



POLYSOURCE
INDUSTRIES



Nexseal™ 2.0 CDN

Spray Foam Insulation

CCMC Listing: 14087-L

Colour: ARMY GREEN



Product Description:

Nexseal™ 2.0 CDN spray-applied polyurethane foam is a CAN/ULC S705.1-15 (including amendment 1 & 2) compliant spray-applied, two component, closed cell insulation system. The product is formed by the reaction of proprietary resin blend and polymeric methylene diphenyl diisocyanate. The resin blend is comprised of polyols, additives, fire retardants and **low global warming potential blowing agents**. Nexseal™ 2.0 CDN is army green in colour.

The spray applied nature of Nexseal™ 2.0 CDN spray foam allows the material to flow into voids and seal cracks, expanding to form a monolithic structure with high R-value (resistance to heat flow). Nexseal™ 2.0 CDN spray foam can form various control layers for buildings and structures: insulation, air barrier, moisture retarder and weather barrier.

Nexseal™ 2.0 CDN is manufactured under a quality control program administered under the auspices of ISO 17025.

Product Uses:

- | | | |
|-----------------------|-----------|-----------------|
| Cold Storage | Walls | Attics |
| Crawlspaces | Tanks | Pipe Insulation |
| Exterior Applications | Ducts | Foundations |
| Concrete slab | Basements | |

Typical Chemical Attributes:

Component	Viscosity (25°C)	Density
Isocyanate	200 cps	1.24 kg·m ⁻³
Resin	700 cps	1.24 kg·m ⁻³

Storage & Shelf Life:

Nexseal™ 2.0 CDN spray foam components have an optimal shelf life of 6 months when stored in unopened containers at temperature between 10 – 20°C. Excessively high temperatures may reduce optimal shelf life. Store material at 20 – 32°C for 48 hours prior to application of the product.

Environmental Considerations:

Nexseal™ 2.0 CDN spray foam insulation is available in two grades for various ambient conditions:

Grade	Temperature
Regular	+10 - 45°C
Winter	-10 - 25°C

Wind speeds in excess of 15 kmh may cause loss of exotherm or cause overspray onto adjacent objects or structures. It may be necessary to use wind screens. Substrate conditions will effect product performance.

Typical Physical Attributes:	Test Method	Value (SI)	Value (US Cust.)
Material Differentiation (Colour)	ASTM E1331	ΔE = 5 (Army Green)	
Apparent Core Density	ASTM D1622	35 kg·m ⁻³	2.17 lbs·ft ⁻³
Aged Thermal Resistance, 180 days, 25.4 mm	ASTM C518	1.23 m ² ·K ⁻¹ ·W ⁻¹	7 hr·ft ² ·°F·BTU ⁻¹
Air Permeance	ASTM E2178	0.0031 L·s ⁻¹ ·m ⁻² @ 25.4 mm	
Compressive Strength	ASTM D1621	223 kPa	32 lbs·in ⁻²
Dimensional Stability, -20°C	ASTM D2126	0.3% Change	
Dimensional Stability, 80°C	ASTM D2126	0.6% Change	
Dimensional Stability, 70°C & 97% RH	ASTM D2126	9.2% Change	
Fungi Resistance	ASTM C1338	No Growth	
Open Cell Content	ASTM D6226	4.17%	
Surface Burning Characteristics	CAN/ULC S102	Flame Spread = 246	
Tensile Strength	ASTM D1623	221 kPa	32 lbs·in ⁻²
Time to Occupancy	CAN/ULC S774	24 hours	
Water Absorption	ASTM D2842	0.50%	
Water Vapor Permeance, 50 mm	ASTM E96	38 ng/Pa·s·m ²	0.66 perms
Global Warming Potential		1 (same as CO ₂)	

Long Term Thermal Resistance Values:

Thickness (mm)	Thickness (in.)	RSI ($m^2 \cdot K^{-1} \cdot W^{-1}$)	R-value ($hr \cdot ft^2 \cdot ^\circ F \cdot BTU^{-1}$)
50.0	1.97	1.87	11
50.8	2.00	1.90	11
75.0	2.95	2.92	17
76.3	3.00	2.97	17
88.9	3.50	3.46	20
100.0	3.94	4.02	23
101.6	4.00	4.08	23
127.0	5.00	5.11	29
152.4	6.00	6.13	35
177.8	7.00	7.15	41
203.2	8.00	8.17	46

Installation:

Nexseal™ 2.0 CDN must be applied by trained contractors and approved by SES Foam LLC. Application of Nexseal™ 2.0 CDN must be in compliance with CAN/ULC S705.2-05 requirements. Polysource Industries is an Approved Provider for SES Foam spray polyurethane products.

Extreme Cold Weather Applications:

For ambient temperatures below 0°C contractors must be cognizant of substrate conditions and the chemical requirements to apply spray foam insulation. Warming substrates, air movement, ambient humidity and substrate moisture are critical. Please refer to SES guidelines for extreme cold weather application.

Substrate Preparation:

All surfaces must be clean and dry, free of dirt, oil, solvents, grease and loose particles for optimal adhesion. Nexseal™ 2.0 CDN spray foam bonds tenaciously to most clean substrates. Moisture content of wood products should be < 18% and concrete must age at least 28 days before application of Nexseal™ 2.0 CDN spray foam can occur. Consult SES Foam for specific recommendations on primers or substrates.

Service Temperature:

Nexseal™ 2.0 CDN spray foam insulation is designed to be used in ambient temperatures from -40°C and 80°C, 105°C intermittent. It is strongly recommended that test sprays be conducted before installation for use in extreme temperatures.

SPF Processing Parameters:

Nexseal™ 2.0 CDN spray foam is designed to be applied by trained contractors using high pressure, plural component spray proportioners.

The spray proportioner must be able to maintain the designed temperature and pressure for Nexseal™ 2.0 CDN spray foam products:

A/B/Hose Temperature	50 - 60°C
A/B Dynamic Pressure	70 - 100 Bar

Optimal spray settings will vary with proportioner, hose dimensions, gun configuration and ambient conditions. It is critical for sprayers to understand the limitations associated with their equipment.

Pass thickness:

Nexseal™ 2.0 CDN spray foam should be applied at a minimum thickness of 12mm (1/2") and a maximum thickness of 50 mm (2"). Up to four 50 mm lifts can be applied at a time without having to wait for the foam to completely cool. It is the responsibility of the certified contractor to determine when the first layer has cooled sufficiently for additional passes. For substrates with sensitivity to heat like plastic or metal, tests should be done to understand the effect of the SPF exotherm on the material. In some cases putting on a flash coat first is recommended to prevent any adverse effects on the substrates.

Safety and Handling Information:

It is critical to read and become familiar with the Safety Datasheets prior to working with Nexseal™ 2.0 CDN spray foam liquid components. During application respiratory protection is required for the applicator and bystanders or helpers. For more information consult Safety Datasheets, www.sesfoam.com, or www.spraypolyurethane.org

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