



Precision-Fit Neopor® GPS Inserts for High-Performance Window & Door Systems

PRODUCT OVERVIEW

ThermaCore UltraFit™ is a precision-machined, cavity-fit insulation insert engineered specifically for window, door, and curtainwall frame systems. Manufactured from Neopor® GPS F5000 Plus rigid insulation, UltraFit delivers high thermal resistance, low water absorption, and exceptional dimensional stability, while being custom-cut to match OEM profile geometries with tight tolerances.

Unlike generic board stock, UltraFit is engineered for fenestration — improving frame U-factors, reducing thermal bridging, and increasing condensation resistance without altering manufacturing workflows.

KEY BENEFITS

THERMAL PERFORMANCE

- R-value of ~5 per inch
- Reduces frame thermal bridging
- Improves NFRC-modeled U-factors
- Enhances condensation resistance
- Thermal conductivity of 0.028 W/(m·K)

PRECISION FIT

- CNC-machined to match OEM cavity geometry
- Consistent fit across complex multi-chamber profiles
- Maintains air paths, drainage, and pressure-equalization zones

MATERIAL ADVANTAGES

- 16 PSI compressive strength
- 0.3% water absorption
- 1.0 perm vapor permeance
- 2% dimensional stability

CODE & SAFETY COMPLIANCE

- ASTM E84 flame spread ≤ 25 , smoke ≤ 450
- UL 263, UL 723, UL 790, UL 1256
- NFPA 285 & NFPA 286 compliant assemblies
- GREENGUARD Gold certified
- ICC ESR-2784 / UL ER 5817-02

TYPICAL FENESTRATION APPLICATIONS

Vinyl Windows & Patio Doors

Multi-chamber sash and frame cavities, reinforcement-adjacent chambers, thermal break enhancement zones.

Aluminum Windows & Curtainwall

Deep mullions, pressure-plate systems, intermediate vision mullions, perimeter insulation zones.

Hybrid & Composite Systems

Steel-reinforced vinyl, aluminum-clad vinyl, fiberglass frames.

PERFORMANCE IMPACT (TYPICAL RANGES)

Metric	Improvement
Frame U-Factor	5–25% reduction
Condensation Resistance	+3 to +12 points
Linear Thermal Transmittance	10–40% reduction
Edge-of-Glass Temperature	+1.5°C to +5°C

MATERIAL SPECIFICATIONS

Property	Value	Method
R-Value per inch	4.7	ASTM C518
Compressive Strength	16 PSI	ASTM C578
Water Absorption	0.3%	ASTM C272
Vapor Permeance	1.0 perm	ASTM E96
Dimensional Stability	2%	ASTM D2126
Flame Spread	≤ 25	ASTM E84
Smoke Developed	≤ 450	ASTM E84

AVAILABLE THICKNESSES

R-Value	Thickness
3.0	11/16"
3.5	3/4"
5.0	1-1/16"
7.5	1-5/8"
10.0	2-1/8"
12.5	2-11/16"
15.0	3-1/8"
20.0	4-1/4"

MANUFACTURING & QUALITY

- Precision CNC cutting with ± 1.0 mm tolerance
- CAD-based cavity mapping
- Reinforcement-compatible designs
- Manufactured under BASF Neopor® quality guidelines

SECTION 08 51 00 – WINDOWS

SECTION 08 44 13 – GLAZED ALUMINUM CURTAIN WALLS

Provide precision-fit Neopor® GPS insulation inserts, CNC-machined to match OEM frame cavities. Inserts shall be manufactured from Neopor® GPS F5000 Plus with a minimum R-value of 4.7 per inch, compressive strength of 16 PSI, water absorption $\leq 0.3\%$, and flame spread ≤ 25 . Inserts shall maintain drainage, pressure-equalization, and structural reinforcement zones as defined by the window or curtainwall manufacturer.

ENVIRONMENTAL CERTIFICATIONS

- GREENGUARD Gold
- Low VOC emissions
- IgCC Section 806.6 compliant
- Recyclable EPS material

CONTACT INFORMATION

Stream Infinity
info@streaminfinity.ca
www.streaminfinity.ca