

DESCRIPTION

Comfort Lock HFO is Closed-Cell Medium Density Spray Polyurethane Foam insulating material that has been tested by QAI organization and evaluated by the **Canadian Construction Materials Centre (CCMC 14509-L)** and **Underwriters Laboratories (ULC ER-R40655-R1.1)**. This product has achieved Class A rate under the International Building Code for flame spread. It also complies with the CAN/ULC-S705.1-15 "Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification." Comfort Lock HFO elements are under a UL quality audit program where UL/ULC Field Engineering staff audit material manufacturing facilities, details of the product are on file at ULC and are described by Comfort Lock HFO, Revision 1.

Comfort Lock HFO must be applied by CALIBER licensed installers under the application standard CAN/ULC S705.2.

Comfort Lock HFO is a low VOC emitting and low GWP (Global Warming Potential) <1 (Kg CO2 eq) material. It meets the requirements of the **GREENGUARD** and **GREENGUARD GOLD** certifications. It can be used for residential, schools, healthcare facilities, industrial, and institutional building application where proper insulation is in need. Comfort Lock HFO also creates a bond to almost every kind of construction material on market. It can be applied to walls, roof, rim joists, crawl space foundations and most difficult space. Comfort Lock HFO is a spray applied, rigid polyurethane medium density foam insulation. The site sprayed foam system consists of two components, isocyanate, and resin. The colour of the cured foam is **Sky Blue**.

TYPICAL PHYSICAL PROPERTIES

Physical Properties	Result	Standard
Apparent Core Density	35kg/m ³	ASTM E1622-14
Compressive Strength	183kPa	ASTM D1621-16
Tensile Strength	216kPa	ASTM D1623-17
Open Cell Content	5%	ASTM D6226-15
Water Absorption	0.7%	ASTM D2842
Water Vapour Permeance	47 Pa.s.m ²	ASTM E96/E96M-16
Dimensional Stability (after 28 days) Volume % Change at:		
-20°C	-1	ASTM D2126-15
80°C	2	
70°C, 97 ± 3% RH	6	
Flame Spread Rating (FSR)	15 (Class A)	CAN/ULC S102 & CAN/ULC S127
Smoke Developed Classification	445 (Class A)	CAN/ULC S102 & CAN/ULC S127
Air Permeance, L/s @ 75 Pa (Mandatory material only testing)	0.004 (L/s. m ²)	ASTM E2178-13
Time of Occupancy (VOC)	24 hours	CAN/ULC S774:2020
Fungi Resistance	No Fungal Growth	ASTM C1338
Service Temperature		-60°C to 80°C

LONG-TERM THERMAL RESISTANCE

Test Method: CAN/ULC S770-09

Thickness mm/inches	R Value (ft ² *hr*°F/BTU)	RSI (m ² *K/W)
50/1.97	11	1.87
75/2.95	17	2.90
88.9/3.5	20.61	3.63
102/4	24	4.23
127/5	31.03	5.47
152/6	38.05	6.7
177.8/7	45.19	7.96
203/8	52.6	9.26
228.6/9	60.04	10.58

REACTIVE PROFILE

CREAM TIME	GEL TIME	RISE TIME
0-1 seconds	2-3 seconds	4-5 seconds

LIQUID COMPONENT PROPERTIES

Shelf Life	6 months
Storage Temperature Recommendation	10°C - 25°C (50°F - 77°F)
Drum Mass	248KG/ 246.5KG
Colour	Sky Blue
Viscosity at 25°C (77°F)	200-400 cps
Specific Gravity at 25°C (77 °F)	1.05-1.15
Ratio (parts by Volume)	100 (1 part)

ADDITIONAL INFORMATION

Physical Properties	Description
Ultraviolet (UV) Exposure	3 months

APPLICATION

In accordance with National Building Code of Canada CAN/ULC S705.2, it is required to apply in single passes of minimum of 15mm (0.6 inches) to maximum passes of 50mm (2 inches) and required cooling time between passes must be followed. For the application falls outside the scope of the National Building Code of Canada CAN/ULC S705.2, it can be applied in single passes of minimum of 15mm (0.6 inches) to 102mm (4 inches). Failing to adhere to the minimum required cooling time increases the likelihood of experiencing post-growth scorching and/or fire hazards.

Number of passes	Single pass thickness	Total thickness	Wait time between passes (Summer/Winter Foam)
2	2"	4"	**0 Minutes
3	2"	4" to 6"	15 Minutes
4	2"	6" to 8"	30 Minutes

****If the temperature of the initial 2 inches exceeds 107°F (41.7°C), it is suggested to take a 5-minute break between the first two passes of winter foam.**

Comfort Lock HFO should not be left exposed and in close contact from heat emitting devices. A thermal barrier must be installed as per local building code requirements.

Storage Recommendations

- The Blend Polyol should be stored in sealed containers, to avoid absorption of water vapour
- During transportation, protect the product from excessive shaking, and avoid sunlight exposure
- Product should be stored in a ventilated space, away from light, water, and fire.

Safety Precautions

- Direct contact with Comfort Lock HFO leads to eye and skin irritation
- Repeated inhalation of volatile gas will cause respiratory allergy- seek immediate medical treatment
- Always wear protective equipment when handling product-gloves, protective goggles, protective clothing
- If exposed to eyes: immediately rinse with water for at least 15 minutes
- If exposed to skin: wash with soapy water
- If swallowed: SEEK EMERGENCY MEDICAL TREATMENT IMMEDIATELY!

Disclaimer: The use of any products supplied by Shunda Polyurethane Ltd. ("Corporation") is subject to the following disclaimer. It is the responsibility of the contractor to ensure that all work performed with our products is done by licensed contractors using licensed installers. The contractor acknowledges that the failure to comply with this requirement may result in damages, legal costs, and other expenses. The contractor hereby agrees to indemnify and hold Corporation harmless from any and all claims, damages, expenses, and liabilities arising from the use of our products by unlicensed contractors or installers. The contractor is solely responsible for determining the suitability of our products for their intended use, and for ensuring that all installation, use, and maintenance instructions are followed. Corporation shall not be liable for any damages, including but not limited to direct, indirect, incidental, consequential, or special damages, arising from the use or inability to use our products.

TECHNICAL ASSISTANCE

COMFORT LOCK HFO is a Registered Trademark with permission by SHUNDA POLYURETHANE LTD

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