

## TECHNICAL DATA SHEET

Heatlok® HFO Pro is a two component, closed cell, spray applied, rigid polyurethane foam system. This product uses recycled plastic materials, and renewable content, and the blowing agent (HFO 1233zd) has zero ozone depleting potential. Heatlok HFO Pro complies with the intent of the International Code Council's residential and commercial building codes and is commonly used as a thermal insulation, air barrier, vapor retarder and water resistive barrier in above grade, below grade, interior and exterior applications.

PHYSICAL PROPERTIES		
EN 1602	Apparent density	32 - 36 kg/m <sup>3</sup>
EN ISO 4590	Closed cells content	98 %
EN 12667	Thermal Resistance (R-value)	@80 mm: 3.1 m <sup>2</sup> K/W
EN 1609, method B	Water permeability surface with skin Water permeability surface without skin	0.147 kg/m <sup>2</sup> 0.157 kg/m <sup>2</sup>
EN 1605	Deformation under comp. load	-5,2 %
EN 1604	Dimensional Stability (dimensional change)	-3.24 (% volume change)
VOC	Release of dangerous substances	<0.1 mg/m <sup>3</sup>
EN 826	Compressive Strength @10 % linear compression	166.65 kPa

FIRE TEST RESULTS		
EN 13501-1+A1	Reaction to fire	Class E

RECYCLED & RENEWABLE CONTENT	
Recyclable Content	12.5%
Renewable Content	1%

REACTIVITY PROFILE			
Cream Time	Gel Time	Tack Free Time	End of Rise
0 – 1 seconds	2 seconds	3 – 4 seconds	3 – 4 seconds

LIQUID COMPONENT PROPERTIES*		
PROPERTY	A-PMDI ISOCYANATE	HEATLOK HFO PRO RESIN
Color	Brown	Blue
Viscosity @ 25°C	ca. 200 mPas	ca. 350 mPas
Density @ 25°C	ca. 1.23 g/cm <sup>3</sup>	ca. 1.20 g/cm <sup>3</sup>
Specific Gravity	1.24 kg/dm <sup>3</sup>	1.17 - 1.21 kg/dm <sup>3</sup>
Shelf Life of unopened drum properly stored	12 months	6 months
Storage Temperature	10 - 38 °C	15 - 25 °C
Mixing Ratio (volume)	1:1	1:1

\*See SDS for more information.

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RECOMMENDED PROCESSING CONDITIONS*	
Initial Primary Heater Setpoint Temperature	41 – 46 °C
Initial Hose Heat Setpoint Temperature	41 – 46 °C
Initial Processing Setpoint Pressure	85 - 95 bar
Substrate & Ambient Temperature	> 10 °C
Moisture Content of Substrate	≤19%
Moisture Content of Concrete	Concrete must be cured, dry and free of dust and form release agents.

\*Foam application temperatures and pressures can vary widely depending on temperature, humidity, elevation, substrate, equipment and other factors. While processing, the applicator must continuously observe the characteristics of the sprayed foam and adjust processing temperatures and pressures to maintain proper cell structure, adhesion, cohesion and general foam quality. It is the sole responsibility of the applicator to process and apply Heatlok HFO Pro within specification.

General Requirements: Equipment must be capable of delivering the proper ratio (1:1 by volume) of polymeric isocyanate (PMDI) and polyol blend at adequate temperatures and spray pressures. Substrate must be at least 5 degrees above dew point, with best processing results when ambient humidity is below 80%. Substrate must also be free of moisture (dew or frost), grease, oil, solvents and other materials that would adversely affect adhesion of the polyurethane foam. Applicators should limit the application of this product to no more than a thickness of 50mm per pass (after expansion) to avoid fire hazards (including spontaneous combustion) resulting from excessive heat generation. A second 50mm layer may be applied immediately after the first one has fully risen. Alternatively, a single pass of up to 75mm may be applied. In either case, if subsequent passes are needed, applicators should wait until the core temperature of the foam has dropped below 38°C to allow any reaction heat to dissipate from the prior applications before attempting to reapply the product.

RECOMMENDED MAXIMUM PASS THICKNESSES	
Maximum Pass	76mm
Dual Pass (x" + x")	50mm + 50mm

Heatlok HFO Pro must be separated from the interior of the building by an approved thermal barrier or an approved finish material equivalent to a thermal barrier in accordance with applicable codes. Heatlok HFO Pro must be sprayed at a minimum thickness of 25mm per pass. This product must not be used when the continuous service temperature of the substrate or foam is below -51°C or above 82°C. Heatlok HFO Pro should not be used to cover flexible ductwork.

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.

