



NATURAL-THERM™ 2.0 IBS/IBW CLOSED CELL SPF



Natural-Therm™ 2.0 Series is summer (IBS) and winter (IBW) versions of a Zero ODP, two-component, semi-rigid spray polyurethane foam insulation with a zero ozone depleting blowing agent and a nominal 2.0 PCF in-place density. These products provides energy efficiency and air infiltration control as a high-performance building envelope insulation system. Natural-Therm™ 2.0 Series 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
- R-Value 6/inch (Nominal)
- 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 V-B
- Code Evaluation Report IAPMO ER-336
- UL GREENGUARD GOLD

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 Gallons, Closed-Top Steel Drum – 500 lb. net wt.

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

Store containers between 50°F and 90°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: Excessive low or high temperatures may decrease shelf life. When stored in the original unopened container at 50°F–90°F:

B Component is 6 months

A Component is 12 months

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 Properties

PROPERTY	TEST METHOD	VALUE
Thermal Resistance	See Table Below	
R-Value at 1 inch ^{1,2}	ASTM C518	6.5
R-Value at 3.5 inches		21
Core Density	ASTM D1622	Nominal 2.0 PCF
Compressive Strength ³	ASTM D1621	30.98 psi
Tensile Strength ³	ASTM D1623	44.61 psi
Dimensional Stability	ASTM D2126	
158°F 100% RH (168 h)		5.89%
Air Permeance (1 inch)	ASTM E2178	Meets criteria
Vapor Permeance (>1 inch)	ASTM E96	<1.0 perms (Class II)
Closed Cell Content	ASTM D6226	> 90%

SURFACE BURNING CHARACTERISTICS⁴

Flame Spread	ASTM E84 (Complies with Class 1) ⁴	< 25
Smoke Developed		< 450
Thermal Barrier	NFPA 286	Pass with 14 mils (wet) DC 315
Ignition Barrier	NFPA 286 ACC 377 Appendix X	Pass without an intumescent coating

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

² R means the resistance to heat flow; the higher the value, the greater the insulation power. This insulation must be installed properly to get the marked R-value.

³ Value at yield or 10% deflection, whichever occurs first.

⁴ These laboratory tests are not intended to describe the hazards presented by this material under actual fire conditions.

Thermal Resistance - R-Values

THICKNESS (INCHES)	°F·FT ² ·H/BTU
1	6.5
2	12
3.5	21
4	24
5	30
5.5	33
6	36
7	42
7.5	45
8	48
9	54
9.5	57
10	60

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

¹ R-values are calculated based on tested K values at 1-inch and 4-inch thickness for Natural-Therm™ 2.0 IBS/IBW Series.

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.

Job Site Ventilation

During SPF application, a minimum of 10 ACH is required. Cross ventilation is required with negative pressure in the spray area and exhaust to a secured empty area. For more detailed information, please visit [American Chemistry Council](#).

Temperature and Humidity

Recommended substrate temperatures:

	2.0 IBS	2.0 IBW
Minimum	40°F	20°F
Maximum	95°F	77°F

Moisture in the form of rain, dew, and frost can seriously affect the quality and adhesion of the Natural-Therm™ 2.0 Series to the substrate or itself. Natural Polymers does not recommend the spraying of this system when the relative humidity (RH) exceeds 85% or within 5°F of the dew point. When heating the interior of a building, the relative humidity can change dramatically and should be constantly monitored to ensure proper application.

Surface Preparation

Natural-Therm™ 2.0 Series 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 ¹
Concrete (CMU, Structural, Pour in Place)	28-day min. cure	Not required unless specified or adhesion testing supports ¹
Metal (Steel, Painted, Aluminum, ¹ Galvanized ¹)	Clean of oils, dry	May be required based on adhesion testing. Recommended for Al, Galvanized Surfaces ¹
Plastics (PVC, CPVC)	Compatible	Not required

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

Processing Guidance

	IBS	IBW
Ambient Temperature	50°F–100°F	32°F–80°F
MACHINE SETTING TEMPERATURE		
A Component Pre-heaters	105°F–125°F	110°F–130°F
B Component Pre-heaters		
Hoses		
Spray Pressure (Static)	800–1,400 psi	
PROCESSING CHARACTERISTICS		
Cream Time	1–2 (Seconds)	0.5–2 (Seconds)
Tack-Free Time	6–7 (Seconds)	4–5 (Seconds)
Initial Cure Time	<1 Hour ¹	<1 Hour ¹

¹ Complete cure will depend on temperature, humidity, and degree of ventilation. Complete cure usually occurs within 24–72 hours.

Spraying

Natural-Therm™ 2.0 Series is designed to provide optimal yield when sprayed in 2-inch to 4-inch-thick passes. Excessive pass thickness above 4 inches can reduce physical properties and cause local overheating and possible fire. Additional thickness may be applied with a 5 to 10 second waiting period between lifts. Natural-Therm™ 2.0 Series 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 4-inch-thick passes. In freezing conditions, jobsite air temperature must be consistently maintained above 32 degrees to ensure proper curing.

Certifications and Sustainable Features



Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation, and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets, and enhancing lives. More information can be found at [www.owenscorning.com](#).

Disclaimer of Warranties and Limitation of Liability

Natural Polymers warrants only that the products shall be manufactured in accordance with Natural Polymer's 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, for punitive damages, or for damage to the building, its contents or its occupants. Natural Polymer's 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 Polymer's liability.

The data presented here should only be used as a guide since the actual foam properties are influenced by the efficiency of the spray gun, component temperatures, foam thickness, and ambient conditions. Natural-Therm should be sprayed in uniform passes of 2-inch to 4-inch-thick passes. The technical information contained herein should only be used as a guideline for typical chemical and physical properties. The user must test and qualify the product. Final determination of suitability is the sole responsibility of the user.

For more information visit:
[www.owenscorning.com/naturalpolymers](#)

NATURAL POLYMERS, LLC
14438 E. NORTH AVE., CORTLAND, IL 60112
888-563-3111
[www.owenscorning.com](#)

Pub. No. 10026011. Printed in U.S.A. February 2023.
© 2023 Natural Polymers, LLC. All Rights Reserved.
Natural Polymers is an Owens Corning company.
© 2023 Owens Corning. All Rights Reserved.