

SAFEPOXY® CONTACT

Epoxy Composite laminating systems

SAFEPOXY® CONTACT

- bisphenol A-free
- resin bio based at 32%
- transparent and colorless
- UV resistant
- excellent wetting power
- excellent air releasing properties
- available in Fast and Slow versions

Safepoxy® Contact systems are intended for the manufacture of resistant composite parts for different industries. Their high mechanical performances lead to robust parts by contact process.

The high wetting power and air release of **Safepoxy® Contact** systems allow a homogeneous impregnation of all types of fibers (carbon, glass, linen, basalt...).

Reactivity of the systems adjust to the sizing of the parts to be produced.

Safepoxy® Contact gets hard and sandable at room temperature in 16 h and develops its final hardness after a post-cure.

Applications

Laminating and bonding, manufacturing of composite parts for sport, prototyping, boating, tooling... that can be manufactured by resin casting and manual distribution with a brush or a small paint roller, or optionally under vacuum.

Reactivity

Safepoxy® Contact systems are available in two reactivities depending on the choice of hardener.

		SAFEPOXY® CONTACT	
		HARDENER FAST	HARDENER SLOW
Mix ratio (in weight)		100 : 40	100 : 40
Mix viscosity at 21 °C (mPa.s)	ISO 12058-2	1 100	1 100
Gelling time (/70 g) at 20 °C (min)	ISO 2535	15	30
Exothermic peak (/70g) (°C)		150	140
Gelling time (/12 g) à 20 °C	ISO 2535	1h40	3h10
Sanding time (h)		16	16



COP makes the DIFFERENCE

SAFEPOXY® resins have lower toxicity compared to market standards.

They are formulated **without Bisphenol A**, an endocrine disruptor identified as SVHC (Substance of Very High Concern), capable of interfering with our hormones and producing adverse effects even at very low doses.

Beyond being BPA-free and having similar mechanical properties to the marketed epoxy resins, SAFEPOXY® resins are partially bio based. COP succeeded in substituting BPA for molecules derived from biomass. The renewable carbon source contained in SAFEPOXY® resins comes from the fermentation of sugars and does not represent any health hazard (*INSERM 2016 study*).

Cross-linking profile

	Tg (°C)
7 d at 23 °C	50
24 h at 23 °C + 16 h at 60 °C	80

Values obtained on standard pure resin specimens (without reinforcement). Tg measured under DMA-type stress with Kinetech®.

We recommend a 24 h curing cycle at room temperature to allow the material to form a homogeneous network, then 16 h at 60 °C to strengthen the network and to reach the optimum resin performance.

Mechanical properties

		STANDARD	SAFEPOXY® CONTACT FAST		SAFEPOXY® CONTACT SLOW	
			7d at 23 °C	16h at 60 °C	7d at 23 °C	16h at 60 °C
Tensile tests	Young's modulus (GPa)		3,50	2,80	3,40	2,80
	Maximum strain (MPa)	ISO 527-4	50	46	40	52
	Deformation at max strain (%)		2,80	2,40	1,80	2,80
Final hardness	(Shore D)	ISO 868	85		85	

Values obtained on standard sample of neat resin (without reinforcement)

Handling and safety

Mix well the resin and hardener before use.

The mixing ratio must be strictly respected by weighing the two components. Our kits of 3 different sizes are provided to facilitate the preparation of your application process.

/!\ We warn users on "mass effect" : the exothermic released by epoxy potted systems. We recommend to make preparations in limited quantities in pots of large diameters to allow a better evacuation of calories.

The epoxy hardener part is composed of amines that are irritating in nature. Although we took care to select the least dangerous ones, it is essential when handling to strictly observe the appropriate safety and hygiene measures:

- Good ventilation,
- Wearing gloves and goggles.

For more information, please refer to the safety data sheet.

The resin and hardener must be mixed until a perfectly homogeneous system is obtained. Ensure avoid incorporating too many bubbles in the system during the stirring. The mixture is then poured into a clean pot for use.

Securely close the amine can after use at the risk of strong reactivities and exothermies because of their great hygroscopy.

The system is then applied to the reinforcement fabric and spread using a roller. Excess resin can be distributed using a vacuum bagging or tailored sprayed membrane. The ambient temperature should be 20-25°C to ensure a good fluidity of the product and a total reaction of the components.

It is possible to clean tools that are soiled with epoxy, even crosslinked, using our bio sourced and unlabeled **GreenCleaner** cleaning solvent. It can be used with a cloth or by dipping.

Storage and packaging

Safepoxy® Contact resin and its hardeners are guaranteed for 18 months if stored in closed packs at 15-25°C and protected from moisture and light.

SAFEPOXY® CONTACT	1,4 KG KIT		3,5 KG KIT		7 KG KIT	
SAFEPOXY CONTACT RESIN	1KG	SPC R01	2,5KG	SPC R02	5KG	SPC R03
SAFEPOXY CONTACT HARDENER SLOW	0,4KG	SPC DS01	1KG	SPC DS02	2x1KG	SPC DS03
SAFEPOXY CONTACT HARDENER FAST	0,4KG	SPC DF01	1KG	SPC DF02	2x1KG	SPC DF03

Custom codes

SAFEPOXY® CONTACT RESIN	29109000
SAFEPOXY® CONTACT HARDENER	29215990

The information in this document are provided in good faith and based on our current know-how. It is therefore only indications and not of formal constraints, especially if the product is not used in accordance with the applications contained in this data sheet. A pre-test will therefore always be the basis of relevant conclusions for the user.

The user of this product agrees to comply with the legislation in force regarding the disposal of waste.