

CHILL DIAMOND FAST™

Fast epoxy for
small castings

MIXING RATIO

2:1

CHARACTERISTICS

Self leveling

Excellent UV resistance

Easy degassing and polishing

Glossy finish

Low odor



Contact

POLYMÈRES TECHNOLOGIES

for more information:

support@polymerestechologies.com

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

CHILL
EPOXY™
By Polymères Technologies

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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/cm ³)	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 blF/po

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.
- 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.

REGARDING THE YELLOWING OF HARDENER (PART B)

As is the case for all epoxy products, part B of this system tends to yellow over time. This is due to oxidation, a reaction with oxygen in the air which causes part B to discolor slowly. As air exposure continues, that color will deepen over time. If the container of part B has been opened, the epoxy hardener will yellow in its liquid state more quickly since it has been exposed directly to oxygen.

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.

Even if the hardener has a slight yellow tint though, it can still be used and will not prevent the resin from curing properly. We strongly recommend using the product quickly and avoiding keeping it stored in a hot environment. It is important to close the container immediately after having calculated the amount of part B necessary for mixing.

It is important to test the color of the hardener mixed with part A before doing any project. It is possible to combine dark pigments with a hardener to cover its yellow tint or color. For lighter pigments or a clear, transparent finish, 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.

GUARANTEE

Having no control over the use and application of this product, the manufacturer and/or 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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