



# PIPFOAM 400

## TECHNICAL DATA SHEET

PIP Foam 400 is a two components, closed-cell, urethane rigid foam system, specially formulated for pour-in-place applications. PIP Foam 400, uses a zero ozone depleting blowing agent technology with a zero ODS (ozone depletion substances) and <5 GWP (Global Warming Potential).

Applications:

- Insulation panels
- Wall Cavity
- Taxidermy
- Structural panels.

PHYSICAL PROPERTIES			
Thermal Resistance R (2 in. thick panel, 2 days @ 73°F (23°C))	5.6 – 6.4 ft <sup>2</sup> •h•°F/Btu•in	0.984 – 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 – 0.179 Btu•in/ft <sup>2</sup> •h•°F	0.887 – 1.016 W/m <sup>2</sup> •°C	ASTM C 518
Compressive Strength	50 +/- 10% psi	345 +/- 10% kPa	ASTM D 1621
Water Absorption	1.09 %		ASTM D 2842
Dimensional Stability (% volume change @ 28 days)			ASTM D 2126
158°F (70°C), Ambient Relative Humidity	-0.53 %		
-22°F (-30°C), Ambient Relative Humidity	-0.20 %		

LIQUID COMPONENT PROPERTIES*		
PROPERTY	A-PMDI ISOCYANATE	PIP FOAM 400 RESIN
Color	Brown	Greenish
Viscosity @ 77°F (25°C)	150 -350 cps	550 - 1000 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*	30 - 40 seconds	110 - 130 seconds	180 - 220 seconds	2.8 - 3.2 lb/ft <sup>3</sup>
Machine Mix*	10 - 20 seconds	65 - 80 seconds	100 - 140 seconds	2.8 - 3.2 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).

PROCESSING RECOMMENDATIONS*				
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 400 (HFO) 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 mold (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.

