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Greenlink SB401

SURFBOARD BLANK FOAM

TECHNICAL DATASHEET

Greenlink SB401 is a two part polyurethane system comprises a polyol and isocyanate component. When mixed together in their correct proportions produce a fine-celled foam with a free rise density, 36 kg/m^3 . The system is designed for the use of moulding surfboard blanks. Typical foamed characteristics include exceptional fine cell structure, brilliant white colour and good colour stability. The isocyanate component contains free TDI. Important: Please read MSDS before using this material.

Component Properties

	Polyol	Isocyanate
Appearance	Clear blue tinted liquid	Hazy, near water white liquid
Brookfield Viscosity (cps) @ 20 °C	1800	3000
Specific Gravity @ 20 °C	1.08	1.24

Reaction Profile

Laboratory results based on hand-mix @ 20°C

Mix ratio by weight (Polyol: Iso)

100 : 235

Mix Time (seconds)	20
Cream Time (seconds)	60
Gel Time (seconds)	250
Tack Free Time (seconds)	450
Free Rise Density (kg/m^3)	36



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Mixing Procedures

1. The Isocyanate should be **accurately** weighed into a suitable container. Suitable containers include metal or plastic. Ensure the containers are clean and dry.
2. **The Polyol should be mechanically stirred before removing any material.** The polyol should be **accurately** weighed into the same container. The reaction between the two products essentially begins immediately when the two products meet.
3. The product should be mixed with an electric drill to which a paint mixer has been attached. It is essential that the drill is capable of mixing at least at 3000 rpm. A slower speed will produce poor quality foam.
4. The product should be hand mixed for typically 20 seconds. The mixing time will depend on a variety of factors including:

Cream time of the material: The product should be mixed and poured into the mould before the cream time has been reached.

The temperature of the poly/iso: If ambient and chemical temperatures are too high then the cream time is much faster.

Batch size: Generally a larger batch size will react faster than a smaller batch.

Mould Temperature

Ideally the mould temperature should be near 40 °C. With de-mould time around 60mins

Moulds

a. FABRICATION

Moulds can be fabricated from a variety of substances including metal, plastics and fiberglass. A mould release, such as Eralease LP-57 (based release agent) must be used before each moulding.

b. CONDITIONING

When using a new mould, some release agent conditioning of the mould surface maybe necessary. To do this, 2-3 coats of release agent should be applied one after another, with conditioning of the mould at 30-40°C between each coat to allow adequate penetration of the release agent into the mould surface and to allow sufficient time between each coat for solvent evaporation.

c. VENTING

These foams generate pressure inside a mould. It is important therefore to incorporate a few small (about 1 mm) vent holes or engineer controlled venting through the seams of the mould. This will allow contained air and gas to escape. It is important however, to only allow a minimal amount of material to escape. If a large amount escapes either through the vent holes or through the part line of the mould, it will cause large voids below the skinned surface.

d. POSITIONING OF MOULD

If a void free space is required it may be necessary to angle the mould in such a way that the air vents are at the highest point.

Postcure

Greenlink SB401 foam will cure at ambient temperatures, providing of course that these temperatures are over 15°C.

NOTE: The foams when de-moulded can still be “green”. It should therefore be handled carefully so as not to introduce a permanent set.

STORAGE CONDITIONS AND HANDLING

The components are sensitive to humidity and should at all times be stored in sealed drums. The recommended storage temperatures are 18-25°C, which will give a normal shelf life of 3 months. At elevated temperatures problems may arise with pressure build-up within the drums. When opening these drums extreme care must be exercised in releasing the internal pressure. It is recommended that the drum contents should be mixed well before use.

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HEALTH AND PERSONAL PROTECTION

Before handling these chemicals please consult the Material Safety Data Sheets for the two components. The polyol component contains tertiary amines. Contact with the skin or eyes must be avoided. Safety goggles and protective gloves should be worn whenever handling both of the chemicals. Splashes that come into contact with the skin must be wiped off immediately and the contaminated area washed with soap and water. Splashes in the eye must be flushed immediately with plenty of clean running water. If irritation occurs thereafter contact an eye specialist.

GENERAL INFORMATION

At temperatures less than 15°C the reaction rate of **Greenlink SB401** will be much slower resulting in an increase in density, and reduction in foam yield. Also at temperatures above 30°C the cream time will be drastically reduced.