

SILPAK SP-200-4

Flexible Polyurethane Foam, 4 lb/ft³

SP-200-4 Flexible Polyurethane Foam is a two-component, self-skinning, non-CFC, polyurethane flexible foam system. This product offers excellent flow and fast de-molding times for increased production cycles. 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).

Features

- Self-skinning
- Excellent Flow
- Non-CFC
- Fast de-molding times

Applications

Recommended for making molded components where low-density flexible foam is required such as armrests, head restraints, dashboards, crash pads, side panels, steering wheels, special effects, and puppets in the following industries:

- Aircraft
- Recreational Vehicle
- Theater
- Automobile
- Furniture

Physical and Handling Properties

Property	Value
Density/cu ft (ft³)	4 lb / ft ³
Expansion Rate (volume)	<14 times
Cream Time, sec.	60
Rise Time, sec.	90-120
Demold Time, min.	15-25
Color	white
Mix Ratio, by weight	34% A : 66% B
Mix ratio by volume	47 A : 100 B
Initial Viscosity, at 77°F, Part A, cP	600
Initial Viscosity, at 77°F, Part B, cP	1740
Specific Gravity, Part A	1.17
Specific Gravity, Part B	1.04

Values listed above are typical and not intended for use in specifications.

Proper Use and Safety

Read all instructions and safety data sheets prior to use. Consult safety data sheets for all recommended safety precautions.

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 80-125F for initial casting. Once heated and cycled, mold should maintain heat for continued production.

Mixing

Shake or mix the B component prior to pouring weighted amounts. Material should be at good working temperature—80F. 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

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.

Finishing

Unfinished castings are subject to discoloration, yellowing, and chalking when exposed to direct or indirect sunlight and should be painted, coated, or sealed. Oil-based paints work well. Using an oil-based primer will improve paint adhesion. If release was used, wash the surface with grease dissolving soap or mineral spirits before painting. It is best to perform any finishing when parts are fully cured, 24-72 hours at 75°F.

Storage & 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 64F and 86F (18C - 30C).
- B. Component B (Resin) is hygroscopic. Containers must be kept closed to prevent absorption of moisture. Storage area should be maintained at between 64F and 86F (18C - 30C).

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

Colorant

CU Pigment Red, Yellow, White, Blue, Black, Brown, Fleshtone. All pigments should be added to the "B" side only at 1-2%. Castable urethanes are affected by direct and indirect sunshine and should be painted with oil based paint to protect color and surface.

Release

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.



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