

725-EP3001A&725-EP3003B Hand Lay-up Epoxy Resin

Produce Description

725-EP3001A&725-EP3003B epoxy resin is composed of two components, among which 725-EP3001A is the epoxy resin component and 725-EP3003B is the hardener. It has the characteristics of low viscosity, long operation time, low exothermic peak, good wettability, good mechanical properties and fatigue properties, and is suitable for the preparation of various fiber reinforced composites. The resin can meet the performance requirements of the German Classification Society for wind turbine blade paste.

Application Fields

Wind turbine blades, engine room covers and fairing, composite components, sports equipment, etc.

Physical and Chemical Properties

725-EP3001A

Property	Unit	Index
Appearance	—	Colorless, transparent and syrupy liquid
Viscosity (25°C)	cP	2000-3000
Density (25°C)	g/ml	1.1-1.2
EEW	g/eq	165-180
Sealed storage life (25°C)	month	12

725-EP3003B

Property	Unit	Index
Appearance	—	Blue clear liquid
Viscosity (25°C)	cP	100-350
Density (25°C)	g/ml	0.94-1.1
amine value	mgKOH/g	400-550
Sealed storage life (25°C)	month	12

Properties of mixture 725-EP3001A&725-EP3002B (Mass ratio =100:34±2)

Property	Unit	Index
Viscosity (25°C)	cP	800-1500
Density (25°C)	g/ml	1.1-1.2
Pot life* (25°C)	min	≥10
Exothermic peak temperature (25°C)	°C	≤230

Pot life: Exothermic peak time at 25°C.

Resin casting properties

Property	Unit	Index
Density	g/cm3	1.1-1.2
Tg value	°C	Teig ≥65
		Tmg≥70
Tensile strength	MPa	≥60
Tensile modulus	MPa	≥2700
Fracture elongation	%	≥2.5
Flexural Strength	MPa	≥100
Flexural Modulus	MPa	≥2700
Volumetric shrinkage	%	≤5
Water absorption	%	≤0.5
Heat deflection temperature (HDT)	°C	≥65

Note: Curing conditions:10 h @70 °C

Mixing and stirring

In order to achieve the design performance of the epoxy resin, it is necessary to accurately weigh the epoxy resin and curing agent and fully mix the two components in the process of use. The stirring time is at least 2 minutes, and ensure that the product at the corner and bottom of the container can be fully mixed. When mechanical automatic mixing is used, it is necessary to monitor the discharge ratio of the equipment regularly and adjust the mixing equipment regularly to ensure the correct mixing ratio.

725-EP3003B hardener and the resin after mixing are easy to absorb moisture in the air, which intensifies the reaction and exothermic heat of the resin after mixing, resulting in a shorter operable time of the resin pouring. Therefore, in the storage, use and transportation of resin, as far as possible to avoid contact with water.

The epoxy resin and hardener react at room temperature with accompanying exothermic heat. Heat release increases with the increase of product quality, too high reaction heat release may cause fire or thermal decomposition, so when the use of resin is relatively large, it is recommended to prepare a small number of times, to avoid excessive use of heat accumulation, aggravate reaction heat release, cause danger.

Cure process

725-EP3001A&725-EP3003B epoxy resin is used at an ambient temperature of 20°C to 30°C. At low temperature, the viscosity of the product increases significantly, which will cause difficulties in perfusion. Moreover, the air humidity is recommended to be below 70%.

The operable time of 725-EP3001A and 725-EP3003B epoxy resin is obviously shortened with the increase of temperature. The recommended curing temperatures for 725-EP3001A and 725-EP3002B epoxy resins are 50°C to 80°C. If curing at lower temperatures, post-curing properties can be achieved by extending curing time. The curing process of 725-EP3001A&725-EP3003B epoxy resin can be flexibly adjusted according to the actual use requirements. It is recommended to confirm the specific process parameters of curing according to the temperature, time, heating rate and dosage of perfusion during the use process.

Packaging and storage

EP3001A epoxy resin is packaged in 1100 kg/container (IBC), or 220 kg/sealed drums. Closed packaging products in a dry environment between 10°C and 40°C, shelf life of 24 months. Liquid epoxy resins may crystallize during storage, and the possibility of crystallization can be reduced by storing the resin at temperatures greater than 25 ° C. The crystallized resin will redissolve when heated above 60°C.

725-EP3003B hardener is packaged in 900 kg/container (IBC), or 200 kg/sealed drums. Closed packaging products in dry environment and between 10°C and 40°C, shelf life of 12 months. 725-EP3003B curing agent is hygromscopic and can absorb water and carbon dioxide from atmospheric environment. Therefore, the container should be sealed tightly after use. If conditions permit, nitrogen can be added to the unused curing agent after opening the lid for protection. The absorption of water and carbon dioxide will affect the chemical properties of the material and the properties of the final product.

Protective measures and personal hygiene

Uncured materials should not come into contact with food or tableware. Measures should also be taken to avoid contact of uncured materials with skin, as some people with skin allergies may be affected. Wear impermeable rubber or plastic gloves and protect your eyes. After each job, wash your skin thoroughly with soap and warm water and avoid using solvents. The workplace should be well ventilated. Please refer to the MSDS of this product for specific safety precautions.

Important

The information and data provided herein are for reference only and do not constitute liability, warranty or warranty for the performance of the final product. Physical values may also change without notice. It is the sole responsibility of the Buyer to determine whether the product is suitable for the Buyer's purpose in view of regional differences, circumstances and different business facilities. Therefore, HUISINS assumes no responsibility and obligation for the use of the products provided, and does not make any warranty, express or implied. It also expressly excludes any warranty as to the availability of the products and their suitability for a particular purpose.