

CHILL DIAMOND FAST™

Fast epoxy for
small castings

MIXING RATIO

2A : 1B

by volume

CHARACTERISTICS

Self leveling

Excellent UV resistance

Easy degassing and polishing

Glossy finish

Low odor



Contact

POLYMÈRES TECHNOLOGIES

for more information:

support@polymerestechologies.com

TECHNICAL SHEET

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DESCRIPTION

CHILL DIAMOND FAST™ is an 100% reactive, VOC-free, crystal clear, and highly UV-resistant epoxy system. Its fast setting time allows handling in less than 12 hours.

This product is ideal to cast small transparent or colored objects for crafts, jewelry, and more. It can also be used to fill small cracks, voids, and knots. Its very low viscosity minimizes the formation of air bubbles.

INSTRUCTIONS

PREPARATION

Before using CHILL DIAMOND FAST™, mix 2 parts of A with 1 part of B by volume (or 100 A for 45 B by weight). Mix evenly with a metal spatula for about 5 minutes making sure to scrape the edges and bottom of the container.

USAGE

Since the pot life of this system is only 24 minutes long at 22°C (72°F) for a mass of 200g, make sure not to mix more material than what can be applied within this time frame. It is important to note that pot life will shorten in a warmer environment and will lengthen in a cooler one. Also, the more resin is mixed, the more its pot life decreases.

Do not mix more than 1L at a time. The remaining unused mixture might emit a lot of heat; beware of burn risks. Always test the product on a sample prior to using it on a project.

STORAGE

Store CHILL DIAMOND FAST™ on a pallet or shelf at 22°C (72°F) with a relative humidity under 60%. A cold environment will increase the viscosity of parts A and B and a warm environment will decrease it. Uncured material can be easily cleaned with isopropyl alcohol or with POLY CLEANER™.



Fast setting epoxy
Pot life of 24 minutes

A/B kits available in 1.5L and 3L sizes

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TYPICAL PROPERTIES (AT 22 °C/72 °F)	PART A	PART B	MIX
VISCOSITY (Brookfield (cps))	675	295	385
CONSISTENCY	Liquid		
DENSITY (g/cm³)	1.14	1.02	1.078
MIXING RATIO IN VOLUME	2	1	2/1
MIXING RATIO IN WEIGHT	100	45	100/45
COLOR	Transparent		
POT LIFE for 200g	24 minutes		
DEMOLDING TIME	7 days depending on the mass		
PEAK EXOTHERMIC TEMPERATURE (ASTM D 2471-71)	168 °C		
FULL CURE*	12 hours depending on piece design and volume		
*After material has solidified, the curing process can be accelerated at 51.7°C (125°F).			

PHYSICAL PROPERTIES (SOLID STATE AFTER 7 DAYS AT 22 °C/72 °F)

TEST	METHOD	RESULTS	
HARDNESS	ASTM D 785 65	Shore D	82
COMPRESSIVE STRENGTH	ASTM D 695 80	MPa*	91.05
		Maximum strain %	4.4
TENSILE STRENGTH	ASTM D 638 Type 1	MPa	46
FLEXURAL STRENGTH	ASTM D 790A	MPa	119
ELONGATION	ASTM D 790A	%	4.1
DEFLECTION TEMPERATURE		455 kPa**	52 °C
		1820 kPa	54 °C
IMPACT RESISTANCE	ASTM D 256 81	J/m***	75
LINEAR SHRINKAGE	ASTM D 2566 79	cm/cm	0.0024
ABRASION RESISTANCE	TABER CS 17-1000 GR	0.072	
COEFFICIENT OF LINEAR THERMAL EXPANSION	ASTM D 696 79	4.426 x 10 ⁻⁵	
*1 MPa = 145 lb **1 kPa = 0.145 psi ***53.4 J/m = 1 bI/po			

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PRECAUTIONS

- Consult material safety data sheet prior to use.
- Normal health and safety measures should be observed when handling this product.
- Ensure good ventilation.
- Wear gloves, safety glasses, and protective clothing.
- Do not use part A without its part B, and vice versa. Shake well parts A and B separately before use.
- Once the container is opened, POLYMÈRES TECHNOLOGIES can no longer be held responsible for this product.
- Shelf life of this product in original containers is one (1) year from the date of purchase, under recommended storage conditions.
- Keep from freezing.

IMPORTANT:

As is the case with all epoxy products, part B of this system tends to oxidize with time. This is a reaction of oxygen with air causing a slow discoloration of part B. Heat and high relative humidity will intensify this reaction. Oxidation starts as soon as the container of part B has been opened.

The oxidation of part B does not affect the performance of the product in any way. The addition of a color pigment will mask the yellowing.

To control this situation, we package our products under nitrogen atmosphere in premium quality metal containers instead of HDPE plastic containers, the latter allowing the product to breathe and get contaminated.

It is important to test the color of the hardener mixed with part A before doing any project. In the event that the obtained color is unsatisfying, the customer should purchase a new kit, as both parts A and B are not usually sold individually.

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.

ASSUMPTION OF RISK

The customer assumes all risk and liability for the results obtained by the use of any POLYMÈRES TECHNOLOGIES product, including, without limiting the generality of the foregoing, the use of the CHILL EPOXY™ line of products, and the use of any process, whether in terms of general effectiveness, success, or failure, and regardless of any oral or written statement made by way of technical advice or otherwise, related to the use of any POLYMÈRES TECHNOLOGIES product.

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