HUNTSMAN
BUILDING SOLUTIONS

PROSEAL™ HFO
TECHNICAL DATA SHEET

THERMAL INSULATION AND AIR BARRIER
CCRR-1108

Specification Sections: 07 21 19 Foamed-in-Place Insulation, 07 27 00 Air Barriers

PRODUCT DESCRIPTION
Huntsman Building Solutions ProSeal™ HFO is a closed cell spray applied foam, which was developed using an EPA approved 4th generation blowing agent and when installed following application guidelines adheres tenaciously to framing members and substrates. It is a thermal insulation and air barrier material suitable in buildings in accordance with the IRC and the IBC including Type I, II, III, IV and V construction. It is a low VOC product allow-ing for 1 hour job site re-entry and 2 hour job site re-occupancy at ap-plicable ventilation rates. ProSeal™ HFO closed cell spray foam can be applied in a total thickness of 7 inches to achieve R-48. It provides excep-tional performance in minimizing heat transfer, moisture gain, air leakage, and improving racking strength.

- Wall Cavities
- Vented Attics
- Unvented Attics
- Ceilings
- Floors
- Piping
- Unvented Crawl Spaces
- Vented Crawl Spaces
- Foundations
- Concrete Slabs
- Ducts
- Cold Storage Areas

PROPERTIES OF CURED FOAM		
Characteristic	**Test Method**	**Value**
Core Density	ASTM D 1622	2.0 lb/ft³
Color		Cream
Aged Thermal Resistance: at 1”	ASTM C 518	R-6.2
at 2” (Calculated)		R-13
at 3” (Calculated)		R-20.4
at 3½”		R-24
Air Permeance	ASTM E 2178	< 0.02 L/s.m² at 1”
Water Vapor Permeance @74°F	ASTM E 96	1.4 perms @ 1” .95 perms @ 1.4”
Water Absorption	ASTM D 2842	2.36%
Dimensional Stability 28 days at 160°F, 100%RH	ASTM D 2126	≤4%
Compressive Strength	ASTM D 1621	28.1 psi
Closed Cell Content (% Volume)	ASTM D 6226	> 90%

BURN CHARACTERISTICS		
Surface Burning at 4 inches:	ASTM E 84	Class 1
Flame Spread Index		15
Smoke Development		350
Commercial Fire Resistance	NFPA 285	Assembly Passed*
Commercial Fire Resistance	ASTM E 119	1 & 2 Hour Ratings*
DC 315, No-Burn Plus ThB, F10E, Flame Seal	NFPA 286	> 15 minutes
Wall & Ceiling Application Maximum Thickness	ACC377	No Limit
Attic & Crawl Space Walls & Roof Uncoated Thickness	ACC377 Appendix X	Walls - 8” | Roof - 12”

*consult Huntsman Building Solutions Engineering Department for details.

• Huntsman Building Solutions ProSeal™ HFO must be covered with ½" of gypsum board, DC-315 intumescent paint coating @ 24 wet mils or approved thermal barrier.
• Huntsman Building Solutions ProSeal™ HFO is subject to all applicable National/State and County building codes regarding fire prevention. Requirements for Thermal Barrier and Ignition Barrier coverings must be met as per the applicable building code as required by the authority having jurisdiction.
• Huntsman Building Solutions ProSeal™ HFO per ACC377 Appendix X test reporting is approved for use in limited access attics and crawl spaces without an ignition barrier or an intumescent paint coating.

AIR BARRIER/ MECHANICAL VENTILATION
• Huntsman Building Solutions ProSeal™ HFO fills any shaped cavity, and adheres to most construction materials, creating assemblies with very low air permeance.
• Additional interior or exterior air infiltration protection is subject to applicable codes.
• All buildings insulated and air sealed with Huntsman Building Solutions ProSeal™ HFO must be designed to include adequate mechanical ventilation/outdoor air supply for optimum IAQ (Indoor Air Quality).
• For mechanical ventilation see ASHRAE Standard 62 –Ventilation for Acceptable Indoor Air Quality or any other acceptable good engineering practice.

WATER VAPOR PERMEANCE & ABSORPTION
• Huntsman Building Solutions ProSeal™ HFO is a Class II vapor retarder, at 1.4" thickness, which reduces the amount of moisture that can diffuse through the insulation.
• Huntsman Building Solutions ProSeal™ HFO meets FEMA criteria for resisting water absorption.
• It is resistant to moisture allowing it to be used below the base flooding elevation in flood prone areas.

ENVIRONMENTAL AND HEALTH
• Huntsman Building Solutions ProSeal™ HFO uses an environmentally friendly HFO blowing agent and therefore has zero ozone-depletion potential.
• Huntsman Building Solutions ProSeal™ HFO has the lowest Global Warming Potential (GWP of 1) value for foam insulation products.
• Huntsman Building Solutions ProSeal™ HFO is PBDE-free.
• 1 hour re-entry and 2 hour re-occupancy possible provided rate of air exchange (ventilation) during spraying and for noted time period thereafter equals or exceeds 10 air changes per hour.
• UL Greenguard Gold Certified

INSTALLATION
• Huntsman Building Solutions ProSeal™ HFO is installed by a network of Licensed Dealers, trained in its installation.
• Huntsman Building Solutions ProSeal™ HFO can be sprayed up to 3.5 inches with a second pass of 3.5 inches, with no wait time, in either a full 3.5 inch lift or in a combination of lifts immediately following one another.
• THIS FOAM MUST NOT BE APPLIED IN EXCESS OF 3.5 INCHES PER APPLICATION. TWO (2) BACK TO BACK MAXIMUM APPLICATIONS OF 3.5 INCHES TO ACHIEVE 7.0 INCHES ARE ALLOWED. FOR MORE THAN TWO PASSES, THE FOAM SHOULD BE ALLOWED TO COOL FOR 20 TO 30 MINUTES OR UNTIL THE SURFACE TEMPERATURE HAS RETURNED TO AMBIENT BEFORE ADDITIONAL APPLICATIONS OF FOAM ARE ATTEMPTED. FOAM APPLIED IN EXCESS OF 7.0 INCHES OR WITHOUT ALLOWING FOR COOLING MAY RESULT IN, BUT IS NOT LIMITED TO EXCESS HEAT BUILD-UP AND RESULT IN FIRE OR THE GENERATION OF OFFENSIVE ODORS THAT MAY NOT DISSIPATE WITH TIME.
• LIMITATIONS: Wood, concrete and gypsum board sheathing sub-trates may receive 3.5 inches per application. Substrate thinner than 22 gauge and gypsum board attic floor substrates should be applied at 1 inch for the first pass. Low voltage wiring should not be encased in a single 3.5 inch pass.
• This product should not be installed within 3" of heat emitting devices, (or as specified by Code) where the temperature is in excess of 180°F, in accordance with applicable codes.
• It can be installed at ambient temperatures between
  20°F and 40°F (winter blend)
  40°F and 85°F (regular blend)
  80°F and 120°F (summer blend)

• **Heat settings, hose and preheaters**
  Summer 105º-120ºF (115ºF average starting point)
  Regular 105º-125ºF (118ºF average starting point)
  Winter 110º-125ºF (115ºF average starting point)

• **Pressures**
  4242 mix chamber 1000-1250 psi (recommended)
  5252 mix chamber 1000-1150 psi (recommended)

• When spraying passes at or over 2.5" it is optimal to spray it like open cell (side to side) to obtain the highest possible yields so adjust the pressures accordingly
• Surface preparation is generally not necessary.
• Within seconds, the foaming process is complete.

HANDLING AND SAFETY
For information on Health and Safety, refer to the Spray Polyurethane Foam Alliance Health and Safety guidance documents at www.spraypolyurethane.com.

AVAILABILITY
Contact Huntsman Building Solutions at 817-640-4900 or visit our website at www.huntsmanbuildingsolutions.com.

WARRANTY
WHEN INSTALLED PROPERLY IN ACCORDANCE WITH INSTRUCTIONS, THE COMPANY WARRANTS THAT THE PROPERTIES OF THE PRODUCT MEET PRODUCT SPECIFICATIONS AS OUTLINED IN THIS TECHNICAL DATA SHEET. SAVE AND EXCEPT ANY EXCLUSIONS REFERENCED IN THE WARRANTY.

TECHNICAL
Huntsman Building Solutions Licensed Dealers and Huntsman Building Solutions provide support on both technical and regulatory issues. Architectural specifications in CSI 3-Part format and design details are available at our website at www.huntsmanbuildingsolutions.com.

REGULATORY
- Huntsman Building Solutions ProSeal™ HFO has been tested as per the requirements of the International Code Council Evaluation Service's AC377 Acceptance Criteria (April 2016).
- Meets ASTM C1029 Type II classification.
- For regulatory issues concerning Huntsman Building Solutions ProSeal™ HFO contact Huntsman Building Solutions at 817-640-4900.

RELATED REFERENCES
All physical properties were determined through testing by accredited third party agencies. Huntsman Building Solutions reserves the right to change specifications in its effort of continuous improvement. Please confirm that technical data literature is current.

PACKAGING AND STORAGE
- Packaging - 55 US gallon, closed top steel drums
- Component 'A' – 520 lb. per drum. Base Seal® MDI
- Component 'B' – 480 lb. per drum. Huntsman Building Solutions ProSeal™ HFO – Resin
- Huntsman Building Solutions ProSeal™ HFO (Component A and Component B) ideally should be stored between 65ºF (18°C) and 85ºF (30°C).
- Component A should be protected from freezing.
- Shelf life is 6 months.