



## 4700 HFO Series Spray Polyurethane Foam

## Technical Product Data

### Overview

4700 HFO is a two component, 3lb density, one to one by volume spray foam designed for roofing systems. 4700 HFO is intentionally formulated without harmful HFCs, leading to an exceptionally low Global Warming Potential (GWP.) This system creates continuous insulation without any thermal breaks, ensuring exceptional resistance to wind uplift. It also boasts self-flashing properties, guaranteeing a watertight and durable roofing system.

### Environmental Health & Safety Information

Prior to engaging with this product, it is imperative to thoroughly review and acquaint yourself with the provided information, including the Safety Data Sheet (SDS), outlining the associated risks, appropriate usage guidelines, and safe handling procedures. All contractors and applicators are required to utilize suitable Personal Protective Equipment (PPE), such as respiratory, skin, and eye protection, when dealing with and processing spray foam systems.

### Jobsite Warnings

Applicators must prioritize the safety of the jobsite and construction personnel. Since SPF Insulation is combustible, it is essential to display appropriate signs cautioning against any hot work such as welding, soldering, or torch cutting, until a thermal barrier or an approved equivalent is installed over exposed polyurethane foam. Applicators should also take precautions against overspray, which can travel considerable distances in the wind. Intake vents should be covered, and warning signs should be used at ground level. Just as with all SPF systems, improper application techniques should be avoided. Examples of improper techniques include excessive thickness of SPF, off-ratio material usage, and spraying into or under rising SPF. Potential consequences of improperly installed SPF include dangerously high reaction temperatures that may lead to fire and offensive odors that may or may not dissipate. In the event of improperly installed SPF, it must be promptly removed and replaced with properly installed materials.

### Processing Parameters

Dynamic Fluid Pressure	1,250 - 1,500psi
Mixing Ratio	1:1
Hose Heat	120 - 135°F
Preheat Temperature	"A" & "B" Component 120 - 135°F
Drum Temperature in Use	65 - 88°F
Recommended Mixing Chambers	02-04

\*The processing equipment should have the capacity to deliver the polymeric isocyanate (PMDI) and polyol blend in a 1:1 volume ratio at suitable temperatures and spray pressures. The substrate must maintain a minimum temperature that is at least 5 degrees above the dew point. Optimal processing results are achieved when the ambient humidity is below 80%. It is essential that the substrate remains free from any moisture, including dew or frost, as well as any contaminants like grease, oil, solvents, or materials that could negatively affect the adhesion of the polyurethane foam. To prevent fire hazards, such as spontaneous combustion resulting from excessive heat generation, applicators should limit the application thickness of this product to no more than 1.5" per pass after expansion. If additional passes are required, applicators must wait until the foams core temperature has dropped below 100°F to allow dissipation of any reaction heat from prior applications before reapplying the product.

### Processing Parameters

Storage Temperature	50 - 90°F
Suggested Ambient Ranges	Fast Speed (50-75°F) Regular (60-85°F) Slow (75-100°F)
Ambient Temperature	>5°F above dew point
Moisture Content of Substrate	<19%
Max Lift per Pass	1.5"

Core temp should be 100F or less before a subsequent pass

\* Foam application temperatures and pressures are subject to considerable variation due to factors like temperature, humidity, elevation, substrate, and equipment. While applying PM foams crucial for the applicator to continuously monitor the sprayed foams characteristics and make necessary adjustments to processing temperatures and pressures to maintain the desired cell structure, adhesion, cohesion, and overall foam quality. The applicator bears the sole responsibility for ensuring that PM foam is processed and applied within specified parameters. The Equipment Settings chart offers initial optimum settings, but real operating ranges will fluctuate with changes in ambient air conditions, humidity, moisture, and substrate temperatures. Extreme conditions can significantly impact foam yield, adhesion, and cured physical properties, necessitating adjustments by the applicator as conditions change.

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Property	Test Method	Value
R-Value	ASTM C518	6.2 @ 1"
Core Density	ASTM D1622	3 pcf
Water Vapor Permeance	ASTM E96	1.0 perms @ 1"
Air Permeance	ASTM E2178	<0.02 L/sm <sup>2</sup>
Tensile Strength	ASTM D1623	55 psi
Compressive Strength	ASTM D2126	55 psi
Viscosity		700-1,000 cps
Shelf Life		6 months
Specific Gravity		1.20
Flame Spread	ASTM E-84	< 75
Building Code	UL 790	Class A

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