

Spabond 5-Minute

Epoxy Adhesive System

- **5 minute adhesive**
- **Ideal when used as an “extra hand” in assembly**
- **Can be used alongside other Spabond products**
- **Available in 50ml MIXPAC and 280ml peeler cartridges**

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 50ml MIXPAC cartridges and in 280ml peeler cartridges (mastic type cartridge).

Instructions for Use

The product is optimised for use at 15 - 25°C. At lower temperatures the components thicken and may eventually become unworkable. To ensure accurate mixing and good workability pre-warm the resin & hardener as well as the surfaces to be bonded before use, if working conditions are below 15°C.

Surface Preparation

Before using the product ensure that surfaces to be bonded are clean, dry and dust-free. Prepare all surfaces by abrading with medium grit paper or other suitable abrasive, remove dust then wipe with acetone or SP Fast Epoxy Solvent (Solvent A).

Metals usually require a chemical pre-treatment to create the best bond. Please contact Gurit for a Guide to Surface Preparation and Pre-treatments.

Ensure that polyester or vinylester laminates are fully cured before bonding, then prepare as above.

When bonding epoxy laminates, the use of a suitable Peel Ply as the last stage in their manufacture is recommended, otherwise prepare as above. Trials may be required to test Peel Ply suitability.

For all timber, sand with abrasive paper across grain. Degrease oily timber with a fast evaporating solvent (e.g. SP Fast Epoxy Solvent). For resinous or gummy timber, etch with 2% caustic soda solution, wash off with fresh water and dry.

Mixing & Handling

Spabond 5-Minute Resin and Hardener should be mixed in the ratio:-

Spabond 5-Minute Resin	Spabond 5-Minute Hardener
1 : 1 (by volume)	
1 : 1 (by weight)	

Solvent-free epoxies have a limited pot life. Mix sufficient only for immediate use to avoid excessive heat build up and resin wastage : with Spabond 5 Minute Adhesive, mix enough for 2-3 minutes use. This product is highly exothermic, and care should be taken when disposing of unused mixed material.

Cartridge Use

When dispensing from twin cartridges with a mixing / dispensing head , please discard the first mix head length of resin and hardener components, prior to applying adhesive to the job, in order to ensure thorough mixing of the system. We recommend the use of a new mix head for each application, particularly where the time between each application approaches the pot life.

Gluings

Spabond 5-Minute has a higher shear strength and toughness than multipurpose epoxies which makes it more suitable for bonding both high strength materials and dissimilar materials. It can be used as a "spotweld" adhesive to hold components in position while another adhesive systems is curing. Spabond 5 Minute Adhesive is supplied as a partially filled system which gives it greater thixotropy than standard epoxy systems.

Properties

Component Properties		
	Spabond 5-Minute Resin	Spabond 5-Minute Hardener
Mix Ratio (by weight)	100	100
Mix Ratio (by volume)	100	100
Viscosity @ 15°C (P)	1110	970
Viscosity @ 20°C (P)	434	595
Viscosity @ 25°C (P)	174	303
Viscosity @ 30°C (P)	106	222
Shelf Life (months)	12	12
Colour (Gardner)	opaque	1
Mixed Colour (Gardner)	3	3
Component Dens. (g/cm ³)	1.16	1.16
Mixed Density (g/cm ³)	-	1.16
Hazard Definition	Xi, N	Xi

Cured System Properties			
	R.T. Cure (28 days @ 21°C)	Cured 24 hours @ 21°C +16 hours @ 50°C	Cured 5 hours @ 70°C
Tg DMTA (Peak Tan δ)(°C)	67.0	81.7	71.9
Tg Ult - DMTA (°C)	TBA	TBA	TBA
Tg2 - DSC (°C)	48.3	68.1	47.4
Tg1 - DMTA (°C)	50.1	66.7	55.0
Cured Density (g/cm ³)	-	-	1.2
Linear Shrinkage (%)	1.0	1.0	1.311
Cleavage Strength (kN)	3.8	5.6	6.68
Shear Strength on Steel (MPa)	12.6	18.0	25.8
Shear Strength Wet Retention (%)	116	102	-

Working Properties vs. Temperature				
	Resin / Hardener			
	15°C	20°C	25°C	30°C
Initial Mixed Viscosity (P)	709	369.6	200.7	80.7
†*Gel Time - mix in water (mins:secs)	04:16	03:40	03:06	02:40
†Pot Life - 500g mix in air (hrs:mins)	n/a	n/a	n/a	n/a
†Clamp Time (hrs:mins)	0:22	0:19	0:16	0:14
Sag Resistance (mm)	14.8	13	12	10.0

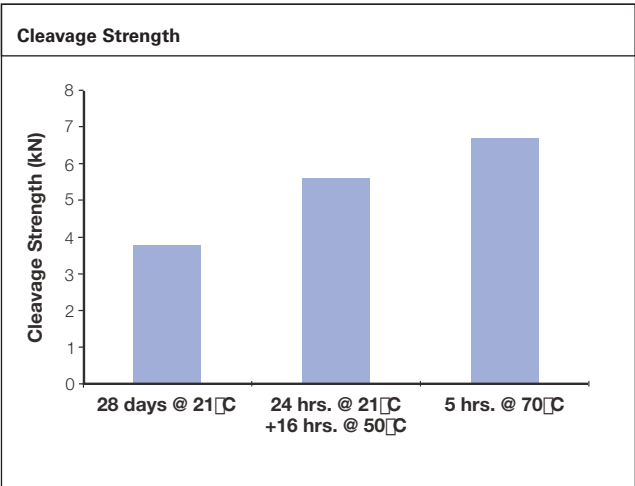
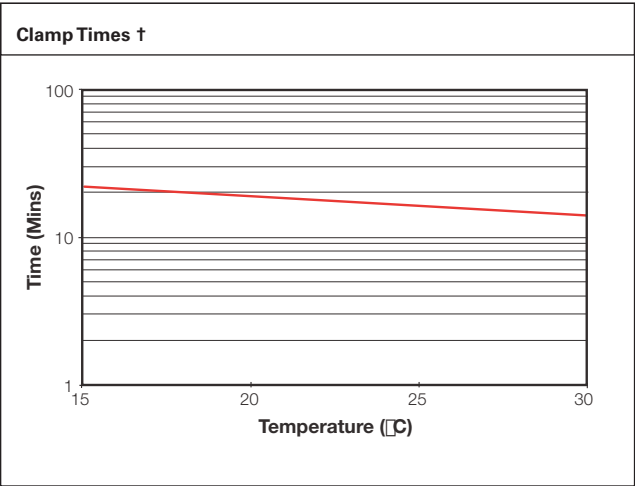
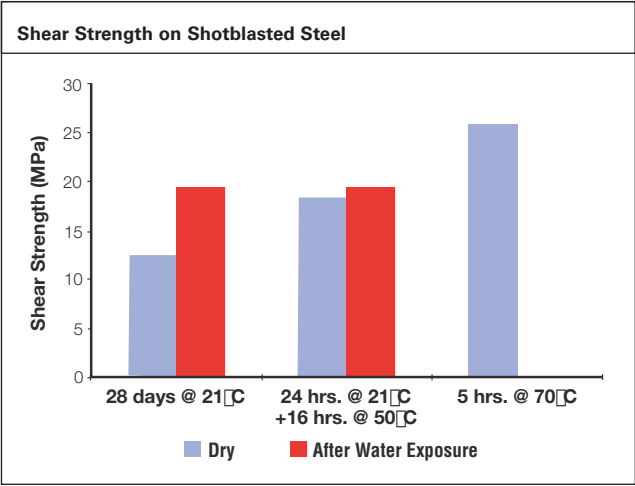
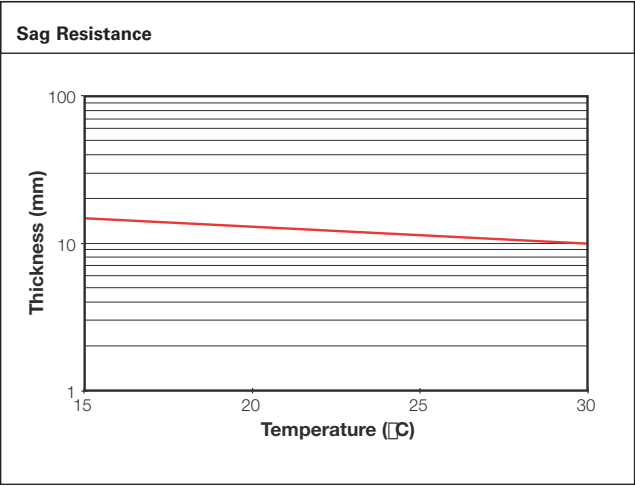
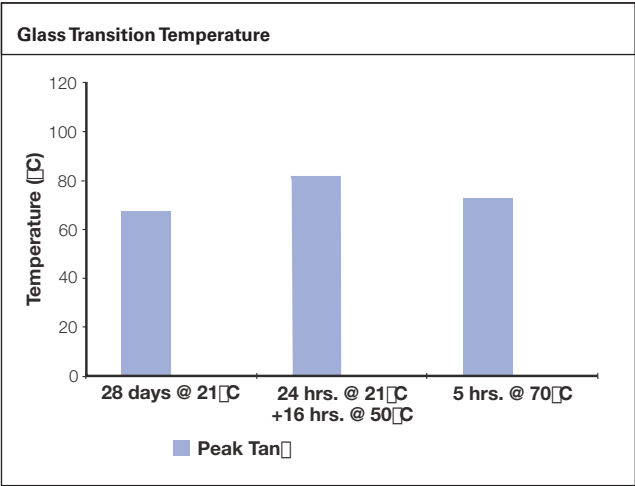
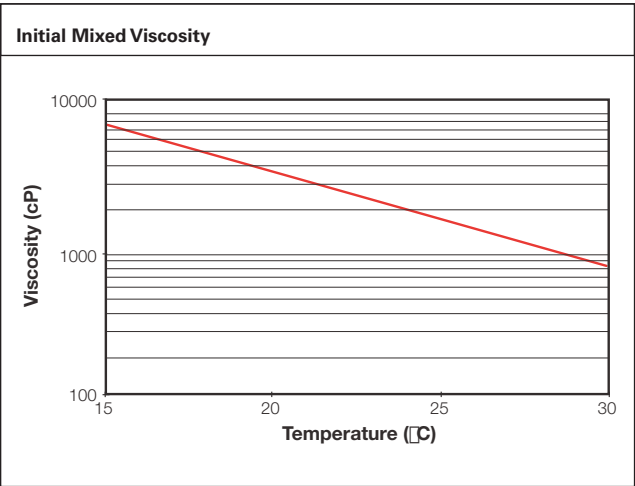
*Due to the thixotropic and filled nature of this system, these values are only indicative.

Notes: For an explanation of test methods used see 'Formulated Products Technical Characteristics'.

All figures quoted are indicative of the properties of the product concerned. Some batch to batch variation may occur.

† All times are measured from when resin and hardener are first mixed together.

Properties (cont'd)



Notes: For an explanation of test methods used see 'Formulated Products Technical Characteristics'.
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† All times are measured from when resin and hardener are first mixed together.

Health and Safety

The following points must be considered:

- 1. Skin contact must be avoided by wearing protective gloves. SP-High Modulus recommends the use of disposable nitrile gloves for most applications. The use of barrier creams is not recommended, but to preserve skin condition a moisturising cream should be used after washing.
- 2. Overalls or other protective clothing should be worn when mixing, laminating or sanding. Contaminated work clothes should be thoroughly cleaned before re-use.
- 3. Eye protection should be worn if there is a risk of resin, hardener, solvent or dust entering the eyes. If this occurs flush the eye with water for 15 minutes, holding the eyelid open, and seek medical attention.
- 4. Ensure adequate ventilation in work areas. Respiratory protection should be worn if there is insufficient ventilation. Solvent vapours should not be inhaled as they can cause dizziness, headaches, loss of consciousness and can have long term health effects.
- 5. If the skin becomes contaminated, then the area must be immediately cleansed. The use of resin-removing cleansers is recommended. To finish, wash with soap and warm water. The use of solvents on the skin to remove resins etc must be avoided.

Washing should be part of routine practice:

- before eating or drinking
- before smoking
- before using the lavatory
- after finishing work

6. The inhalation of sanding dust should be avoided and if it settles on the skin then it should be washed off. After more extensive sanding operations a shower/bath and hair wash is advised.

SP-High Modulus produces a separate full Material Safety Data Sheet for all hazardous products. Please ensure that you have the correct MSDS to hand for the materials you are using before commencing work. A more detailed guide for the safe use of SP resin systems is also available from SP-High Modulus, and can be found on our website at www.gurit.com

Applicable Risk & Safety Phrases

Resin	Hardener
R 36/38, 43, 51/53	R N/A
S 24, 26, 28, 37/39, 57, 60	S 23, 24/25, 28



Transport & Storage

The resin and hardener should be kept in securely closed containers during transport and storage. Any accidental spillage should be soaked up with sand, sawdust, cotton waste or any other absorbent material. The area should then be washed clean (see appropriate Safety Data Sheet).

Adequate long term storage conditions will result in a shelf life of two years for both the resin and hardener. Storage should be in a warm dry place out of direct sunlight and protected from frost. The temperature should be between 10°C and 25°C. Containers should be firmly closed. Hardeners, in particular, will suffer serious degradation if left exposed to air.

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