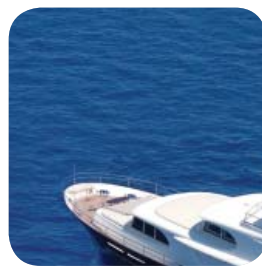


Adhesives for Marine



Introduction

SP-High Modulus, the marine business of Gurit, is a technical leader in the formulation of advanced epoxy resins.

Spabond adhesives have been designed to offer Production, Superyacht and Race boat builders a comprehensive range of adhesives for structural bonding of polyester and epoxy GRP boats.

Offering outstanding performance in numerous composite and non-composite bonding applications, and perfect partners for SP-High Modulus laminating products, Spabond adhesives offer ease of use, durability and a consistently high quality.

The Spabond range is supplied in various formats to suit different requirements. Cartridge applicators provide perfectly mixed adhesive to the joint, cleanly and with a minimum of waste. For larger volume applications Spabond adhesives can be mixed and dispensed using a range of mixing machines.

Mixing machine, application and surface preparation/pre-treatment guides can be downloaded from the Gurit website www.gurit.com/marine

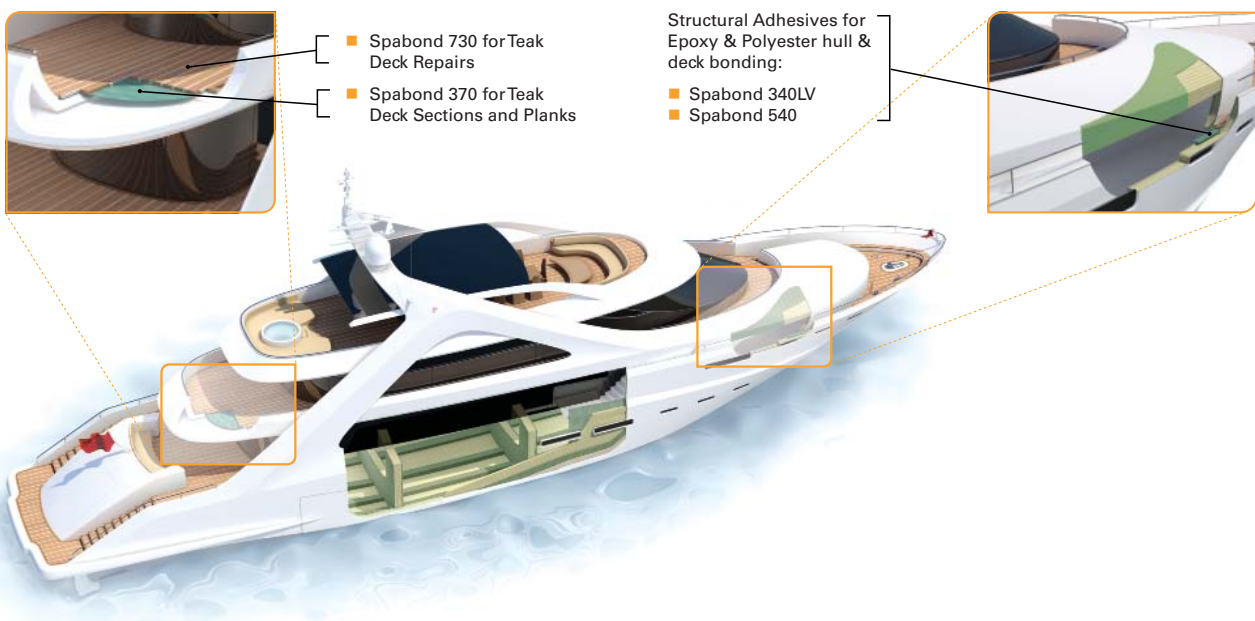


SP-High Modulus' range of adhesives

Market Segment	Product	Substrate	Description	Typical Applications	Page no.
Production Boats & Superyachts	Spabond 540	Polyester & Epoxy GRP, plywood	High toughness adhesive with working times up to 6 hours	General purpose adhesive for bonding polyester GRP boats	2
	Spabond 370	Epoxy, *Aged polyester GRP, teak planks & kitted teak deck sections.	Easy to use 1:1 mix ratio (by volume) product with good mix ratio tolerance and health safety characteristics	General purpose adhesive for bonding wood and aged polyester GRP	2
	Spabond 340LV	Epoxy GRP & metals	High strength gap filling adhesive with a range of working time	Bonding of Hull-to-deck, bulkheads & frames	3
	Spabond 345	Epoxy GRP & metals	High strength & toughness structural adhesive capable of filling gaps up to 30mm	Bonding of masts & high performance boats	3
	Spabond 730	Epoxy GRP & metals	Fast curing structural adhesive	Small bond areas and repairs	4
	Spabond 5-Minute	Epoxy GRP	Fast curing, low toughness non-structural adhesive	Used to tack panels in place whilst the structural adhesive is curing	4
	Spabond 368	Epoxy GRP	Low density adhesive for bonding PVC & Corecell cores	Core Bonding & Splicing for hull and deck sandwich panels. Bonding bead & cove cores	5

* Polyester GRP laminates at least 2 weeks old.

Typical applications for Spabond Adhesives



Spabond 540

Modified Epoxy Adhesive

High elongation



Up to 5 hours
working time



Can be mixed by
hand or machine



- High elongation: >50%
- High strength and toughness
- Extended working times
- Sag resistance of 25mm on a vertical surface
- Excellent bond to polyester & epoxy GRP substrates
- Low exotherm & shrinkage in thick bondlines
- Range of working/cure times

Introduction

Spabond 540 has been designed to deliver outstanding elongation to break, >50%, and to compete with methacrylate adhesives when bonding polyester GRP parts. It is a modified ambient curing epoxy adhesive designed for bonding polyester or epoxy GRP laminates. The extended working times fill a gap in the market where polyester and methacrylate adhesives do not have the required working time to bond large structures. The long working times and excellent gap-filling properties make this adhesive ideal for stringers/bulkheads, frames and hull-to-deck joints on medium to large production boats.

Typical Applications

Stringers / bulkheads, frames and hull-to-deck joints on medium to large production boats.

Mixing and Application

Spabond 540 can be mixed by hand or using a Stelram mixer / suitable mixing machine to achieve a good mix quality (Fig.1). The product can then be dispensed into a polyethylene bag or a bulk dispense gun for application to the bond line (Fig. 2).



Fig. 1



Fig. 2

Spabond 370

Epoxy Adhesive System

1:1 Mix Ratio

1:1

90 mins working
time @ 21°C



7-8 hours clamp
time @ 21°C



- Simple 1:1 mix ratio by weight and volume
- High tolerance to off ratio mixing
- Highly sag resistant - to 15mm on a vertical surface
- Excellent Health and Safety
- Excellent application characteristics
- High tolerance to variations in bondline thickness

Introduction

Spabond 370 teak deck adhesive has been formulated to give the optimum mechanical and working properties for bonding teak decking to a composite hull.

In use, Spabond 370 has a tolerant 1:1 mix ratio and a thixotropic, gel type consistency. This makes Spabond 370 very easy to measure, mix and apply. Spabond 370 is non-corrosive, solvent free and cures at room temperature.

When cured, Spabond 370 is tough, highly adhesive and very strong and generates green strength rapidly (does not require post curing).

Typical Applications

Teak Deck Bonding and general wood bonding.

Mixing and Application

Measure out equal quantities of Spabond 370 resin and hardener as shown in Fig. 3. Mix the adhesive until a consistent colour is achieved and apply using a tile adhesive comb in one direction. This allows the adhesive beads to flow together and reduce the possibility of air being trapped in the bondline. The teak deck sections on planks should be clamped or vacuum consolidated to ensure a good bond to the polyester GRP deck.



Fig. 3

Spabond 340LV

Epoxy Adhesive System

Can be mixed by
hand or machine



High strength



- High strength and toughness industrial adhesive
- Designed for cartridge and mixing machine dispense
- Low exotherm and shrinkage
- Excellent gap filling properties
- Three hardener speeds give a range of working times / clamp times
- Temperature performance up to 80°C

Introduction

Spabond 340 LV is a high performance adhesive designed for bonding large structures such as yacht hulls and wind turbine blades. It is a cost-effective system with good thermal and mechanical properties.

The components are pigmented to give a visual indication of mix quality, which is a useful feature when mixing by hand or with a machine. The system has a simple 2:1 mix ratio by weight and volume. Spabond 340LV is available in cartridges, pails and 200 litre drums for machine mixing/dispense.

Typical Applications

Hull-to-deck bulkheads and Frames.

Mixing and Application

Spabond 340LV is available in 400ml and 900ml cartridges, pails and drums. It can be mixed by hand or using a mixing machine. When using the 900ml cartridges it is recommended to use a pneumatic dispense gun to deliver a consistent flow and high mix quality (Fig. 5). As a cost effective alternative to customers using large numbers of cartridges, we recommend using the MIXPAC PAM system (Fig. 4), or alternatively mixing machines from 2km, Dekumed, Tartler, Dopag or Graco.



Fig. 4



Fig. 5

Spabond 345

Epoxy Adhesive System

Good gap-filling



Temperature
Performance
up to 84°C



- High strength and toughness
- Designed for cartridge and mixing machine dispense
- Temperature performance up to 84°C
- Excellent gap filling properties
- Low exotherm and shrinkage
- Three hardener speeds give a range of working times / clamp times

Introduction

Spabond 345 is a toughened, high performance adhesive system ideal for bonding large structures where substrate surfaces have uneven geometry. The product has a thick, paste-like consistency, and can be applied without sag in thicknesses of over 30mm at 15°C, making it ideal where large, uneven vertical gluelines are required.

The product has a 2:1 mix ratio by volume. To aid mixing, the components are pigmented to give visual indication of mix quantity. The Fast hardener is coloured purple, but there is also a black version. This is useful for improving the cosmetic appearance of bondlines involving exposed carbon composites. Spabond 345 is available in 400ml cartridges, pails and drums.

Typical Applications

Hull-to-deck bulkheads and Frames.

Mixing and Application

Spabond 345 is available in 400ml cartridges and pails. When mixing by hand it is recommended to mix in small quantities (5kg) or use a Stelram Mixer (see Spabond 540 section).



Spabond 730

Rapid Structural Adhesive

Rapid Adhesive



High strength



- Reduced clamp time structural adhesive
- High strength and toughness
- Sag resistance of 14mm at 20°C
- Available in 400ml cartridges
- Gels in 10 minutes, solid in 2 hours, full properties after an overnight cure at ambient

Introduction

Spabond 730 is a fast curing structural adhesive designed for applications where reduced clamp times are important. It has a simple 1:1 by weight and volume mix ratio.

It can be used to bond together a wide variety of dissimilar materials and has been designed to give a durable high strength bond.

Spabond 730 Rapid Structural Adhesive is available in a simple easy to use 400ml cartridge.

Typical Applications

Fitout, Finishing and Repair.

Mixing and Application

Spabond 730 is available in 400ml cartridges. A high quality mix can be achieved using a 10.7mm 19 element static mixer as stipulated in the SP-High Modulus Marine Product Catalogue. It is recommended to discard the first mix head length of resin & hardener components to ensure a good mix quality is achieved before application of the adhesive to the bondline.



Spabond 5-Minute

Epoxy Adhesive System

Tacking
Adhesive



1:1 Mix Ratio

1:1

- 5 minute adhesive
- Ideal when used as an “extra hand” in assembly
- Can be used alongside other Spabond products

Introduction

Spabond 5-Minute uses SP-High Modulus' fast-setting technology. It combines outstanding bonding speed with a simple 1:1 by weight and by volume mix ratio. This thixotropic system is ideal for general bonding and repair work on a wide range of materials.

Components bonded with Spabond 5 Minute demonstrate high bond strengths and can be handled after a very short period of time.

Spabond 5-Minute can be used in conjunction with other Spabond products as a “spot weld” system in situations where the use of conventional clamps is not possible.

Spabond 5-Minute is available in monocomponent resin/hardener cartridges or 400ml dual component cartridges.

Typical Applications

Fitout, Finishing and Repair.

Mixing and Application

Spabond 5-Minute is available in 400ml dual cartridges and 310ml monocomponent resin and hardener cartridges. When using the monocomponent cartridges and mixing by hand, it is recommended to limit the mix quantity to 100g to allow sufficient time to mix the components and apply the adhesive to the bondline.



Spabond 368

Epoxy Adhesive System

Long working time



Low density adhesive



2:1 Mix Ratio

2:1

■ Low density (0.7 S.G.) core bonding paste

■ Long working time for large structures

Introduction

Spabond 368 is a low density adhesive, with a simple 2:1 by volume mix ratio which is designed for bonding a wide range of core materials. The product is uniquely filled and can be applied in thicknesses of up to 6mm at 20°C on vertical surfaces without the risk of drainage.

Resin and hardener are both pigmented to give a visual indication of mix quality. The resin is light green and the hardener pale brown leading to a neutral grey colour when fully mixed.

With the fillers used in its formulation, Spabond 368 is easy to sand and can be used for strip planking with wood or foam strips.

Typical Applications

Suitable for all applications where lightweight core is used.

Mixing and Application

Spabond 368 can be mixed using a paint stirrer and a drill mixer. The speed of the drill should be adjusted to prevent excessive air being mixed into the adhesive. When bonding large areas of core it is recommended to use a tile adhesive comb and apply the adhesive in one direction. The core should be drilled at 50mm centres to allow the adhesive and air to flow through the bleed holes, giving a visual indication of uniform vacuum consolidation of the core.



Technical Information and Pricing

For more detailed information on Spabond Adhesives including bonding guides and the complete SP-High Modulus product portfolio, please visit:

www.gurit.com/marine to view the following:

- Product Data Sheets
- News/Case Studies
- Events Schedules
- Product Brochures
- 'How to' Videos
- Composite Guides
- Representatives Contact Details
- Corporate videos

For pricing or other enquiries, please contact marine@gurit.com



www.gurit.com/marine



Bonding Guides



Product datasheets



Case Studies



UK

St Cross Business Park
Newport, Isle of Wight
United Kingdom PO30 5WU

T +44 (0) 1983 828 000

F +44 (0) 1983 828 100

E marine@gurit.com

USA

115 Broadcommon Road
Bristol, Rhode Island 02809

T +1 401 396 5008

F +1 401 396 5246

E marine-na@gurit.com

Canada

175, Rue Péladeau
Magog QC J1X 5G9

T +1 819 847 2182

F +1 819 847 2572

E info-na@gurit.com

Australia

Unit 1A, Bassett Street
Mona Vale NSW 2103

T +61 (0) 2 9979 7248

F +61 (0) 2 9979 6378

E info-au@gurit.com

New Zealand

32 Canaveral Drive, Albany 0630
Private Box 302-191, North Harbour
Auckland

T +64 (0) 9 415 6262

F +64 (0) 9 415 7262

www.gurit.com/marine