

## Pouring Foams

**Pouring Foams** are a family of rigid water-blown foams designed especially for pour casting into molds to create very intricate very diverse parts. These pouring foam formulations may be custom blended to offer unique mechanical, thermal, non-burning, high compressive/shear strength properties along with specifically designed reactivity molding times such as creme time, gel time, tack-free and overall cure time. Specialized Industrial Materials offers these properties in a wide range of foam densities. Typical density pouring foams ranges from 2-10 pcf. These foams may also be colored and/or include bio-oils if needed to be considered "a green product". These pour casting foams are seen in a variety of applications in very diverse industries such as architectural wall and decorative part moldings, furniture and toy markets, specialty part moldings etc.

## TDS



Please contact our Customer Service and Technical Support Group for any questions or to provide direction with specific selection of a material system, questionable target applications, operational procedures, material pumping/pour machines, safety protection gear and clean-up.

POURING FOAMS PHYSICAL PROPERTIES						
DENSITY (PCF)	ASTM D1622	(2.0)	(2.5)	(3)	(5)	(10)
Fire Rating	ASTM E84	Class 1	Class 1	Class 1	Class 1	Class 1
Thermal Resistance (Rvalue)	ASTM C518	4.7(6.8)	4.7(6.8)	4.7(6.5)	4.7(5.5)	4.7(5.0)
Compressive Strength (psi)	ASTM D1621	25	37	50	100	201
Shear Strength (psi)	ASTM C273	22	26	35	85	127
Shear Modulus	ASTM C273	231	253	312	788	1011
Tensile Strength (psi)	ASTM D1623	227	44	62	165	227
Flexural Strength (psi)	ASTM C203	55	65	123	204	312
Flexural Modulus	ASTM C203	522	963	2356	4785	7055
Water Absorption (%vol)	ASTM D2842	<0.5	<0.1	<0.1	<0.1	<0.1
Water Vapor (perm-in)	ASTM E96	<1.0	<1.0	<1.0	<1.0	<1.0
Fungi Resistance	ASTM C 1338	None	None	None	None	None
Closed Cell Content (%)	ASTM D2856	>75	>90	>95	>95	>95

## TECHNICAL APPLICATION DATA

Pouring Foams are two component mixtures primarily designed with a 1A to 1B mix ratio. These foams may be hand batch mixed in small volumes or used in large volume dispensing using proper plural component machine. Typical working times may be creme-30-40 sec., gel time-90 sec and tack-free-20 sec. Caution must be used heavy thick pours where exhibit high exothermic temperatures of 230F may be seen. Specialized Industrial Materials, LLC also offers low exothermic reacting foams for specifically demanded projects.

Substrate must be dry while relative humidity < 85%. Volumetric expansion of these foams are related to their specific density. Pouring foams may be applied from 50 F up to 100 F and will handle 200 F functional operation temperatures. These foams yield excellent adhesion characteristics and are extremely water repellent depending on the closed cell content and density. These foams are not UV stable and not intended for direct exterior weatherability applications.

### Adhesion Results of Typical Substrates per ASTM D-4541 Elcometer

EPDM- Primed with Primer28	>300 psi	Cohesive failure; excellent substrate bonding
Concrete- clean	>300 psi	Cohesive failure; excellent substrate bonding
Steel- clean	>1000 psi	Cohesive failure; excellent substrate bonding
Wood- dry/dust free	>250 psi	Wood failure; excellent substrate bonding

**Preparation of substrate surface prior to primer is extremely important as durability is only as good as the weakest link in the coating system.**

Concrete must be fully cured and should be treated with a sandblasting depending on the severity of the concrete surface condition. For patching, use our calcium carbonate filled fast-set Acrylic Modified Epoxy applied by trowel. For expansion joints, use our Joist Seal applied by hand cartridge dispensing gun.

Metals must be prepared and standardly prepped to be clean. If surface deterioration is evident a general shot blasting is required.

Wood must dry and free of dust before applying any type of the epoxy-based primers. Depending on the nature of a foam, plastic or composite primers should be tested to achieve a secure cohesive failure. Please call or email our Technical Support Group for any questions regarding material, application or prospective uses.