

SILPAK SP-328-8

8 Lb. Rigid Polyurethane Foam

Silpak SP-328-8 casting foam consists of two parts (A and B) that, after mixing, forms rigid or flexible foam product with densities of 8 lb/ft³. Consider SP-328-8 for production of decorative objects, lightweight mold shells, production parts, models, patterns, fixtures, duplicate masters and general tooling use. SP-328-8 is practically odorless and does not contain toluene diisocyanate, MOCA, heavy metals or HCFCs.

Features

- Molded density of 8-20 lb/ft³.
- 1A:1B mix ratio by weight or volume
- Suitable for casting parts and filling voids

Applications

For production of:

- Decorative objects
- Lightweight mold shells
- Production parts
- Models
- Patterns
- Fixtures
- General tooling use

Physical and Handling Properties

Property	Value
Mix ratio by volume	1A : 1B
Mix ratio by weight	1A : 1B
Mixed Viscosity, cP	1,100
Cream Time	45 sec.
Rise Time	2 min.
Tack-Free Time	3 min.
Demold Time	10-15 min.
Free-Rise Density (lb/ft ³)	8
Molded Density (lb/ft ³)	8-20
Expansion Rate (Volume)	<9 times
Compressive Strength	160 psi

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

Mold Preparation

Silpak R-328-8 reproduces minute detail from molds or patterns but may stick when poured on improperly prepared surfaces. Polyethylene and silicone rubber molds do not require a release agent. When casting rigid foams, the use of an appropriate primer paint (or other water-based primer) sprayed in the silicone mold and allowed to dry before casting can help to extend mold life. It will also result in a pre-primed cast part and will help additional paint adhere to the part. Polyurethane rubber or metal molds must be dry and coated with a suitable release agent. Rubber molds and the overall mold construction must be strong enough so as not to distort when subjected to packing pressures.

Mixing

Before mixing foam, be sure that both Parts A and B are at room temperature and that all tools are ready. SP-328-8 foam sets fast -- meaning that you must work quickly. Measure or weigh Parts A and B into separate containers (e.g., polyethylene pails). Combine Parts A and B and mix immediately with a Turbo Mixer or other high-speed mixer until homogeneous. Small mixes can be stirred rapidly by hand. Pour mix into cavity as quickly as possible since foaming starts immediately. If too much time elapses, the foam will rise in the mixing container and the mix may be lost.

Once the containers of Parts A and B are opened, they should be used or resealed tightly since atmospheric moisture can contaminate the liquid. PolyPurge, a dry gas product, can be sprayed into opened containers of SP-328-8 foam to displace moist air before resealing containers to extend shelf life.

Curing

Packing SP-328-8 to a minimum of 2 to 3 lb/ft³ above its free-rise density is recommended to achieve good surface detail and mold fill. A lid with small vents to allow air to escape as foam rises should be firmly clamped in place prior to rise. Once foam begins to rise, avoid stirring or other movement that will cause cells to collapse. Castings should be allowed to remain in the mold until thoroughly cured. Parts demolded too soon may be subject to deformation. For best casting results, the mold should be warmed to 75 to 85°F prior to casting the first part. Once a mold is heated and cycled, it will maintain heat for continued production.

Flexible foam parts should be hand crushed after demold to minimize shrink and distortion.

Finishing

Cured SP-328-8 foam will yellow and chalk when exposed to sunlight and should be painted or sealed for exterior use (painting is not recommended on flexible foam). The foam can be easily drilled, sanded and machined. If a casting is to be painted or coated, adhesion of the coating should be checked carefully over a period of time to determine that it is satisfactory for the intended use.

Colors

Add PolyColor Dyes to Part B before mixing with Part A to create foams of any color. Add up to 0.5% PolyColor Dye of the total mixed weight when using PolyColor Black, Brown, Blue, Green, Red and Yellow. Add up to 2% PolyColor Dye of the total mixed weight when using PolyColor White and Fleshtone.

Proper Use and Safety

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

Storage & Shelf Life

For best results, store products in unopened containers at room temperature (60-90°F/15-32°C) and use products within six months from date of shipment.

Note on Foam Compaction Calculation

Determine the volume of the space you want to fill with foam in cubic inches (in³). Convert the volume to ft³ by dividing by 1728 in³/ft³. Determine the desired density of the foam part in pounds per cubic foot (lb/ft³). Note: Foam products are typically compacted to at least 25% more than their free-rise density to produce good quality parts. Therefore, to determine the quantity of foam needed, add at least 25% to the free-rise density (e.g., for RF-102, use at least 2.5 lb/ft³). Multiply the volume of the part (ft³) by the desired density (lb/ft³) to determine how many pounds of foam liquid to mix.



Example:

You intend to make a part that is 4320 in³.

Convert to ft³: $4320 \text{ in}^3 \div 1728 \text{ in}^3/\text{ft}^3 = 2.5 \text{ ft}^3$.

Desired density is 5 lb/ft³, so choose RF-102 and determine volume to pour based on packing to 5 lb/ft³.

DISCLAIMER: the information and data contained herein are based on information we believe is reliable. Each user of the material should thoroughly test application, and independently conclude satisfactory performance before commercializing. Suggestions of uses should not be taken as inducements to infringe on any patent. Silpak or Polytek Development Corp make no warranty expressed or implied, including warranties of merchantability or fitness for a particular use. Under no circumstances will Silpak or Polytek Development Corp. be liable for 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.