SYNTAC EPOXY RESINS

EPOXY RESINS FOR EVERY APPLICATION

REACTIVE RESINS offer several standard SYNTAC liquid epoxy resins that are suitable for most marine and industrial applications. We are also able to supply specialty resins tailored to suit individual applications. SYNTAC resins are cured with our range of SYNAMIN hardeners for ambient, low bake and heat cure processes.

- High quality resins manufactured by major companies
- Formulated by us to produce the best combination of properties.
- Special blends can be produced to suit any application

SYNTAC EPAFD is a marine industry standard low viscosity resin that contains di-functional reactive diluents that produce excellent physical properties and good heat resistance.

SYNTAC EPAFD is suitable for general marine and industrial use. It produces smooth coatings free from fish eyes or dimples. When mixed with SYNAMIN 200 series hardeners it can be used alone or with a range of fillers for general bonding, coating and laminating. Suitable for resin infusion and closed mould processes when used with SYNAMIN 300 and 400 series hardeners.

SYNTAC EPAFD-UV is a UV resistant grade of EPAFD that can be used with SYNAMIN 258 to produce coatings and laminates with excellent resistance to yellowing when exposed to sunlight.

SYNTAC EPAF is a blend of bisphenol A and bisphenol F type epoxy resins. It has medium viscosity and reactivity combined with excellent heat and chemical resistance due to its high cross-link density. Excellent for use as an adhesive and for fillet bonding etc. It can be used in winter conditions when SYNTAC EPA resin would be too viscous to handle.

SYNTAC EPA is a high viscosity bisphenol A type epoxy resin. It is our lowest cost resin and it has medium reactivity and good heat, water and chemical resistance. Its high viscosity is not a problem when used at temperatures above 15°C with SYNAMIN 200 series hardeners. Suitable for use as an adhesive and for general boat building applications. Not suitable for laminating, coating, resin infusion or injection due to its high viscosity.

SYNTAC EPAFMD is low viscosity industrial grade epoxy resin that contains a mono-functional reactive diluent. It has lower heat resistance and physical properties than our other resins but its lower cost makes it a popular choice for flooring, epoxy concrete etc.

REACTIVE RESINS also stock several other types of epoxy resins that are not shown here. If you require a resin for a specific purpose please we will be pleased to hear from you.

A selection of these products can be purchased on line at http://resinstore.com/epoxy-resins.html

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>SYNTAC EPAFD</th>
<th>SYNTAC EPAF</th>
<th>SYNTAC EPA</th>
<th>SYNTAC EPAFMD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity mPa.s at 25°C</td>
<td>650-750</td>
<td>5,000 - 6,000</td>
<td>11,000 - 13,000</td>
<td>650-750</td>
</tr>
<tr>
<td>Density</td>
<td>1.2</td>
<td>1.21</td>
<td>1.21</td>
<td>1.18</td>
</tr>
<tr>
<td>Equivalent weight</td>
<td>170 - 175</td>
<td>169 - 179</td>
<td>184 - 192</td>
<td>195-205</td>
</tr>
<tr>
<td>Pack sizes kgs</td>
<td>1, 5, 25 and 200 or 220</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

The hull and deck of this yacht were constructed from Kevlar and SYNTAC EPA epoxy resin with a pvc foam core using wet lay-up in a female mould and post cured at 45°C.

Please visit our web site at www.reactiveresins.com for details of our other products. They include resins and coatings for marine, industrial and flooring applications.
SUCCESSFUL WEIGHING, MIXING & APPLICATION

WEIGHING RESIN & HARDENER We recommend that our resins are mixed by weight because of the number of failures that occur when synthetic resins are proportioned by volume.

Proportioning pumps are often inaccurate and can clog if left unused. They are not air tight and hardener that is stored in bottles with pumps attached will rapidly deteriorate.

We recommend the use of digital scales to weigh out the resin and hardener accurately to obtain excellent results. The mix ratio for each product can be found on its label.

Simply tare off the mixing pot on the scales, pour in the required amount of resin, calculate the amount of hardener needed, tare off the scales again and accurately weigh out the hardener.

Inaccurate mix ratios will reduce heat & water resistance, and increase elongation. Serious proportioning errors will cause the resin not to cure at all and to form a sticky mass. Never try to accelerate or retard pot life by varying the amount of hardener.

Proportioning by weight is the only way to ensure that the cured resin will have optimal properties and perform as you intend.

MIXING Thorough mixing is also critical to the correct curing of the product and although small amounts can easily be mixed by hand, a spiral mixer used in a pneumatic or cordless drill is essential for mixing larger amounts. The pot life that is stated in the products literature will depend on the amount mixed and the ambient temperature, being roughly half the time at 25°C as it would be at 15°C. Epoxy resin is exothermic and large volumes will heat up and the heat will cause the resin to cure quickly. Pot life can be extended by pouring the mixed material into trays which will allow the exothermic heat generated by the curing reaction of the resin and hardener to dissipate. Epoxy resin in a thin film will take 5 to 10 times its pot life to cure. We manufacture our products in large quantities from the best quality raw materials to a strict quality control system. If you do have a problem, try another mix ensuring that the scales are zeroed before the resin is poured into the mixing pot. If the problem persists please contact us for advice quoting the products batch numbers.

CURING SYNAMIN ambient cure hardeners will cure down to 8°C but the physical properties of the cured resin will be less than when cured at higher temperatures.

FILLERS & ADDITIVES There are numerous fillers and additives which can be mixed with epoxy resin to make it suitable for a wide range of applications. A few examples are given below.

CELLULOSE FIBRES are excellent for giving body to the resin to enable it to be used more easily as an adhesive and improve its gap filling properties. The amount to use depends on the application but 10% cellulose to 90% resin and hardener is a good starting point.

HARD FILLERS such as talc or minex can be incorporated with epoxy resin to make a moulding or casting compound. The viscosity of the mixed product varies according to the amount of filler added.

LOW DENSITY FILLERS such as hollow glass microspheres can be mixed with epoxy resin to make an easy to sand low density filler. However, a pre-mixed filler such as EASY FAIR is easier to use and is dust free.

FUMED or COLLOIDAL SILICA can be used as a thixotropic (thickening) agent but it must be mixed in with a high shear mixer to avoid making the resin brittle.

HEALTH & SAFETY Always use eye protection and gloves when using any epoxy materials. Long nitrile rubber gloves are best because they resist solvent. When sanding epoxy coatings, fillers etc always wear a dust mask. Partly cured resins contain free amines and other chemicals that may be potentially dangerous if inhaled. Please refer to the products’ safety data sheet (available on request by post / email) for full health & safety information.

Please visit our web site at www.reactiveresins.com for details of our other products. They include resins and coatings for marine, industrial and flooring applications.