



ULTRA-PURE[®] CLOSED CELL SPRAY FOAM

Ultra-Pure[®] Closed Cell is a zero-ODP, low-GWP blowing agent, two-component, semi-rigid spray polyurethane foam insulation with a nominal 2.0 PCF in-place density. This product provides energy efficiency and air infiltration control as a high-performance building envelope insulation system. Ultra-Pure[®] Closed Cell offers a self-adhering, seamless insulation that can be used in many areas of the building envelope, including open wall cavities, crawl spaces, perimeter rim joists, cathedral ceilings, and garage ceilings.

Features

- Low VOC¹
- Low GWP Blowing Agent
- R-Value (> 7.0 per inch)
- Air Seal
- FEMA Class 5 Flood Resistance²

¹ www.ul.com/gg

² https://www.fema.gov/sites/default/files/2020-07/fema_tb_2_rev1.pdf

Standards, Codes Compliance

- Meets ICC-ES AC308 Type I-IV and V-B
- Code Evaluation Report IAPMO ER-800
- UL GREENGUARD GOLD
- Compliant with State HFC Regulations

Applications

- Wall Cavities
- Vented Attics
- Unvented Attics
- Ceilings
- Unvented Crawl Spaces
- Vented Crawl Spaces
- Rim Joists
- Floors

Packaging, Storage, and Shelf Life

A Component: 55 US Gallon, Closed-Top Steel Drum — 500 lb. net wt.

B Component: 55 US Gallon, Closed-Top Steel Drum — 475 lb. net wt.

Store containers between 50°F and 80°F. Containers should be opened carefully to allow any pressure buildup to be vented safely while wearing full safety protection. Excessive venting of the B Component may result in higher density foam and reduced yield.

Shelf Life: 6 months when stored in the original unopened container at 50°F–80°F.

Excessive low or high temperatures may decrease shelf life.

Processing: Drum temperatures should be conditioned to 70°F–80°F before application to ensure optimal viscosity and mixing.

Equipment

The proportioning equipment must be manufactured specifically for heating, mixing, and spray application of polyurethane foam and be able to maintain 1:1 metering with a +/-2% variance and adequate main heating capacity to deliver heated and pressurized materials up to 150°F.

Physical Properties³

| PROPERTY | TEST METHOD | VALUE |
|---|------------------------------|-----------------------|
| Thermal Resistance | See Thermal Resistance Chart | - |
| R-Value at 1 inch | ASTM C518 | 7.2 |
| At 3.5 inches | | 25 |
| Core Density | ASTM D1622 | Nominal 2.0 PCF |
| Compressive Strength ⁴ | ASTM D1621 | 37.98 psi |
| Tensile Strength ⁴ | ASTM D1623 | 16.05 psi |
| Dimensional Stability ⁴ 158°F 100% RH (168 h) | ASTM D2126 | 2.22% |
| Air Permeance (>1 inch) | ASTM E2178 | Meets Criteria |
| Vapor Permeance (>1.1 inch) | ASTM E96 | <1.0 perms (Class II) |
| Closed Cell Content | ASTM D6226 | > 90% |

FIRE TEST RESULTS⁵

| | | |
|-------------------------------|-------------------------------|--|
| Flame Spread | ASTM E84 | < 25 |
| Smoke Developed | (Complies with Class 1) | < 450 |
| Thermal Barrier ⁶ | NFPA 286/UL 1715 | Pass with 14 mils (wet) DC 315 Pass with 16 mils (wet) No-Burn Plus ThB |
| Ignition Barrier ⁶ | NFPA 286 AC 377 Appendix X | Pass without an intumescent coating |
| Wall Assembly | NFPA 285 | Pass — Type Class I-IV, V-B Construction |

³ Properties shown are representative values for 1-inch-thick material, unless otherwise specified.

⁴ Value at yield or 10% deflection, whichever occurs first.

⁵ These laboratory tests are not intended to describe the hazards presented by this material under actual fire conditions.

Thermal Resistance⁶

| THICKNESS (IN.) | R-VALUE (*F*FT ² *H/BTU) |
|-----------------|-------------------------------------|
| 1 | 7.2 |
| 2 | 14 |
| 3.5 | 25 |
| 4 | 28 |
| 5 | 35 |
| 5.5 | 39 |
| 6 | 42 |
| 7 | 49 |
| 7.5 | 53 |
| 8 | 56 |
| 9 | 63 |
| 9.5 | 67 |
| 10 | 70 |

For SI: 1 inch = 25.4 mm, *F* ft²*h/Btu = 0.176 K*m²/W

⁶ Nominal R-values are calculated based on tested K values at 1-inch and 3-inch thickness for Ultra-Pure[®] CC.

Safety and Handling

Exposure — Read and understand the Safety Data Sheet (SDS) for this product before use. Personnel must use appropriate respiratory, skin, and eye Personal Protective Equipment (PPE) when handling and applying polyurethane spray foam systems. Both Components A and B can cause severe inhalation and skin sensitization. For interior applications: full body protection required. A comprehensive review of SPF safety and handling can be found on the [CPI website](#).

Fire — Polyurethane foam may present a fire hazard if exposed to fire or excessive heat (i.e., cutting torches). Polyurethane foam systems should not be left exposed and must be protected by a minimum 15-minute thermal barrier or other code-compliant material as prescribed by applicable building code(s). Proper authorities with jurisdiction over a particular area should always be consulted for additional or specific requirements prior to beginning any project.

Ventilation and Implications for Re-Entry/Re-Occupancy

During application of Natural Polymers Ultra-Pure® Closed Cell, a minimum of 10 ACH is recommended and maintained for **at least two hours post spraying prior to re-entry** of trade workers and **24 hours for re-occupancy**. Cross-ventilation is required with negative pressure in the spray area and exhaust to a secured empty area. If recommended ventilation rates cannot be achieved, a 24-hour re-entry time and re-occupancy time is recommended for trade workers and building occupants. For more detailed information, please visit [American Chemistry Council](#).

Temperature and Humidity

Recommended substrate temperatures:
Minimum 40°F⁷ Maximum 120°F

Moisture in the form of rain, dew, and frost can seriously affect the quality and adhesion of the Ultra-Pure® Closed Cell to the substrate or itself. Natural Polymers does not recommend the spraying of this system when the relative humidity (RH) exceeds 85% or when temperatures are less than 5°F above dew point. When heating the interior of a building, the relative humidity can change dramatically and should be constantly monitored to ensure proper application.

7 For applications below 40°F, consult Natural Polymers, LLC technical personnel.

Surface Preparation

Ultra-Pure® CC must be applied to surfaces that are clean and dry, and free of dirt, oil, solvent, grease, loose particulates, frost, ice, and other foreign matter that could inhibit adhesion.

| SUBSTRATE | CONSIDERATIONS | PRIMING |
|---|--------------------|---|
| Wood (OSB, Plywood, Lumber) | Moisture < 18% | Not required unless porosity or moisture issues exist ⁸ |
| Concrete (CMU, Structural, Pour-in-Place) | 28-day min. cure | Not required unless specified or adhesion testing supports ⁸ |
| Metal (Steel, Painted, Aluminum, ⁸ Galvanized ⁸) | Clean of oils, dry | May be required based on adhesion testing; recommended for aluminum, galvanized surfaces ⁸ |
| Plastics (PVC, CPVC) | Compatible | Not required |

8 SPFA-143 — Primers for Spray Polyurethane Foam Insulation and Roofing Systems.

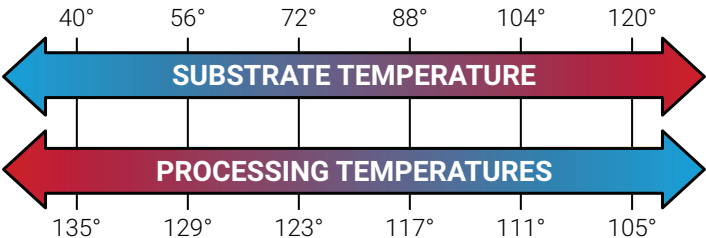
Spraying

Ultra-Pure® Closed Cell is designed to provide optimal yield when sprayed in 2-to-3-inch-thick passes. Excessive pass thickness above 3 inches can reduce physical properties and cause local overheating and possible fire. Additional thickness may be applied with a 5-to-10-minute waiting period between lifts. Ultra-Pure® Closed Cell will cool down fast, so you may spray multiple passes over the same lift. Yield and in-place density is dependent upon the temperature of the substrate, ambient air temperature, gun speed of application, gun tip size, and the output of the proportioner to provide maximum yield when sprayed in 3-inch-thick passes. In freezing conditions, job site air temperature must be consistently maintained above 32° to ensure proper curing.

Processing Guidance

| AMBIENT TEMPERATURE | 50°F–100°F |
|------------------------------|-----------------------|
| Machine Setting Temperatures | 105°F–135°F |
| A Component Pre-Heaters | |
| B Component Pre-Heaters | |
| Hoses | 1100–1500 psi |
| Spray Pressure (Dynamic) | |
| Processing Characteristics | |
| Cream Time (seconds) | 0.5–2 (seconds) |
| Tack-Free Time (seconds) | 5–6 (seconds) |
| Initial Cure Time | <1 Hour ¹¹ |

11 Complete cure will depend on temperature, humidity, and degree of ventilation. Complete cure usually occurs within 24–72 hours.



Certifications and Sustainable Features



Disclaimer of Warranties and Limitation of Liability

Natural Polymers warrants only that the products shall be manufactured in accordance with Natural Polymers' published specifications. Natural Polymers disclaims all other warranties, whether express or implied, including the implied warranties of merchantability, fitness for a particular purpose, and non-infringement of any intellectual property rights, all of which are expressly excluded. To the fullest extent permitted under applicable law, Natural Polymers shall not be liable for incidental, consequential (including any lost profits) or special damages, punitive damages, or for damage to the building, its contents, or its occupants. Natural Polymers' total liability and the exclusive remedy for all proven claims is replacement of the nonconforming product, and in no event shall Natural Polymers be liable for any other damages.

No statement or recommendation made or assistance given by Natural Polymers, or its representatives, either oral or in any literature or other documentation, to the buyer, its customers, or any other persons in connection with the purchase, use, or installation by buyer, its customers, or any other persons, of any product sold by Natural Polymers, shall constitute a waiver by Natural Polymers of any provision hereof or affect Natural Polymers' liability.

For more information, visit:
www.owenscorning.com/naturalpolymers

NATURAL POLYMERS, LLC
14438 E. NORTH AVE., CORTLAND, IL 60112
1-800-GET-PINK