



Engineered for Energy Excellence



Ultra-low
GWP of 1

Superior Thermal
Performance

Contains
no HFCs

Zero Ozone
Depleting

ECOTITE HFO is designed to align with modern building science principles, enhancing energy efficiency and resilient construction. Elevate your project with a high-performance insulation system that delivers superior air sealing, exceptional thermal protection, and outstanding moisture control. **ECOTITE HFO** is compliant with the Paris, Kyoto, and Montreal Protocols, an internationally accepted agreement to lower the use of GWP gases.



SUSTAINABLE

Not only will a reduction in energy consumption be produced, a reduction in carbon emissions will also be seen



IMPROVED AIR QUALITY

Free of all CFCs, HCFCs, HFCs, and formaldehyde, once cured and in place product contains no health risks



CODE APPROVED

Exceeds the current requirements in the national building code of Canada (NBC) as per CAN/ULC S705.1



CERTIFIED APPLICATORS

Installed in accordance with CAN/ULC S705.2 by licensed contractors who use trained and certified installers



DESCRIPTION

ECOTITE HFO is a two component, closed-cell spray polyurethane foam (ccSPF) medium-density insulation system. Its high yield, superior thermal and moisture performance, environmental benefits and exceptional adhesion make it ideal for residential, industrial and commercial applications. ECOTITE HFO is available in a summer and winter blend

ECOTITE HFO must be applied by Urethane Foam Consultants (UFC) licensed installers under the application standard CAN/ULC S705.2. It is a low VOC emitting and low GWP (Global Warming Potential) <1 (Kg CO₂ eq) material making it significantly more environmentally friendly during application.

It can be used for residential, schools, healthcare facilities, industrial, and institutional building applications where proper insulation is in need. ECOTITE 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. The colour of the cured foam is Orange.

CHEMICAL PROPERTIES

(For components)

| | ISOCYANATE | RESIN |
|--|------------|----------|
| Viscosity, cps 25°C (77°F) | 200 | 600 |
| Specific Gravity 25°C (77°F) | 1.24 | 1.18 |
| Mixing Ratio By volume | 1 | 1 |
| Stability When Stored at 15-24°C (60-75°F) | 12 Months | 6 Months |

PHYSICAL PROPERTIES

(Cured Material)

| | TEST | RESULT |
|--|-----------------|---|
| Long Term Thermal Resistance (50mm Foam Depth) | CAN/ULC-S770-09 | RSI 1.90 (R 10.8) |
| Apparent Core Density | D1622 | 36 Kg/m ³ (2.2 lbs/ft ³) |
| Compressive Strength (Parallel to Rise): | D1621 | 175 kPa (25.4 psi) |
| Tensile Strength | D1623 | 445 kPa (64.5 psi) |
| Open Cell Content | ASTM D2856 | 2.5% |
| Water Vapor Permeance (41mm) | ASTM E96 | 48 Ng/Pa·s·m ² |
| Water Absorption (% Volume) | ASTM D2842 | 3.3% |
| Dimensional Stability (after 28 days) | | |
| Volume % Change at: -20°C | D2126-15 | +1% |
| Volume % Change at: 80°C | D2126-15 | +1% |
| Volume % Change at: 70°C, 97 ± 3% RH | D2126-15 | +9% |
| Flame Spread Rating (FSR) | CAN/ULC-S102 | < 500 |
| Air Permeance @ 25 mm | ASTM E2178 | 0.002 L/s·M ² |
| VOC Emissions | CAN/ULC S774 | 25 hours, passed |
| Fungi Resistance | ASTM C1338 | Pass no growth |

LONG TERM THERMAL RESISTANCE (CAN/ULC-S770-09)

(Cured Material)

| | R-Value per inch | RSI (m ² ·°C/W) |
|-------|------------------|----------------------------|
| 1.0" | 5.31 | 0.94 |
| 2.0" | 5.48 | 1.93 |
| 3.0" | 5.82 | 3.07 |
| 4.0" | 6.02 | 4.24 |
| 5.0" | 6.12 | 5.39 |
| 6.0" | 6.19 | 6.54 |
| 7.0" | 6.23 | 7.69 |
| 8.0" | 6.27 | 8.84 |
| 9.0" | 6.31 | 10.00 |
| 10.0" | 6.33 | 11.15 |



RECOMMENDED USES

ECOTITE HFO will provide excellent performance in a wide range of residential, commercial and industrial applications including:

| | | | | |
|-------------|----------------|-------------------|--------------|-------------------------|
| Walls | Ceilings | Floors | Attics | Crawlspaces |
| Foundations | Concrete Slabs | Residential Ducts | Plenums | Cold Storage |
| Freezers | Piping | Storage Tanks | Truck Bodies | Industrial Applications |

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. Temperatures of initial pass will be recorded to ensure that the core temperature is below 38°C (100°F) before applying the second pass, this will ensure adequate cooling time has occurred. This process will be repeated for each additional pass to ensure proper heat dissipation.

Apply foamed-in-place polyurethane insulation only when surfaces and ambient temperatures are within manufacturers' prescribed limits.

Recommended substrate temperature for Summer Grade: 10-50°C (50-122°F).

Recommended substrate temperature for Winter Grade: -10-25°C (14-77°F).

AIR BARRIER TESTING RESULTS

As per CAN/ULC-S742 Air Barrier Systems for Exterior Walls of Low-Rise Buildings: (< 0.05 L/s·m²) @ 75 Pa - A1 Classification

PROCESS SPECIFICATIONS

Equipment pre-heater temperature

| | | |
|--------------------------|--------------------|---------------|
| Component A | 40-52°C | 105-125°F |
| Component B | 40-52°C | 105-125°F |
| Hose temperature | 40-52°C | 105-125°F |
| Spray pressure (dynamic) | 1,000 to 1,500 psi | 70 to 100 Bar |
| Drum Temperature in Use | 20-30°C | 68-86°F |

STORAGE RECOMMENDATIONS

All material is to be sealed until ready for use. Keep drums closed during storage and out of a humid environment. Ensure a nitrogen blanket is in ISO drum. Keep drums out of direct sunlight. To ensure proper longevity of the products, unopened materials should be indoors within the temperature of 15-24°C (60-75°F).

SAFETY

Health Considerations - Consult the Safety Data Sheets. This chemical system requires the use of proper safety equipment and procedures. Please follow the product SDS for detailed information and handling guidelines. In addition to reading and understanding the SDS, all contractors and applicators must use appropriate respiratory, skin and eye Personal Protective Equipment (PPE) when handling and processing polyurethane chemical systems. Consistent use of personal proper protective equipment to prevent exposure during spraying and within the 24 hour-period after spraying is completed is critical to eliminating the health hazard. As with all SPF systems, improper application techniques such as: excessive thickness of SPF, spraying into or under rising SPF and off-ratio material, potential results of improperly installed SPF include: dangerously high reaction temperatures that may result in fire and offensive odors that may or may not dissipate. Improperly installed SPF must be removed and replaced with properly installed materials. Large masses of ECOTITE™ HFO should be removed to an outside safe area cut into smaller pieces and allowed to cool before discarding into any trash receptacle. AIR INTAKE UNITS SHOULD BE SHUT DOWN AND VENTS SEALED DURING POLYURETHANE SPRAY APPLICATIONS.

DISCLAIMER

The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Pinnacle West Enterprises Inc. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products distributed by Pinnacle West Enterprises Inc. will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.