

FlexFoam-iT!® Series

Flexible Polyurethane Foams

3lb., 5 lb., 10 lb., 17 lb. or 25 lb.



www.smooth-on.com

PRODUCT OVERVIEW

Smooth-On's FlexFoam-iT!® Series consists of two-component flexible foams that are versatile and easy to use. Parts A and B are mixed and poured into a mold or other form (apply release agent if necessary). FlexFoam-iT!® III is mixed 1A:2B by volume, expands 15 times its original volume and develops a uniform 3 lb./cu. ft. cell structure. FlexFoam-iT!® V is mixed 1A:1B by volume, expands 10 times its original volume and develops a uniform 5 lb./cu. ft. cell structure. FlexFoam-iT!® X is mixed 1A:1B by volume, expands 6 times its original volume and develops a uniform 10 lb./cu. ft. cell structure.

FlexFoam-iT!® 17 and FlexFoam-iT!® 25 are "self-skinning" - they develop a tough skin that will reproduce fine mold texture. FlexFoam-iT!® 17 is mixed 1A:2B by volume, expands 3.5 times its original volume and develops a uniform 17 lb/cu. ft cell structure. FlexFoam-iT!® 25 is mixed 1A:2B by weight, expands 2 times its original volume and develops a uniform 25 lb/cu. ft cell structure. FlexFoam-iT!® Series foams expand to full volume in 5 minutes, develop handling strength in 30 minutes and fully cure in 2 hours. Vibrant colors can be achieved by adding SO-Strong® color tints.

FlexFoam-iT!® products can be used for a variety of arts & crafts, industrial and special effects applications including padding/cushion material, gasket material and scenic design.

TECHNICAL OVERVIEW

	A:B Mix Ratio by Volume	A:B Mix Ratio by Weight	Mixed Viscosity (ASTM D-2393)	Specific Gravity (g/cc) (ASTM D-1475)	Specific Volume (cu. in./lb.)	Color	Pot Life (Cream Time) (ASTM D-2471)	Handling Strength	Cure Time	Approx. Volumetric Expansion	Lbs. / Cu. Foot = Kgs. / Cu. Meter
FlexFoam-iT!® III	1:2 pbv	57.5:100 pbw	1000 cps	0.06	400-450	White	35 secs	30 mins	2 hrs	15 times	3 lb/ft ³ = 48 kg/m ³
FlexFoam-iT!® V	1:1 pbv	105:100 pbw	1000 cps	0.10	275-300	White	50 secs	30 mins	2 hrs	10 times	5 lb/ft ³ = 80 kg/m ³
FlexFoam-iT!® X	1:1 pbv	105:100 pbw	1000 cps	0.18	150-200	White	50 secs	30 mins	2 hrs	6 times	10 lb/ft ³ = 160 kg/m ³
FlexFoam-iT!® 17	1:2 pbv	100:185 pbw	1000 cps	0.27	95-103	White	60 secs	30 mins	2 hrs	3.5 times	17 lb/ft ³ = 270 kg/m ³
FlexFoam-iT!® 25	N/A	1:2 pbw	1000 cps	0.4	50-75	White	50 secs	30 mins	2 hrs	2 times	25 lb/ft ³ = 400 kg/m ³

* Values measured at room temperature (73°F/23°C)

PROCESSING RECOMMENDATIONS

PREPARATION...

Preparation - Store and use at room temperature (73°F/23°C). Environmental humidity should be as low as possible. Good ventilation (room size) is essential. This product has a limited shelf life and should be used as soon as possible. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. **Because no two applications are quite the same, a small test application to determine suitability for your project is recommended if performance of this material is in question.**

Applying A Release Agent - These foams will stick to just about anything. A release agent is necessary to facilitate demolding when casting into or over most surfaces and will extend mold life. **Use a release agent made specifically for releasing urethane foams such as Ease Release® 2831** available from Smooth-On or your Smooth-On distributor. **Do not use a silicone based release agent.** A liberal coat of release agent should be applied onto all surfaces that will contact the foam.

IMPORTANT: To ensure thorough coverage, lightly brush the release agent with a soft brush over all surfaces. Let the release agent dry for 30 minutes.

IMPORTANT: Shelf life of product is reduced after opening. Remaining product should be used as soon as possible. Immediately replacing the lids on both containers after dispensing product will help prolong the shelf life of the unused product. XTEND-IT® Dry Gas Blanket (available from Smooth-On) will significantly prolong the shelf life of unused liquid urethane products.

Safety First!

The Material Safety Data Sheet (MSDS) for this or any Smooth-On product should be read prior to use and is available upon request from Smooth-On. All Smooth-On products are safe to use if directions are read and followed carefully.

Keep Out Of Reach Of Children.

Be careful. Part A (Yellow Label) contains methylene diphenyl diisocyanate. Vapors, which can be significant if heated or sprayed, may cause lung damage and sensitization. Use only with adequate ventilation. Contact with skin and eyes may cause severe irritation. Flush eyes with water for 15 minutes and get immediate medical attention. Remove from skin with soap and water.

Part B (Blue Label) is irritating to the eyes and skin. Avoid prolonged or repeated skin contact. If contaminated, flush eyes with water for 15 minutes and get immediate medical attention. Remove from skin with soap and water. When mixing with Part A, follow precautions for handling isocyanates. If machining cured FlexFoam-It!®, wear dust mask or other apparatus to prevent inhalation of residual particles.

Important: The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe a copyright or patent. User shall determine suitability of the product for the intended application and assume all associated risks and liability whatsoever in connection therewith.

MEASURING & MIXING...

Liquid urethanes are **moisture sensitive** and will absorb atmospheric moisture. Mixing tools and containers should be clean and made of metal, glass or plastic. Materials should be stored and used in a warm environment (73°F/23°C).

Mixing can be done by hand or using a drill and a mixer attachment, such as a “squirrel” mixer. After dispensing required amounts of Parts A and B into mixing container, **mix thoroughly for 30 seconds**. Stir quickly and deliberately, making sure you scrape the sides and bottom of the mixing container several times. Be careful not to splash low-viscosity material out of the container. **Remember, these products cure quickly.** Do not delay between mixing and pouring.

POURING, CURING & PERFORMANCE...

Pouring & Curing - For best results, pour your mixture in a single spot at the lowest point of the containment field and let the mixture seek its level. Allow space in the containment field for the foam to grow as it expands to its ultimate volume. Allow foam to cure for at least 30 minutes before handling.

Improving Surface Finish & Minimizing Voids With Back Pressure - Use a board that will completely cover the mold opening. Using a 3/4" (2 cm) drill bit, drill 3 holes in the board spaced a few inches/cm apart. Make sure that when the board is placed over the mold opening the holes are over the mold cavity and rising foam will be able to make it through. Apply Ease Release® 2831 thoroughly to both sides of the board and into the drilled holes. Mix and pour FlexFoam-It!® into mold cavity and place board over mold opening. Secure board firmly in place (mold straps may be necessary). As foam rises in the mold cavity, some foam will grow out of the drilled holes. After the foam stops growing, you can let go of the board. Do not handle for at least 30 minutes. After 30 minutes, you can then cut excess material that came through holes and gently remove board and casting.

Is Your Foam Collapsing? - This is a common phenomenon associated with cold temperatures, inadequate mixing or both. **Environment or material too cold?** Warm it up. **Inadequate mixing?** You must thoroughly pre-mix both parts A and B. After combining A and B, mix thoroughly. If using a mechanical mixer, mix for 15 seconds and then hand mix for 15 seconds. When hand mixing, mix quickly and aggressively, almost whipping the material.



Call Us Anytime With Questions About Your Application

Toll-free: (800) 762-0744 Fax: (610) 252-6200

The new www.smooth-on.com is loaded with information about mold making, casting and more.