

Epoxy-System HP-E50GB

- casting resin, transparent -

The Epoxy-System HP-E50GB is an unfilled, low-viscosity combination of resin and hardener with working time (pot life) about 40 minutes.*

Usable for epoxy casting of medium thickness (up to approx. 15mm) depending on surface, temperature geometries and casting quantity (volume).*

Features & Benefits:

- transparent, low shrink-casting with tacky-free surfaces
- very good flow behaviour (low-viscosity)
- cold-hardening, demouldable at room-temperature
- high fillable casting resin
- cause pressure-resistant and impact-resistant (tough) moulds / components with high strength and very less shrinkage

Industrial modelling / hobby modelling / boatbuilding:

- foundry patterns, die plates, reproduction patterns
- building of medium moulds and castings
- encapsulation of decorative elements
- levelling compound / injection resin for structural repairs

HP-E50GB is free of nonylphenol and contains no active diluents!

For a better UV resistance, a suitable clear coat (HP-PUR) should be applied. Furthermore our HP-BEL91 UV-Stabilizer can be add to the epoxy resin or clear coat, in order to give a better protection and improve the UV resistance in a long-term.

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.

Product Properties:

Colouring	transparent (resin & hardener)		
Mixing ratios	100 parts resin : 50 parts hardener (by weight)		
	100 parts resin : 57 parts hardener (by volume)		
Mixed viscosity	low-viscous	(details below)	
Working time (pot life)	approx. 40 minutes	(at 20°C)	
Demouldable after*	24 h	(at 20°C)	
Full cure	7 days	(at 20°C)	
Working temperature	10-25 °C		

Product Specifications:

Viscosity Resin (at 25°C)	700-1100	[mPa * s]	HP.07.003
Viscosity Hardener (at 25°C)	50-150	[mPa * s]	HP.07.003

Data of unreinforced resin:

Tensile strength	43	[N/mm ²]	HM.07.0004
Elongation	4	[%]	HM.07.0004
Flexural strength	75	[MPa]	HM.07.0005
E-Modulus	3	[GPa]	HM.07.0004
Hardness	85	[Shore D]	HP04.07
Glass transition temperature Tg MAX	50	[°C]	HP04.08

Physical data determined of unfilled specimen. Curing specifications 24h at 23°C + 15h at 80°C

* Depends on geometry and total amount of casting.

Safety instructions:

The safety instructions are to be taken as being of greatest importance. Do not allow children to handle. Prevent inhalation of the fumes and contact with the bare skin. Wear approved protective gloves and goggles. If ingested do not eat, drink or smoke. Only mix the components in the recommended proportions in accordance with the instructions.

Application Instructions:

We recommend tests to be performed for trials and suitability for the particular type of application. The system should only be used in the optimum 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 loss of performance.

Ensure that the edges are well mixed using a stirring stick or a propeller type mixer. Localized signs of hardening indicate insufficient stirring and mixing of the components. Mixing of larger amounts (more than 100g) and higher temperatures (higher than 20°C) reduces the pot life time.

After entire mixing of resin and hardener, it is possible to add dry filling agents.

Further it is possible to degas the system by vacuum at 30 - 50 mbar.

- Vacuum may increase the volume!

Note: If the temperature in the process go above 40°C then it is not possible to continue further, as the process with lead to a loss of certain characteristics and properties. Increases temperature can be reduced by pouring the mixture into flat painting trays.

Cleaning 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 in a process. Hardened remains can only be removed by mechanical means.

Storage:

Threaded container tops should be kept free of material remains. Do not exchange tops/lids.

With optimal storage conditions, shelf-life should be beyond 12 months.

Deliverable quantities:

Plastic containers with safety fastening in different quantities.

- The delivered amounts always contain equal proportions of epoxy and hardener! -

Larger containers can be obtained upon request.

Disposal:

Do not dispose of through the sewerage system, on areas of open water, or in the soil. Non-hardened remains of the product should be disposed of as hazardous waste. The hardened product waste should be treated as building rubbish or household rubbish.

Further Information:

Further application information can be obtained from our internet site, by selecting product info on the homepage. Please do not hesitate to contact us by telephone if you have further queries.

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