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Rigid Foam SP-328 SERIES Product Data Sheet

SP-328 Series are liquid, two-component, closed cell, self-skinning, rigid polyurethane structural foam systems. Available densities range from 2.5 to 20 lb/ft³. These water blown foams offer good flow with easy 1:1 by volume mix ratios. SP-328 Series 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). Once cured, parts can be stained, sanded, or painted shortly after demolding. *SP-328-4TH* & *SP-328-12TH* are trowelable foam systems designed for building support mother mold shells.

Available Sizes: Pint Kit (2 lb) & Qrt Kit (4 lb) Gal Kit (16 lb) & 5 Gal Kit (80 lbs) 55 Gallon Drum Kit

Applications

Furniture production, duck decoys, floats, light weight furniture parts, picture frames, light weight mold shells (*SP-328 4TH*), models, patterns, custom sculpting blocks (*SP-328-4*), any application where a high-density, light-weight part is required.

TYPICAL PROPERTIES OF LIQUID COMPONENTS:

Property	Test Method	Component A	Component B
Viscosity Cps	ASTM D-2393	150-190	900-1300
Specific Gravity	ASTM D-1638	1.12	1.04

	Density (per Cubic Foot)	Expansion Rate (Volume)	Compressive Strength
SP-328-2 A/B	2.5 lbs	<36 times	40 psi
SP-328-4 A/B	4 lbs	<18 times	80 psi
SP-328-4 TH & 12 TH Trowel A/B	4 lbs & 12 lbs	<18 times & <6 times	80 psi & 300 psi
SP328-8 A/B	8 lbs	<9 times	160 psi
SP-328-12 A/B	12 lbs	<6 times	300 psi
SP-328-16 A/B	16 lbs	<4.5 times	460 psi
SP-328-20 A/B	20.2 lbs	<2.5 times	650 psi

PROCESSING CHARACTERISTICS: REACTIVITY DATA @ 77F (25C)

Mix Ratio:	"A" Component	50 Parts by Volume(52 by Weight)
	"B" Component	50 Parts by Volume(48 by Weight)
Cream Time:	1 minute	
Rise Time:	2 min / 30 sec.	
De-Mold:	10-15 min.	

Mold Preparation: Polyurethane foams adhere to most surfaces and a release agent should be applied prior to casting. Silicone RTV and hard tool molds (Aluminum, Fiberglass, Plaster, and Epoxy) can be used to mold foam parts. Prepare mold surface with proper mold release such as Mold Wax (*Partall High Temp Wax*) prior to casting when using non-silicone molds. Mold should also be completely free of any moisture. For optimal castings, mold should be heated to 75-85F for initial casting. Once mold is heated and cycled, it should maintain heat for continued production. **If using Silicone RTV Mold, ensure that rubber is stiff enough so as not to distort under the packing pressures of foam.*

Mixing: Mix materials by volume at recommended ratio—off ratios can result in poorly formed parts and surface. Mix A & B with high-speed mixer for 15-20 seconds, and pour immediately into mold cavity, swishing liquid over mold surface to improve product's surface skin. 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: Over-packing foams by 3-5% over their free-rise density is recommended to achieve best surface detail and mold fill. Proper mold venting such as the use of bleeder paper or a vented lid (holes drilled in various areas) that allows air to escape as foam rises should be firmly clamped in place prior to material rise. Once rise begins, avoid agitating or moving molds, which may cause foam cells to collapse. Castings should remain in mold until cured.

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 before painting.

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.

THE INFORMATION AND DATA CONTAINED HEREIN ARE BASED ON INFORMATION WE BELIEVE RELIABLE. EACH USER OF THE MATERIAL SHOULD THOROUGHLY TEST ANY APPLICATION, AND INDEPENDENTLY CONCLUDE SATISFACTORY PERFORMANCE BEFORE COMMERCIALIZING. SUGGESTIONS OF USES SHOULD NOT BE TAKEN AS INDUCEMENTS TO INFRINGE ANY PARTICULAR PATENT.