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https://www.apraktika.hu/en/epoxy-resin-variable-hardness

Epoxy Resin with Alterable Hardness: Technical Data Sheet

This epoxy resin has a high degree of UV resistance. It has two components. The base resin is a clear, unfilled, dilute liquid that cures with an "amine" hardener.

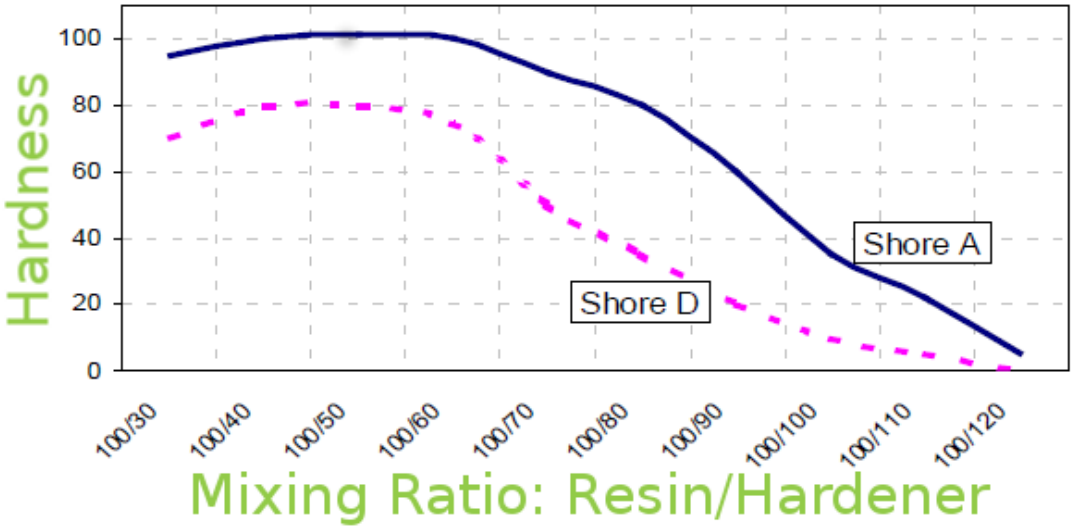
Epoxy is a thermosetting plastic. It can be permanently loaded up to 110 ° C.

The resin can also be used to coat the surface of a wide variety of materials, wood, ceramic, plastic, porcelain, metals.

It is also used by makers to encapsulate electronic components.

Characteristics:

- Crystal Clear
- Alterable hardness, scratch resistant
- UV resistant
- Zero shrinkage during curing
- Well spread, very low-viscous watter like, easy to cast



1. Main Fields of Application

- Jewelry making. Bracelet making. It is preferably used to enclose and envelop dry flowers, natural materials as decorative elements.
- Casting bubble-free objects.
- DIY makers can cast parts with different elastic properties, step by step changing the mixing ratio. Casting parts of different elasticities.

2. Instructions for use

1. Prepare the two components (base and hardener), shake separately or mix thoroughly before use.

2. Let the components have a rest so as the bubbles disappear after mixing.

3. Weigh out the required base and catalyst (e.g. 100 g base and 45 g hardener).
   Caution! Epoxy resins are sensitive to accurate mixing ratios.
   Otherwise it might not harden properly.

4. Place the components in a bowl and mix thoroughly. Use mixing bowl made of polypropylene or polyethylene, the epoxy does not react or even stick to that at all.
   Do not leave unmixed components on the wall of the mixing bowl.

5. The resin can then be casted. We recommend the mixture to be degassed in a vacuum chamber before.
   Advice: Try pouring it into a single point of the mould. This way you will avoid arising air bubbles.

The working time (pot time) at ~ 25 ° C is several hours. (See table below.)

The epoxy resin sticks together very well even if you set to a completely hardened part later.

However, when casting jewellery, this should be avoided because the boundary line will always be visible. The light refraction is different from the parts as you'll never be able to establish exactly the same mixture density.

The hardening time is 72 hours after you start mixing the components. This time can be slightly reduced by raising either the casting temperature or the environmental temperature. E.g. to 35-40 ° C.

You can then disassemble the tool.

If necessary, use compressed air to facilitate separation. It is important not to force the separation with sharp tools, as this may damage the casted part.

The hardness and certain technical properties of the object can be further enhanced by heat treatment.

To do so, leave the object at room temperature for a minimum of 1 day.

Then heat them at 60 ° C for 15 hours. A well-controlled oven is a good option for that.

Be sure to raise the temperature slowly and gradually to 60 °C. About 6-8 °C per hour.

3. Important Recommendations

- Observe the general health and safety regulations
- Wear protective gloves
- Ensure adequate ventilation
- Wear safety goggles and suitable safe clothing

4. Chemical and Physical Properties

	Resin	Hardener	Mixture
Mixing ratio (mass %)	100	50 -90	
Mixing ratio (volume %)	100	50 -100	
Coulor	transparent	transparent	transparent
Viscosity	600 mPas	100 mPas	220 mPas
Mixing time, at 25 °C			1 min
Gel time (15ml; 6mm)			6 h
Curing time at 25 °C			72 h
Hardness at 25 °C			variable
Density at 25 °C	1,12 g/cm^3	0,98 g/cm^3	1,05 g/cm^3

5. Shelf Life

The epoxy casting resin is guaranteed for a period of 18 months if stored correctly at a temperature of between 5°- 27°C (41° - 80°F).

The advice given verbally, in writing or through demonstrations on the use of the products are based on our knowledge.

The use and application of the product by the user lie beyond the control of the company and are therefore the user's own responsibility.