



ECOBAY™ CC CAN

Spray-Applied Polyurethane Foam Insulation

Air Barrier Material/Air Barrier System Type 2 SPF Insulation

- CCMC #: 13359-L
- Complies with CAN/ULC S705.1

Product Description

EcoBay™ CC CAN is a two component, closed cell spray-applied polyurethane foam insulation system. EcoBay™ CC CAN is a HFC-245fa and water co-blown, medium density, structural strength imparting system designed for commercial, industrial and residential insulation applications. EcoBay™ CC CAN is available in two seasonal grades for optimal processing.

Closed-cell polyurethane foam yields a high R-value and may help minimize air and moisture infiltration, forming an integral part of any insulation or air barrier system. This product may also help to contribute to a healthier indoor environment by helping to control problems associated with moisture vapour drive. The fluid applied, expanding nature of EcoBay™ CC CAN system during application may also contribute to increased performance value by helping to seal the building envelope.

The EcoBay™ CC CAN system is comprised of an “A” component or aromatic diisocyanate and a blended “B” component which includes polyols, fire retarding materials, and other additives. Both components are manufactured by Bayer MaterialScience LLC.

EcoBay™ CC CAN is available in two grades for warm and cold weather applications. The EcoBay™ CC Arctic CAN is typically a winter grade, and EcoBay™ CC CAN is a warmer weather grade. Suggested ambient substrate temperatures are specified below:

System	Ambient Temperature
EcoBay CC CAN	10°C to 50°C
EcoBay CC Arctic CAN	-10°C to 25°C

Installation

EcoBay™ CC CAN may only be installed by an applicator approved, trained and under appropriate field quality inspection programme with Exova test laboratories and in compliance with CAN/ULC S705.2 application standard.

Recommended Uses

- | | |
|-----------------------|---------------------|
| Walls | Unvented Attics |
| Ceilings | Floors |
| Vented Attics | Vented Crawl Spaces |
| Unvented Crawl Spaces | Concrete Slabs |
| Foundations | |

EcoBay™ CC CAN system must be tested (including, but not limited to, field testing) in advance by the user to determine suitability.

Environmental Consideration and Substrate Temperatures

Applicators must recognize and anticipate environmental conditions prior to application to ensure highest quality foam and to maximize yield. Ambient air temperature, humidity, substrate temperatures, substrate moisture, and wind velocity are all critical determinants of foam quality. Extreme ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the yield, adhesion and the resultant physical properties of the foam insulation. To obtain desired physical properties, EcoBay™ CC CAN system should be spray-applied to substrates within the suggested ambient and substrate temperatures for the given grade. For applications below 0°C, special precautions before application should be taken. This includes, but is not limited to, warming substrates, changing application technique, material application temperatures or warming materials thoroughly before application. All substrates to be sprayed must be free of dirt, soil, grease, oil and moisture prior to the application of the EcoBay™ CC CAN system. Moisture in any form: excessive humidity (>85%R.H.), rain, fog, or ice will react chemically and will adversely affect system performance and corresponding physical properties.

Application should not take place when the ambient temperature is within 3°C of the dew point. Primers may be necessary dependent upon conditions; consult a technical service representative. Wind velocities in excess of 19 kilometers per hour may result in excessive loss of exotherm and interfere with the mixing efficiency, affecting foam surface, cure, physical properties, and will cause overspray. Precautions must be taken to prevent damage to adjacent areas from overspray.

Typical Physical Properties*

Properties**	Test Method	Metric Value	US Value
Colour		Teal	
Density, min.	ASTM D-1622	32 kg/m ³	2.0 lbs./ft ³
Initial Thermal Resistance, 50 mm ^a	ASTM C-518	2.4 m ² -K/W	13 ft ² -Hr-°F/ BTU
Aged Thermal Resistance, 50 mm (90 days at 60°C)	ASTM C-518	2.3 m ² -K/W	13 ft ² -Hr-°F/ BTU
Long Term Thermal Resistance, (Type 2)	ASTM C-1303		
50.8 mm (2 in.)		2.0 m ² -K/W	11.4 ft ² -Hr-°F/ BTU
76.2 mm (3 in.)		3.1 m ² -K/W	17.7 ft ² -Hr-°F/ BTU
101.6 mm (4 in.)		4.3 m ² -K/W	24.2 ft ² -Hr-°F/ BTU
Compressive Strength, nominal	ASTM D-1621	175 kPa	25 lbs/in ²
Tensile Strength, nominal	ASTM D-1623	414 kPa	60 lbs/in ²
Water Absorption	ASTM D-2842	< 2% by volume	
Water Vapour Permeance, 50 mm	ASTM E-96 (desiccant)	40 ng/Pa-m ² s	0.7 perm-inches
Air Barrier System Testing at 75 Pa, 25 mm	CAN/ULC-S-742	A1 Rated (0.02 L/s-m ²)	A1 Rated (0.004 cfm/ft ²)
Air Permeance at 75 Pa, 50 mm	ASTM E-2178	0.00005 L/m ² -s	0.00001 cfm/ft ²
Dimensional Stability, -20°C	ASTM D-2126	< 1% change, 28 day exposure	
Dimensional Stability, 80°C	ASTM D-2126	< 1% change, 28 day exposure	
Dimensional Stability, 70°C & 95% RH	ASTM D-2126	< 1% change, 28 day exposure	
Open Cell Content	ASTM D-6226	< 8%	
Surface Burning Characteristics, Flame Spread ^a	CAN/ULC S-102	< 50	
Surface Burning Characteristics, Flame Spread ^a	CAN/ULC S-127	< 250	
Surface Burning Characteristics, Smoke Index	CAN/ULC S-102	< 500	
Fungi Resistance	ASTM C-1338	No Growth	
VOC Emissions ^b	CAN/ULC S-774	Pass	
Pull Adhesion, Concrete Masonry Unit	ASTM D-4541	> 200 kPa	> 29 psi
Pull Adhesion, Exterior Gypsum Board	ASTM D-4541	> 110 kPa	> 16 psi
Pull Adhesion, OSB, Wood Studs, Plywood	ASTM D-4541	> 200 kPa	> 29 psi

* These items are provided as general information only. They are approximate values and are not part of the product specifications.

** Prepared on a Graco H-40, 18-m hose using a GX7 with no. 1 mix module and 90 PCD, stream temperatures 50-52°C, pressure 1000 psi (dynamic).

^a For informational purposes only. These values do not reflect the way in which this material or any material will perform in an actual fire.

^b For retro fit construction, independent toxicologist review has established 1 day for re-occupancy.

Storage Conditions

EcoBay™ CC CAN system components must be stored between 20° to 25°C in a dry and well-ventilated area, for a minimum of 48 hours before use. Material in containers should be maintained at 18°C to 30°C while in use. Conditioned trailers or tanks may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun. Do not configure equipment to recirculate EcoBay™ CC CAN components from proportioner back into drum. Do not recirculate or mix other suppliers' "A" or "B" component into EcoBay™ CC CAN system containers.

CAUTION: If components are below suggested temperatures, the increased viscosity of the components may cause pump cavitation resulting in unacceptable SPF application. If components are above suggested temperatures, there may be loss of blowing agent resulting in diminished yield.

Processing Equipment

2:1 transfer pumps are recommended for material transfer from container to the proportioner. The plural component proportioner must be capable of supplying each component within ± 2% of the desired 1:1 mixing ratio by volume. Hose heaters should be set to deliver 50°C to 60°C materials to the spray gun. These settings will ensure thorough mixing in the spray gun mix chamber in typical applications. Optimum hose pressure and temperature will vary with equipment type and condition, ambient and substrate conditions, and the specific application. It is critical that materials are stored at recommended temperatures before and during application to allow for proportioning of materials. It is the responsibility of the applicator to properly interpret equipment technical literature, particularly information that relates to the acceptable combinations of gun chamber size and the capacity of the proportioner's pre-heater is critical. Mechanical purge spray guns (specifically direct impingement or DI type) are recommended for highest foam quality.

CAUTION: Extreme care must be taken when removing and reinstalling drum transfer pumps so as NOT to reverse the “A” and “B” components.

Processing Parameters and Physical Characteristics	
Pre-heater Temperature:	“A” and “B” 50-60°C
Hose Temperature:	“A” and “B” 50-60°C
Pressures:	1000-1500 psi (dynamic)*
Mix Ratio Parts:	1 to 1 by volume “A” to “B”
Viscosity at 25°C	400-600 cps “B” Component 150-250 cps “A” Component
Shelf Life**	6 months @ 20°C to 30°C

* Dependent upon hose length.

** May be extended by re-certification by retain/drum analysis

Handling Information

Applicators should ensure the safety of the jobsite and construction personnel by posting appropriate signs warning that all “hot work” such as welding, soldering, and cutting with torches should not take place until a thermal barrier or approved equivalent is installed over any exposed polyurethane foam.

Per Lift Application

Applicators should limit per lift thickness of EcoBay™ CC CAN system to 50 mm for optimal processing and physical properties. Second lifts, if necessary, should be applied after 10 minutes of cure time. If additional lifts are needed, applicators should wait 30 minutes between lifts for optimal foam processing. For substrates with special sensitivity to heat, the resultant exotherm must be considered before application of SPF. It is the responsibility of the applicator to ensure SPF exotherm will not adversely affect substrates.

Health and Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling EcoBay™ CC CAN system. Before working with this product, you must read and become familiar with the available information on its risks, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets, safe use and handling brochures, and product labels. More resources are available at polyurethane.org, sprayfoam.org, spraypolyurethane.com, baycareonline.com, or by contacting the Bayer MaterialScience Product Safety and Regulatory Affairs Department in Toronto, Ontario, Canada.

Note: The information contained in this bulletin is current as of May 2012, please contact Bayer MaterialScience to determine whether this publication has been revised.

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