended Uses**

- Walls
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- Cold Storage
- Freezers
- Piping
- Storage Tanks
- Flotation
- Industrial Applications

GacoOnePass Low GWP F1880 will provide performance in a wide range of residential, commercial and industrial applications where in service temperatures are between -40°F and 200°F including: Walls, Ceilings, Floors, Attics, Crawsplaces, Foundations, Concrete Slabs, Residential Ducts, Plenums, Cold Storage, Freezers, Piping, Storage Tanks, Flotation and Industrial Applications.

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

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**Physical Properties (Preliminary)**

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 | B.2 ± 10% | lbs/ft³
Aged R-Value:** | C518 | R 7.1 at 1" *** | h-ft²·°F/Btu
| C518 | R 30 at 4" *** | h-ft²·°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 At 158°F (70°C) and 97% RH: | D2126 | L=-2.6%, W=-3.0%, T=+5.4% | % linear change
Closed Cell Content: | D2856 | >90 | %
Air Permeance @ 75Pa (Infiltration/Exfiltration): | E2778 | 0.001 at 1" | L/s·M²
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 in 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 5.5 inch can be determined through linear interpolation; or b. greater than 3.5 inches can be calculated based on R X/inch (Pending)
GacoOnePass Low GWP F1880 Closed Cell Spray Foam Insulation | May 2019

**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 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.

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>FLAME SPREAD INDEX</th>
<th>SMOKE DEVELOPED INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>GacoOnePass Low GWP F1880</td>
<td>0</td>
<td>200</td>
</tr>
</tbody>
</table>

*Sample tested at 4" (10.2 cm) thickness. May be installed at unlimited thicknesses when covered with 1/2" gypsum board.*

**LARGE SCALE FIRE TESTING**

<table>
<thead>
<tr>
<th>TEST</th>
<th>PERFORMANCE</th>
<th>LOCATION</th>
<th>FOAM THICKNESS / COATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC377</td>
<td>Ignition Barrier</td>
<td>Vertical surfaces</td>
<td>Up to 8.0&quot; (20.3 cm) / No Coating Required</td>
</tr>
<tr>
<td>NFPA 286</td>
<td>Thermal Barrier</td>
<td>Horizontal or sloped surfaces</td>
<td>Up to 10.0&quot; (25.4 cm) / No Coating Required</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>THICKNESS</th>
<th>WVP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7&quot;</td>
<td>1.00 perms</td>
</tr>
<tr>
<td>1.0&quot;</td>
<td>1.70 perms</td>
</tr>
<tr>
<td>2&quot;</td>
<td>0.85 perms</td>
</tr>
<tr>
<td>3&quot;</td>
<td>0.57 perms</td>
</tr>
<tr>
<td>4&quot;</td>
<td>0.43 perms</td>
</tr>
</tbody>
</table>

**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**


<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST TEMPERATURE</th>
<th>ASTM TEST</th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixing Ratio – “A” &amp; “B” Component:</td>
<td></td>
<td></td>
<td>1:1</td>
<td>By volume</td>
</tr>
<tr>
<td>Stability When Stored at 50°F to 77°F (10°C to 25°C):</td>
<td></td>
<td></td>
<td>A Component – 6</td>
<td>Months</td>
</tr>
<tr>
<td>&amp; B Component – 5</td>
<td></td>
<td></td>
<td>Months</td>
<td></td>
</tr>
</tbody>
</table>

**APPLICATION**

To ensure optimum performance, a minimum pass thickness of 3/4" (1.9 cm) is recommended with the maximum not to exceed 5 1/2" (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%.

**EQUIPMENT SETTINGS**

- Pre-Heaters – Iso (A): 105°F to 135°F (41°C to 57°C)
- Pre-Heaters – Poly (B): 105°F to 135°F (41°C to 57°C)
- Hose Heat: 105°F to 135°F (41°C to 57°C)
- Recommended Spray Pressure: 1,000 to 1,200 psi (dynamic)

**REACTIVITY TIME**

- Cream Time: 1 second
- Rise Time: 3–6 seconds
- Tack Free Time: 4–8 seconds
- Cure Time: 24 hours