Barnes **Technical Data Sheet**

Product Name

S-FOAM 128 A/B
128kg Self Skinning Flexible Foam

RoHS COMPLIANT

Product Description

S-FOAM 128 is a variable ratio, self-skinning, 128kg density flexible foam. Skin thickness is controlled by material and mould temperature, and the loading of the mould. BJB Pigments may be added to the "B" side for developing a wide range of colours. S-FOAM 128 can be mixed by hand with a spatula, high shear mixer or machine dispensed. The 50/100 ratio yields the standard firm density of 128kg/m³, while mixing at 30/100 ratio will result in a softer feel but the density will increase 208kg/m³. This system is perfect for bumpers and crash pads, arms rests and seat cushions, movie props and special effects devices.

Handling Properties

Mix Ratio	Parts By Weight	Part A	50pbw
		Part B	100pbw
Density	Free Rise, kg/m³		128
Cream Time	@ 25°C		20-25 seconds
Rise Time			2-2.25 minutes
Demould Time	@ 25°C		30 minutes
Mix Ratio	Parts By Weight	Part A	30pbw
		Part B	100pbw
Density	Free Rise, kg/m³		208
Cream Time	@ 25°C		25-30 seconds
Rise Time			2 minutes
Demould Time	@25°C		30 minutes

Physical Properties

Specific Gravity	@ 25°C	Part A	1.15
		Part B	1.04
Colour		Part A	Amber
		Part B	Off-White
Viscosity	Cps @ 25°C Brookfield	Part A	425
		Part B	1915

The density and processing times listed are derived from a statistical average of long-term testing. We recommend a test mix be performed before use.

Processing – Please view the Barnes Guide, Processing Polyurethane Foams for full details.

Weighing materials separately rather than pouring together on a scale is the preferred method. This allows for more time when combining the materials and prevents premature reaction. Weights according to the specified ratio on the packaging should be closely observed.

As a general rule, both components of foam systems should be pre-warmed to between 24-29°. Colder temperatures can cause sluggish and poor expansion of the foams. Excessive heat will cause the foams to react quickly and may cause poor cell structure or cause the foam to collapse.

Prior to decanting the components, they should be gently stirred or mixed before adding them together.

Mixing is best with a high speed drill or air motor with Hanson Mixer or Barnes Pro Super Mixer. The mixer shears the material and provides a thorough mix within the 5-8 second period generally established for achieving a uniform blend.

The material should have a uniform blended appearance. Mixing too long or not enough can result in poor material performance.

Once mixed, the material should be immediately poured. If too much time goes by, the foam will rise in the mix container and the batch may be lost.

When pouring the foam, avoid trying to scrape any material form the container sidewalls or bottom. Generally, there is not enough time to do this and this material may not be thoroughly mixed.

It is recommended that SFOAM parts are crushed or squeezed after demoulding to remove residual gases remaining in the cell structure. This will help to reduce post shrinkage and aid in reducing natural odors from the foam parts.

Mould Preparation

The mould should be well sealed and released. Foams will seek moisture through release waxes and stick to mould surfaces if an insufficient seal exists. The type of sealer is dependant on the mould material. The mould should be warmed to between 24-29°C prior to casting the first part. Once a mould is heated and cycled, it generally maintains heat for continued production.

Release systems vary in accordance with the mould material, however, as a general rule we recommend Macwax and Challenge 95. As a general rule, silicone-based releases do not work successfully with either the SFOAM or RFOAM series. The silicone migrates and often causes poor surface conditions. Silicone can also inhibit the adhesion of paints and over-coatings.

The premium moulds for foam production (rather than short run prototypes and limited parts) are either machine aluminium moulds or epoxy moulds. Epoxy moulds offer the least expensive method for long term use when cycle times allow slower heat dissipation.

Storage

Containers should always be purged with dry nitrogen prior to replacing the lid after each use. Store both containers in an area where the temperature is between 21-32°C. When first using the material, a sample should be visually inspected to be sure no crystallization is present. Crystallization can occur during shipment and storage in cold weather. If the product appears cloudy or gummy, the components should be warmed with the containers open and stirred until the material returns to its proper smooth liquid consistency.

Do not shake the closed containers excessively. This could cause unmixed material to expand on its own.

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