



HEATLOK® SOYA HFO™

TECHNICAL DATA SHEET

Heatlok Soya HFO / Polarfoam Soya HFO are two component, low GWP, closed cell, spray applied, rigid polyurethane foam systems. This foam product has been tested by an independent recognized laboratory and is the first product that surpasses the requirements outlined in the most recent and stringent standard CAN/ULC S705.1-15 "Standard for thermal insulation – Spray applied rigid polyurethane foam, medium density – Material Specification". Heatlok Soya HFO/ Polarfoam Soya HFO material complies with the requirements of the National Building Code of Canada and is listed by the National Research Council Canada under CCMC Listing 14078-L, since 2017 as an insulation product. This product is commonly used as a thermal insulation product, air barrier, vapour retarder for interior, exterior applications above and below grade. Heatlok Soya HFO / Polarfoam Soya HFO uses recycled plastic materials, rapidly renewable soy oils, and 4th generation blowing agent with zero ozone depleting potential and < 1 global warming potential. This product meets all the requirements of the Paris, Kyoto and Montreal protocols. Heatlok Soya HFO is a GREENGUARD GOLD certified insulation material and it also carries its own Environmental Product Declaration (EPD)*. Heatlok Soya HFO/ Polarfoam Soya HFO is applied exclusively by CALIBER QAP licensed installers and contractors in accordance with the standard CAN/ULC S705.2.

PHYSICAL PROPERTIES - CCMC 14078-L - CAN/ULC S705.1-15

ASTM D 1622-14	Apparent Core Density	2.21lb/ft ³	35.49 kg/m ³
CAN/ULC S770-09	Long Term Thermal Resistance LTTR 100 mm 75 mm 50 mm	R-24 R-17 R-11	4.14 RSI 3.00 RSI 1.94 RSI
ASTM D 1621-16	Compressive Strength (@ 10% deflection)	24.8 lb./in ²	171 kPa
ASTM D 1623-09	Tensile Strength	58.16 lb./in ²	401 kPa
ASTM D 6226-15	Open Cell Content	5 %	
ASTM D 2842-12	Water Absorption by volume	0.64 %	
ASTM E 96-A-16	Water Vapour Permeance (50 mm thick, top skin removed)	0.23 perm	13 ng/Pa.s.m ²
ASTM E 2178-13	Air Permeance @ 75 Pa (30.7 mm thick, top skin removed)	0.0021 L/(s•m ²)	
CAN/ULC S102-10	Flame Spread Index Corner wall test Required and Declared Value (building code)	235	
ASTM D 2126-15	Dimensional Stability (28 days) (% volume change, sample without any substrate) @ -20°C @ +80°C @ +70°C & 97±3%R.H.	-0.1 -0.3 +8.5	
CAN/ULC S774-09 (R2014)	Time of Occupancy (VOC)	Pass (25 hours)	
ASTM C 1338-14	Fungi Resistance	No Fungal Growth	

PHYSICAL PROPERTIES – Additional Testing

CAN/ULC S770-03	Long Term Thermal Resistance LTTR 100 mm 75 mm 50 mm	R-25 R-19 R-12	4.24 RSI 3.26 RSI 2.03 RSI
UL Greenguard	Interior Air Quality	Certified Gold	
CAN/ULC S101	UL LISTED design wall FW FO7. EW24, 150mm (NBC 2010-15 art: 3.2.3.8)	Pass	
CAN/ULC S101	UL LISTED design wall FWFO7. EW25, 204mm (NBC 2010 -15 art: 3.2.3.8)	Pass	
K124/02/95* (ISO/TS 11665-13)	Radon gas resistance coefficient (for 50mm) Radon gas diffusion coefficient	17410.10 ⁶ s/m 1,3.10 ⁻¹⁰ m ² /s	
ASTM C411	Hot-Surface Performance of High-Temperature Thermal Insulation. @+80°C	Pass	
CAN/ULC S 741-20	Air Barrier Material NBC-2015 Art: 5.4.1.2 & 9.36.2.10	0,0005 L/(s m ²) / 28mm	

*829 times better than a 0.15mm polyethylene sheet at a thickness of 50mm.

RECYCLED & RENEWABLE CONTENT	
Recycled Content	18%
Renewable Materials Content	4%

REACTIVITY PROFILE			
Cream Time	Gel Time	Tack Free Time	End of Rise
0 - 1	3 seconds	5 - 6 seconds	5 - 6 seconds

LIQUID COMPONENT PROPERTIES *		
PROPERTY	ISOCYANATE	RESIN
Colour	Brown	Heatlok Soya HFO: Blue Polarfoam Soya HFO: Orange
Viscosity @ 25°C	150 – 350 cps	200 – 300 cps
Specific Gravity	1.20 – 1.24	1.19 – 1.21
Shelf Life*	6 months	6 months
Mixing Ratio (volume)	100	100
Vapour Pressure @ 25°C	10 ⁻⁷ psi	8 – 9 psi
Components system storage temperature recommendation	15 @ 25°C (59 @ 77°F)	15 @ 25°C (59 @ 77°F)

RECOMMENDED PROCESSING PROCEDURES		
Mixing Ratio A/B (volume)	1/1	
Mixing Dynamic Pressure (minimum)	5516 kPa	800 psi
Moisture Content of Substrate (wood)	<19%	<19%
Maximum Thickness Per Pass	50 mm	2"
Maximum Thickness of Successive Pases	100 mm	4"
Minimum cooling time period before applying over 100 mm (4") thick application	30 min	
Maximum Thickness in 24 h	200 mm	8"
PRODUCT VERSION	APPLICATION TEMPERATURES (AIR, SUBSTRATE & CURING)	LIQUID TEMPERATURE
Summer Version	30 @ 5°C (86 @ 41°F)	35 @ 46°C (95 @ 115°F)
Winter Version	10 @ -10°C (50 @ 14°F)	38 @ 49°C (100 @ 120°F)
Super Winter	0 @ -20°C (32 @ -4°F)	35 @ 49°C (95 @ 120°F)

General Information: It is recommended that the foam be covered with an approved thermal barrier in accordance with the applicable building code when used in buildings and covered by a UV coating when used outside. This product should not be used when the continuous service temperature of the substrate is outside the range of -60°C to 80°C (-76°F to 180°F). Do not apply excessive thickness in one application it may cause spontaneous combustion of the foam hours after the application. Respect the recommended procedures. Heatlok Soya HFO is green in color. Polarfoam Soya HFO is orange in color.

Disclaimer: The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. The foam product is combustible and must be protected in accordance with applicable codes. Protect from direct flame and spark contact, around hot work for example. The exclusive remedy for all proven claims is replacement of our materials.

