

# CLEARTECH 1100

## Ultra Low-Viscosity Epoxy Resin for Sealing, Infusion and Technical Laminating

### CLEARTECH 1100 – Ultra Low-Viscosity Epoxy Resin for Sealing, Infusion and Technical Laminating

CLEARTECH 1100 is a 100% reactive epoxy system formulated to provide optimal penetration into porous substrates such as wood, polyurethane tooling boards, or epoxy boards. Its very low viscosity and crystal-clear transparency make it a versatile solution for both sealing and laminating or infusion applications with carbon fiber and fiberglass, for structural and aesthetic assemblies.

#### Technical Features:

- Ultra-clear resin, ideal for high-visual-demand laminates
- Deep penetration to reinforce and stabilize porous substrates
- Excellent compatibility with vacuum infusion and hand lay-up laminating processes
- Fast cure time: 4 to 6 hours at 22 °C
- Short recoat window: reapplication possible in less than 3 hours
- Recommended application in 2 to 3 coats, by roller or brush, depending on porosity and desired finish
- RoHS compliant – safe for industrial environmental use

**CLEARTECH 1100 is perfectly suited for the needs of the composites, aerospace, automotive, and industrial design sectors, where mechanical performance and aesthetics are critical.**

#### CARACTERISTICS

- |  |                              |
|--|------------------------------|
| • High quality raw materials           | • Very low viscosity         |
| • Easy mixing ratio of 2A/1B by volume | • Crystal clear transparency |
| • Excellent UV resistance              | • Meet the RoHS standard     |
| • Glossy Finish                        | • No withdrawal              |
| • Excellent impact resistance          | • 100% solid, without VOC    |

#### APPLICATION

Before using **CLEARTECH 1100™**, be sure to mix each Part A and B.

Mix exactly **2 parts of A** with **1 part of B** by volume (or **100 A / 45 B** by **weight**) and make sure to mix evenly, making sure to scrape the edges and the bottom of your container.

Since the pot life of the system is 20 minutes @ 22 ° C for a mass of 200 grams, be sure not to mix more material that can be applied within the life time pot. **We recommend to mix a MAXIMUM OF 300 ML A TIME.** After mixing, spread immediately the resin of the live edge and brush until complete application.

It is important to note that the pot life time will be shortened in a warmer environment and will be lengthened in a cooler environment. The handling time will reflect the temperature level. Also, the greater the amount of resin to be mixed, the shorter the pot life time will be.

Uncured material can be easily cleaned using the POLY CLEANER™.

Store **CLEARTECH 1100™** on a pallet (do not store directly on the floor) or shelf @ 22 °C with relative humidity less than 60%. A cold environment will increase the viscosity of each part A and B and a warmer environment will decrease it.

Contact **POLYMERES TECHNOLOGIES** for more information. [support@polymerestechnologies.com](mailto:support@polymerestechnologies.com)

#### TYPICAL PROPERTIES (AT 22°C)

		PART A	PART B	MIXED
Viscosity	Brookfield (cps)	675	215	295
Consistency		Liquid	Liquid	Liquid
Density	g/cm <sup>3</sup>	1.135	1.02	1.085
Mixing Ratio	1. By volume	2	1	2/1
	2. By weight	100	45	100/45
Color		Transparent	Transparent	Transparent
Pot life		20 minutes @ 22°C		

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Gel Time		25 minutes @ 22°C
Peak Exothermic Temperature	ASTM D 2471-71	105C
Full cure*		1 days @ 22°C depending on the design and the volume if the piece.

### PHYSICAL PROPERTIES (solid state) 7 days after cure at 22°C

TEST	METHOD	RESULTS	
Hardness	ASTM D 785 65	Shore D	80
Compressive strength	ASTM D 695 80	MPa* % max. strain	93.05 3.4%
Tensile strength	ASTM D 638 TYPE 1	MPa	52
Flexural strength	ASTM D 790A	MPa	134
Elongation	ASTM D-790A	Mpa	3.1%
Deflection Temperature (°C)		1. 455 kPa <sup>†</sup> 2. 1820 kPa	57 °C 56 °C
Impact resistance	ASTM D 256 81	J/m <sup>†</sup>	77
Linear shrinkage	ASTM D 2566 79	cm/cm	0.00029
Abrasion resistance	TABER CS 17-1000 GR		0.061
Coefficient of linear thermal expansion	ASTM D 696 79		3.388 x 10 <sup>-5</sup>

### PRECAUTIONS

- Consult Material Safety Data Sheet prior to use.
- Normal health and safety precautions should be observed when handling these products.
- Ensure good ventilation.
- Wear gloves, safety glasses and protective clothing.
- Once the container is opened **POLYMÈRES** has no control or responsibility on the shelf life.
- Shelf life of product in original closed containers is **one (1) year**.
- It is recommended to follow Provincial and Federal safety regulations. In case of eye contact, rinse well with water, in case of skin contact, rinse with soap and water. **KEEP AWAY FROM CHILDREN. FOR INDUSTRIAL USE ONLY.**

\* After material has solidified the curing process can be accelerated at 52°C (125°F).

\* MPa = 145 lb

† kPa = .145 psi

† 53.4 J/m = 1 blF/inch

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### GARANTEE

Having no control over the use and application of this product, the manufacturer and / or the distributor cannot guarantee the result obtained. The warranty is therefore limited to the replacement of a product that the user has demonstrated to the satisfaction of the manufacturer and distributor that it is actually defective. Before using this product, the user must ensure that the product is suitable for its intended use. Only the user assumes the risks related to this use. The user must ensure that this product meets his needs by conducting tests in the short, medium and long term to validate the results and in the conditions of use and according to the instructions provided. This limited warranty excludes all liability for consequential, incidental or special damages. Except as described above, the user expressly acknowledges and accepts at the time of the purchase of this product that the manufacturer and / or distributor disclaims any other liability and any other express or implied warranty of quality and an implied warranty of quality of the material are expressly excluded.

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