



SILPAK FLEXIBLE FOAMS

SP 200-4 A/B SP 300-6 A/B SP 100-8 A/B SP 400-12 A/B

Polyurethane Flexible Foam Systems

Flexible Foam Series are two-component, self-skinning, non-CFC, polyurethane flexible foam systems. Thickness of skin can easily be controlled by proper mold temperature settings and the amount of mixed product packed in the mold. These foams can be hand mixed or machine dispensed. Small batch mixes are easily achieved using fast, aggressive mixing methods with larger mixes better achieved using a high shear mixing blade (Jiffy Mixer).
***Add CU Pigments to create pre-cooled parts.*

Features

- Excellent flow
- Fast de-molding time for increased production cycles

Applications

Recommended for making molded components for aircraft, automobile, recreational vehicle and furniture industries. Any application where low-density flexible foam is required:

- Arm rests
- Head restraints
- Dashboards
- Crash pads
- Side panels
- Steering wheels
- Special effects
- Puppets

Physical Properties (Typical Values) of Liquid Components @77°F (25°C)

Property	Test Method	Component A	Component B
Viscosity, cps	ASTM D-1638	600	1740
Specific Gravity	ASTM D-1638	1.17	1.04

Property	SP 200-4 A/B	SP 300-6 A/B	SP 100-8 A/B	SP 400-12 A/B
Density, per Cubic Foot	4 lb cu ³	6 lb cu ³	8 lb cu ³	12 lb cu ³
Expansion Rate (Volume)	<14 times	<10 times	<8 times	<5 times
Cream Time, seconds	60	60	60	60
Rise Time, seconds	90-120	90-120	90-120	90-120
Demold Time, minutes	15-25	15-25	15-25	15- 25

MIXING RATIO BY WEIGHT

Component A	34%	25%	34%	34%
Component B	66%	75%	66%	66%
*By Volume	47 A : 100 B	33 A : 100 B	47 A : 100 B	47 A : 100 B

Mold Preparation

Polyurethane foams adhere to most surfaces and a release agent should be applied prior to casting. For non-silicone molds (Plaster, Urethane RTV Rubber, Metal) a suitable release is recommended—**PartAll Paste Wax**, **PartAll Film #10** (PVA) or **Vaseline (Petroleum Jelly)**. Mold should also be completely free of any moisture. For optimal castings, mold should be heated to 80-125°F for initial casting. Once heated and cycled, mold should maintain heat for continued production.



Mixing

Shake or mix the A & B components prior to pouring weighted amounts. Material should be at good working temperature—80°F. Mix materials by recommended weight of A and B —off ratios can result in poorly formed parts and surface finish. A quick, high-speed mix using a Jiffy Mixer blade attached to a drill motor or air motor works best. A mix time of 10-15 seconds is required to thoroughly integrate A & B. Over mixing or under mixing can result in rejected parts. Pour immediately into mold cavity, swishing liquid over mold surface to improve product's surface skin and allow mold to remain undisturbed until foam has cured. Small batch mixes are easily achieved using fast, aggressive mixing methods. Several experimental parts will be needed to adjust the amount of material to achieve a satisfactory part.

Curing and Demolding

Leave mold undisturbed until part is fully cured—15 to 25 minutes. As foam rises, avoid agitating or vibrating the mold, which may cause the foam cell structure to collapse. De-molding times with urethane flexible foams will change with size of cast piece and temperatures of materials and tools. Allow additional curing time for smaller size parts.

Storage and Shelf Life

- A. **Component A** (Isocyanate) must be stored in tightly closed containers and kept protected from moisture and foreign materials. Storage area should be maintained at between 64°F and 86°F (18°C - 30°C).
- B. **Component B** (Resin) is hygroscopic. Containers must be kept closed to prevent absorption of moisture. Storage area should be maintained at between 64°F and 86°F (18°C - 30°C).

Shelf life of materials when kept in unopened sealed containers, at the recommended storage conditions, is 6 months. Containers should not be opened until ready for use. Once opened, storage life can be extended with the use of a purging gas—Nitrogen.

Accessories

Colorants

CU Pigments

All pigments should be added to the "B" side only at 1-2% of total weight of resin mix. Castable urethanes are affected by direct and indirect sunlight and should be painted with oil-based paint to protect color and surface.

- Red
- Yellow
- Fleshtone
- Black
- White
- Blue
- Brown

Releases

- **PartAll Paste Waxes** – Hi Temp Wax or Paste #2; Mold release for hard tooling molds
- **PartAll Film #10** – PVA liquid release; Cleans off part with warm soap and water

DISCLAIMER: The information and data contained herein are based on information we believe to be reliable. Each user of the material should thoroughly test application and independently conclude satisfactory performance before commercializing. Suggestions for uses should not be taken as inducements to infringe on a patent. Silpak or Polytek Development Corp. make no warranty expressed or implied, including incidental, consequential, or other damages, alleged negligence, breach of warranty, strict liability, tort, or any other legal theory arising out of the use or handling of this product.

Rev. 10.29.25