



# PIPFOAM 250CG-SLOW

## TECHNICAL DATA SHEET

PIP Foam 250CG-Slow is a two components, closed-cell, urethane rigid foam system, specially formulated for pour-in-place applications. PIP Foam 250CG-Slow, uses a zero ozone depleting blowing agent technology with a zero ODS (ozone depletion substances) and <5 GWP (Global Warming Potential).

Applications:

- Insulation panels
- Residential and Garage Doors
- Wall Cavity
- Structural panels.

PHYSICAL PROPERTIES			
Thermal Resistance R (2 in. thick panel, 2 days @ 73°F (23°C))	6.1 – 6.4 ft <sup>2</sup> •h•°F/Btu•in	1.07 – 1.12 m <sup>2</sup> •°C/W	ASTM C 518
Thermal Conductivity K (2 in. thick panel, 2 days @ 73°F (23°C))	0.156 – 0.163 Btu•in/ft <sup>2</sup> •h•°F	0.887 – 0.927 W/m <sup>2</sup> •°C	ASTM C 518
Compressive Strength	28 +/- 5% psi	193 +/- 5% kPa	ASTM D 1621
Water Absorption	1.69%		ASTM D 1623
Dimensional Stability (% volume change @ 28 days)			ASTM D 2126
158°F (70°C), Ambient Relative Humidity	-0.64 %		
-22°F (-30°C), Ambient Relative Humidity	-0.67 %		
US Coast Guard Code ARTICLE 183.114			
Vapor test	Pass		ASTM D 2842
24hr Gasoline test	Pass		
30 days Gasoline test	Pass		
24hr Oil #2 test	Pass		
30 days Oil #2 test	Pass		
24hr Bilge Cleaner test	Pass		
30 days Bilge Cleaner test	Pass		
Military Test Standard MIL-P-21929C			
Section 4.6.1 - Density	Pass		ASTM D 1622
Section 4.6.2 – Homogeneity of Cured Foam	Pass		MIL-P-21929C
Section 4.6.4 – Compressive Strength	Pass		ASTM D 1621
Section 4.6.5 – Volume Change After Heat Aging	Pass		ASTM D 2126
Section 4.6.6 – Volume Change After Humidity Aging	Pass		ASTM D 2126
Section 4.6.7 – Compression Set	Pass		MIL-P-21929C
Section 4.6.8 – Water Absorption	Pass		ASTM D 2842
Section 4.6.9 – Unicellularity	Pass		ASTM D 2842
Section 4.6.10 – Oil Resistance	Pass		ASTM D 471

Huntsman Building Solutions PIP Foam 250CG-Slow meets the requirements of the US Coast Guard Specification “Code of US Regulation”: Navigation and Navigable Waters Article # 183-114. Huntsman Building Solutions PIP Foam 250CG-Slow also meets several requirements of Military Test Standard MIL-P-21929C “Military specification for plastic material, cellular polyurethane foam-in-place, rigid” as describe in the physical property table of this Technical Data Sheet. All of these tests were performed at an independent laboratory.

**LIQUID COMPONENT PROPERTIES\***

PROPERTY	A-PMDI ISOCYANATE	PIP FOAM 250CG SLOW RESIN
Color	Brown	Greenish
Viscosity @ 77°F (25°C)	150 -350 cps	550 - 650 cps
Specific Gravity	1.24	1.12 - 1.18
Shelf Life of unopened drum properly stored	12 months	6 months
Storage Temperature	50 - 100°F (10-38°C)	50 - 85°F (10 - 29°C)
Mixing Ratio (weight)	100	100

\*See SDS for more information

**REACTIVITY PROFILE**

	Cream Time	Gel Time	Tack Free Time	Free Rise Density
Hand Mix*	40 - 50 seconds	160 - 190 seconds	400 - 500 seconds	2.0 - 2.2 lb/ft <sup>3</sup>
Machine Mix**	15 - 35 seconds	110 - 140 seconds	200 - 300 seconds	2.0 - 2.2 lb/ft <sup>3</sup>

\*Hand mixed using a 2" mixer @ 2500 RPM for 10 seconds, liquid components at 68°F (20°C).

\*\*High pressure machine (2500 psi), liquid components at 73°F (23°C).

**RECOMMENDED PROCESSION PARAMETERS\***

Type of Machine	High or low pressure PIP machine		Spray Machine	
Isocyanate Temperature	68 -77°F	20 - 25°C	95 - 105°F	35 - 41°C
Resin Temperature	68 -77°F	20 - 25°C	110 - 120°F	43 - 49°C
Hose Temperature	—	—	95 - 105°F	35 - 41°C
Mold or Panel Temperature	113 -131°F	45 - 55°C	110 - 130°F	43 - 54°C
Minimum In-place Density	2.5 lb/ft <sup>3</sup>	40 kg/m <sup>3</sup>	2.5 lb/ft <sup>3</sup>	40 kg/m <sup>3</sup>

\*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 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 PIP Foam 250CG-Slow within specification.

**General Requirements:** It is important to monitor the in-place density of the foam as stated in the Processing Recommendations section above. A lower density will result in poor physical properties. Furthermore, proper temperature of the substrates (113 – 131°F (45 – 55°C)) is critical in order to obtain a good adhesion of the foam to the substrate. It is the user's responsibility to test the product to ensure it performs to their expectations. This product should not be used when the continuous service temperature of the substrate is outside the range of -76°F (-60°C) to 300°F (150°C).

**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.

