Epoxy System HP-E120WSM

- High heat resistant multipurpose Epoxy System -

The Epoxy System **HP-E120WSM** is an unfilled, medium viscous, 2-component combination of resin and hardener. It can be used as a laminating resin system for a high temperature stabilities.

Features & Benefits:

- very good wetting of the reinforcement fiber
- high static and dynamic strength
- very good dimensional stability under heat up to 150°C
- good resistance to fuels
- hot curing, post cure is necessary
- colourless, clear

Field of Application:

- special laminating- and multipurpose resin
- building of high heat resistant components
- usable for mould and tool making
- production of composites made of glass-, carbon- or aramid fabrics
- optical application such as visible carbon parts

Processing data:

Mixing ratio *(weight)*	100 parts resin / 26 parts hardener
Pot life time 20°C (Processing time approx.)	120 minutes (100g)
Pot life time 25°C (Processing time approx.)	80 minutes (100g)
Optimum hardening	24h / 20°C // 5h / 60°C // 6h / 80°C // 2h / 120°C rise of temperatur 20°C /h

Data of raw material:

Physical Data / Resin	**Value**	**Unity**	**Testing method**
Viscosity 25°C	8000 - 9000	mPa * s	PM.01.003
Density 20°C	1,14 - 1,16	g/cm³	PM.01.002
Epoxy-equivalent	175 - 185	g/EQ	calculated
Color index	< 1	Gardner	
Physical Data / Hardener			
Viscosity 25°C	40 - 60	mPa * s	PM.01.003
Density 20°C	0,95 - 0,97	g/cm³	PM.01.002
(NH)-equivalent	45 - 50	g/EQ	calculated
Color index	< 1	Gardner	
Physical Data / after curing:	**Value**	**Unity**	**Testing method**
Density 20°C	ca. 1,1	g/cm³	PM.01.002
Tensile strength	75	N/mm²	PM.01.004
E-Modulus	2800	N/mm²	PM.01.004
Elongation at break	4 - 5	%	PM.01.004
Fluxural strength	100	N/mm²	PM.01.005
Glass transition temperature	150	°C	PM.01.011 *1)
Hardness	86 D	Shore	PM.01.009

Specifications with unreinforced resin, after curing for 24h at 20°C // 5h / 60°C // 6h / 80°C // 2h / 120°C
*1) extra curing 2h / 160°C

Technical Data Sheet

Epoxy System HP-E120WSM

Safety instructions:

Observe the safety instructions of the respective containers.
Keep out of the reach of children. Avoid inhalation of vapours and the contact with skin. Wear approved protective gloves and goggles. Do not eat, drink or smoke while working. Energy is released during hardening and it is recommended to ensure a heat dissipation to avoid heat accumulations. The quantities of single mixtures have to be adjusted to the respective working step.

Application notes:

We recommend to perform preliminary tests and 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 resin 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. Localized signs of smear formation indicate insufficient stirring and mixing of the components.
Tip: Often it is advisable to heat the single components up to 40°C in a water bath before mixing (in a closed container). The same applies for a mixed system whereby the viscosity is reduced.

A subsequent tempering can be done in accordance to the steps mentioned above. The laminate should be hold in position by a counter-form or by vacuum compression during tempering. For adhesive applications it is sufficient to fix the single parts and a high pressing power is not necessary.

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 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. Carefully and tightly reseal opened containers. Store it in a cool and dry place. Storage life at optimal storage conditions is at least 12 months. The hardener can crystallise at low temperatures. This process is reversible, e.g. by heating up the container up to 40°C in a water bath. Make sure that the hardener completely fuses.

Available quantities:

Plastic containers with a safety closure in various available quantities.
The listed quantities always include resin and hardener. Larger units available on request.

Disposal:

Do not dispose through the sewerage system, on areas of open water, or in the soil. Non-hardened remains of the product should be disposed 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 website, by selecting Product Info on the homepage. Please do not hesitate to contact us by telephone if you have further queries.

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