

Epoxy Resin Systems E45T, E45TM, E25TU, E25TMU

- Systems for Aquariums and Terrariums –



Our Epoxy Resin Systems are specially designed for the use in aquariums and terrariums. The resin-sealed surfaces are shock-resistant, scratch-proof and bite-resistant. A barrier layer is created which is impermeable to water and can be cleaned and disinfected easily. Bacteria or pathogens cannot adhere to this surface.

Properties and field of application:

Laminating and Topcoat Resins:

- good wet-out of reinforcement fibres
 - creates clear and non-sticky surfaces
 - cold-hardening
 - good strength
-
- sealing of metals, wood, diverse plastics and mineral substrates
 - high surface protection, very good hygiene and water barrier layer
 - high impact strength

These systems are considered **physiologically harmless** if processing instructions are observed.

Humid Terrariums Aquariums, Paludariums		Desert Terrariums high UV - resistance	
low viscosity For solid subsoil (OSB, stone...)	medium viscosity For smooth or non- porous subsoil (Styrofoam...)	low viscosity for solid subsoil (OSB, stone...)	medium viscosity For smooth or non- porous subsoil (Styrofoam...)
E45T	E45TM	E25TU	E25TMU
	Suitable for Marine aquariums.	Suitable for the use of UV-lamps.	

E = Epoxy Resin System; **T** = Terrarium System; **M** = medium viscosity; **U** = at higher UV load

Processing data:

		E45T	E45TM	E25TU	E25TMU
Colouring		light yellow / clear	light yellow / clear	light yellow / clear	light yellow / clear
Mixing Ratio (Resin : Hardener)	[weight]	100:60	100:60	100:60	100:60
	[volume]	100:66	100:70	100:64	100:66
Mixing Viscosity (at 20°)	[mPa s]	low viscous	medium viscous	low viscous	medium viscous
Pot Life (at 20°C)	[minutes]	45	45	25	25
Non-sticky	[h]	48	48	24	24
Working temperature (optimal)	[°C]	20	20	20	20
Processing Temperature (minimal)	[°C]	15	15	10	10
Consumption as sealing (unreinforced, unfilled)	[g/m ²]	approx. 400g/m ² (in two coatings)			

Epoxy Resins in Aquarium and Terrarium Constructions:

Epoxy Resins are used for the construction of moulded parts (e.g. back of rocks) or for sealing surfaces in the construction of aquariums or terrariums. The hardened material is in contrast to the two raw components physiologically harmless because they form a new plastic with new properties.

Moreover, our basic systems do not contain emitting solvents and no harmful additives. Numerous laboratory tests confirm the resistance against animal excrements and the improved UV-resistance (E25TU/TMU). The sealed surfaces are shock-resistant, scratch-proof and bite-resistant. This barrier layer is impermeable to water and it can be cleaned and disinfected easily. Also bacteria or pathogens cannot adhere to this surface.

The respective fillers can be added by the user for a desired property change. By adding colour pigments it is possible to imitate earth tones or sand-colours. In addition, it is possible to add sand or little stones during the hardening process to create mineral substrates. The material can be thickened by adding cotton flocks (HP-BF1) and a thixotropic agent (HP-PK22) for the design of irregular surfaces.

Our systems differ in their consistency. We offer fluid systems with very good penetration characteristics for porous surfaces like wood with open pores. Medium-viscous systems are used on smooth surfaces to prevent a run-off. Styrofoam or styrodur and other plastics are not attacked.

You can select between different working times. For larger projects, pot lives of 45 min are suitable, but experienced users often only need 25 min working time.

For desert terrariums with UV exposure, we offer special low-yellowing systems with high resistance to artificial lighting (E25TU / TMU).

Safety instructions:

The safety instructions are to be taken from the respective containers. Do not allow children to handle. Prevent inhalation of fumes and contact with bare skin. Wear suitable protective gloves and safety goggles. Do not eat, drink or smoke while using. During the hardening process, energy can be released in the form of heat, hence a cooling/heat exchanging should be provided in order to prevent hot spots. Only mix the components in the recommended proportions in accordance with the instructions.

Higher resistance against crystallization.

However, at very low temperatures, a crystallization of the hardener may occur. The process is reversible e.g. by heating it to 40°C in a water bath. A complete melting is important. Storage and processing with air admission may lead to carbamate formation (white coloration).

Application Instructions:

We recommend prior tests to check the suitability for the particular type of application. The system should only be used in the mentioned temperature conditions. The relative air humidity should not be above 70%.

In respect of the safety instructions the epoxy and hardener should be mixed in a suitable mixing vessel in accordance with characteristics given in the data sheet. Deviating from the mixing recommendations can lead to incomplete hardening and through that to a loss of performance.

Ensure that the edges are well mixed using a stirring stick or a propeller type mixer. Streaks indicate insufficient stirring and mixing of the components. Larger amounts (more than 100g) and higher temperatures (higher than 20°C) can reduce the pot life.

Mixtures which rise to over 40°C in the mixing vessel should not be used any further since processing is associated with property losses. Increased temperature can be reduced by pouring the mixture into flat paint trays.

Earliest water contact / filling:

Final strength after 7 days at 20°C (values from literature).

Higher temperatures will significantly shorten this time.

Cleaning of work tools:

Unhardened product remains can be removed from tools by means of acetone or Thinner XB. Tools should be given a good airing after being cleaned with these solvents, in order to prevent the solvent from being retained until the tool is used again. Hardened remains can only be removed by mechanical means, e.g. by sanding.

Storage:

Threaded container tops should be kept free of material remains. Do not exchange tops/lids. Close opened containers tightly. Store product in cool and dry conditions. With optimal storage conditions, shelf-life should be beyond 12 months.

Deliverable quantities:

Plastic containers with safety fastening are available in different quantities.

Larger containers (e.g. barrels) can be obtained upon request.

Disposal:

Do not allow to enter drains, waterways or soil. Uncured product residues are hazardous waste. The cured system is construction site waste / household waste.

Further Information:

Further application information can be obtained from our website, by selecting Product Info on our homepage. Please do not hesitate to contact us by telephone if you have further queries.

Clearance certificate:

Our systems for the area of terrarium and aquarium construction are selected by the principle:

„If there are no additives in our Epoxy Resin Systems, no harmful additives can be released into the environment!”

The recommended raw materials for the terrarium and aquarium area are based on ingredients that are tested for their suitability in long-term tests. The systems E45T / E45TM / E25TU / E25TMU are therefore considered physiologically harmless, if the instructions for use are observed and the material is completely cured.

We distribute our mentioned systems (for terrarium and aquariums) since 2005- without any change in the formulation. During the development process, it was very important for us, to work only with components, based on the positive list I of the guideline for the assessment of Epoxy Resin coatings in contact with drinking water of the Federal Environmental Agency in Berlin.

Legally binding forces cannot be deduced from this document.

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. It is the user's responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us. We recommend tests be performed for trials and suitability for the particular type of application.

With the newest printing of this data sheet the previous version loose validity!