



Epoxy resin ED-20

Characteristics

Epoxy resin ED-20 is a two-component unmodified transparent liquid epoxy-diane (based on bis-phenol A) of cold-cured general-purpose resin. Epoxy is cured at normal temperature using a wide range of hardeners.

Properties

- Epoxy resins provide the highest quality of adhesive joint and strength.
- The resin has very little shrinkage.
- The resin is well absorbed and forever forms a composite whole with many different materials.
- Epoxy coating has very low water absorption.
- The curing time of the epoxy resin is controlled by a hardener.
- Polymerized coating, the product does not emit toxic fumes, has no smell.
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- Characterized by corrosion resistance.
- Easy to mix with plasticizers, pigments and other modifiers and fillers.
- Epoxy resin provides long-term protection to metal, steel and concrete products operating in highly corrosive environments and submerged in liquid.

Applications

Epoxy resin ED-20 is the most versatile product among many epoxides. It is actively used in energy, radio-electronic industry, aircraft, shipbuilding, mechanical engineering, automotive, construction and repair, etc.:

- Component for electrical insulating compounds.
- Component of filling compounds.
- Component of impregnating compounds.
- Component of adhesives. Epoxy glue is suitable for almost all types of metals, wood, ceramics (porcelain, earthenware), rubbers, fabrics, polystyrene, glass, marble, stone, concrete, tile, etc .
- Sealant component.
- Component of paint and varnish materials.
- Component for the fiberglass production.
- Binder for the plastics and fiberglass manufacturing (fiberglass impregnation), carbon plastics.
- The basis of protective coatings (chemical resistant coatings).
- Base of self-leveling floors. Epoxy floors are effective in industrial premises, and in commercial facilities, in offices, and in private households.
- Component for the polymer concrete manufacturing.
- Jewelry and decorative items are made of epoxy resin.

Application methods

The resin and hardener bonding should be processed at a temperature of at least +20°C. Gelling time is about 1,5 hours, and the time of full curing is 24 hours.

Forbids to mix a large amount of resin with a hardener immediately, without using special mixing machines to avoid an effervescence.

When fiberglass products manufacturing, it is recommended to make a test sample for each batch of resin and hardener. Heating considerably accelerates the curing process. As self-curing occurs with the calorification (heat emission), when preparing large dose of resin with a hardener, self-heating of the mixture is possible, accompanied by foaming and rapid solidification.

The epoxy resin heating to +40°C - +50°C reduces the viscosity.

The resin with low viscosity is easier to apply with a brush or roller, it quickly impregnates fiberglass and penetrates deeper into porous surfaces like rot-damaged wood.

The non-cured diane epoxy resin ED-20 can be converted into a non-meltable and insoluble condition by the action of various type curing agents – aliphatic and aromatic di- and polyamines, low-molecular polyamides, di- and polycarboxylic acids and their anhydrides, phenol-formaldehyde resins and other compounds.

Depending on the hardener used, the properties of the cured epoxy resin ED-20 can vary within the widest range. The most commonly used hardener is PEPA (polyethylene polyamine). Traditionally, PEPA is added at a rate of 10% by weight of the resin (in proportion 10:1).

Storage

Epoxy-diane resin ED-20 is stored in tightly closed tare in closed warehouses at temperature not higher than +40°C.

The shelf life in original container is 18 months.

Storage over the date specified on the label does not necessarily mean the product is unusable. In case if store more please check the properties of product before use.

Packing

- polymer canisters with a capacity of up to 25 dm³;
- polyethylene drums with a capacity of up to 50 dm³;
- steel barrels with a capacity of up to 200 dm³;
- steel barrels with a capacity of 220 dm³.

Safety instructions

Please see comprehensive instructions in the relevant safety data sheet for the product that can be provided upon request.

Product specification

NAME OF PARAMETER AND UNIT OF MEASURE	STANDARD
Appearance	High-viscosity clear without visible mechanical impurities and water
Color, iron-cobalt scale, max	4
Content of epoxy groups, %	19.9 - 22.0
Content of chloride ion, %, max	0.003
Content of saponifiable chloride, %, max	0.5
Content of hydroxyl groups, %, max	1.7
Content of volatiles, %, max	0.5
Dynamic viscosity, P*s at +50°C	2-18
Gelling time with hardener, h, min	5.0

To obtain more information please contact your nearest representative office of Silkor Ltd.

LIMITED WARRANTY INFORMATION, PLEASE READ CAREFULLY:

The information contained herein is accurate, but it does not relieve the customer from the control of each batch of products supplied. Since the conditions and methods of use of our products are beyond our control, the recommendations contained in this document should be updated by the client providing preliminary tests. Recommendations for use should not be construed as a guarantee of product suitability for a particular purpose.

Silkor Ltd only guarantees that the product meets its specifications in effect at the time of delivery.