

## Product Name

### R-FOAM 200 A/B 192kg Rigid Polyurethane Foam

## Product Description

R-FOAM 200 is a polyurethane foam system designed to allow the manufacture of self skinned or structural components. This system has a cream time of 65 seconds making it ideal for hand processing. By using high speed mixing and weighing accurately, it is possible to produce effective mouldings without the use of foam dispensing machinery. R-FOAM 200 has excellent flow properties and in some cases can be demoulded in as little as 10-15 minutes without warping. This system will perform best with both components adjusted to 25°C and moulds at 25-40°C.

## Physical Properties

Density	Free Rise	192 ±4 kg/m <sup>3</sup>
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## Handling Properties

Mix Ratio	By Weight	Part A	100 pbw
		Part B	100 pbw
Mix Time	@ 20°C		20 seconds
Cream Time	@ 20°C		65 ±5 seconds
Gel Time	@ 20°C		3 minutes
Tack Free Time	@ 20°C		3.5 – 4 minutes

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 Budget 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 from the container sidewalls or bottom. Generally, there is not enough time to do this and this material may not be thoroughly mixed.

## 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 25-40°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 JWax, Challenge 90 and Cearra Wax. 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 F720 Dry Air Blanket 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.

## Issue Date

5<sup>th</sup> July 2017

## Revision Number

1

## Disclaimer

The data presented in this leaflet are in accordance with the present state of our knowledge, and does not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. Recommendations for use do not constitute a warranty, either expressed or implied, of the fitness or suitability of the product for a particular purpose.