



Resins

1600-01

1700-01 / 01-03

Hardeners

10-01

20-01-04 / 01-05 / 01-06

Description

Epoxa us 1600-01 and 1700-01 epoxy resin series are designed to be used in the construction of marine structures of all types including boats, surfboards, kayaks and others and in parts of countless items in the repair and manufacturing marine industry. It uses hardeners 10-01 and 20-01 series. By saturating fiberglass, carbon or other type of fibers these systems creates a strong layer of cured material with excellent mechanical and chemical properties.

These two part systems are 100% solids and possess high chemical and dielectric properties and excellent adhesion to a great variety of surfaces and materials.

These products accept high percentages of fillers as different types of silica, barium sulfate, fumed silica, titanium dioxide and others to modify tixhotropy or create paste-like material if desired.

These epoxy compounds can be mixed with other liquid epoxies, diluents or modifiers to fulfill your application specifications.

Long shelf life and product stability makes epoxa us 1600-01 / 1700-01 resin systems and ideal main resin in the formulation of products for the marine building industry.

Key Features and Benefits

- Low viscosity, excellent wetting
- Several combinations of resin hardener available
- Chemical resistant
- High impact properties
- Excellent adhesion characteristics
- Carbon and fiberglass laminates
- Variable pot and working times
- Compatible with several fillers
- Clear color
- Environmentally friendly
- No special tool needed

Specification 1600-01 Resin

| Properties 1600-01 | Units | Value |
|--------------------|-----------|-----------------|
| Color | Gardner | 1 |
| Viscosity | Poise | 120-140 |
| Weight per Epoxide | | 187-191 |
| Mixing Ratio With | Hardeners | Ratio by volume |
| | 20-01-04 | 5 to 1 |
| | 20-01-05 | 2 to 1 |
| | 20-01-06 | 2 to 1 |

Properties

Adhesive

Resin 1600-01 / 1700-01 bonds strongly to almost any material, its adhesion to existing epoxy is excellent allowing part fabrication, maintenance and repair. A strength of 6000 psi (41 Mpa) and minimal contraction during cure contribute to low stress levels of epoxy systems compared to others polymers therefore creating a lasting bond.

Electrical

Systems using 1600-01 / 1700-01 and cured with 20-01 series hardeners possess excellent dielectric and insulating properties. As an example resistance of 1×10^E 16ohm-cm, constant dielectric of 3-5 and disipation of 0.002 a 0.020 can be obtained at room temperature with amines and anhydride used as hardeners.

Chemical

Systems using resins 1600-01 and 1700-01 series exhibit high chemical resistance to an ample range of chemicals like acids, solvents, fuels and other substances.

Mechanical

High strength and high performance can be obtained using 1600-01 and 1700-01 series with several hardeners. Tensile strength above 10 000 psa (69Mpa) with modulus above 4000 000 psi (2750 Mpa) are possible with unfilled systems. These compounds are generally very hard unless elongation ratios of 300% are desired.

Curing Agents for epoxa us 1600-01 and 1700-01 Series (100gr Mass)

| Curing Agent | Type | phr (190EEW) | Gel Tiem/min/25c/77f | Density/lbs/gal | Viscosity/77f/25c/cP | Color/Gardner |
|-------------------|--------|-----------------------------|----------------------|-----------------|----------------------|---------------|
| epoxa us 10D-01 | Liquid | 42 Weight / 2 to 1 Volume | 40 | 8.1 | 98 (20c) | 2 |
| epoxa us 20-01 | Liquid | 15 Weight / 100 to16 Volume | 30 | 8.3 | 27 (20c) | 2 |
| epoxa us 20-01-04 | Liquid | 17 Weight / 5 to 1 Volume | 29 | 8.1 | 59 (20c) | 1 |
| epoxa us 20-01-05 | Liquid | 41 Weight / 2 to 1 Volume | 10 | 8.1 | 48 (20c) | 2 |
| epoxa us 20-01-06 | Liquid | 42 Weight / 2 to 1 Volume | 9 | 7.9 | 49 (20c) | 1 |

Transportation Information

DOT Description

NOT-REGULATED BY D.O.T.

DOT information - 49 CFR 172.101

CFR_ROAD NOT REGULATED FOR TRANSPORT

IATA_C NO REGULATED FOR TRANSPORT

IMDG NO REGULATED FOR TRANSPORT

CFR_RAIL NO REGULATED FOR TRANSPORT

Specification 1700-01 Resin

| Properties 1700-01 | Units | Value |
|--------------------|-----------|-----------------|
| Color | Gardner | 1 |
| Viscosity | Poise | 20-30 |
| Weight per Epoxide | | 169-176 |
| Mixing Ratio With | Hardeners | Ratio by Volume |
| | 10D-01 | 2 to 1 |
| | 20-01 | 100 to 16 |
| | | |

Specification 1700-01-03 Resin

| Properties 1700-01-03 | Units | Value |
|-----------------------|-----------|-----------------|
| Color | Gardner | 1 |
| Viscosity | Poise | 10-20 |
| Weight per Epoxide | | 166-171 |
| Mixing Ratio With | Hardeners | Ratio by Volume |
| | 20-01 | 100 to 16 |
| | | |
| | | |

Curing Times (Mass and Temperature Dependent)

| With 1600-01/1700-01 Series | In mass (200gr) | Thin layer |
|-----------------------------|-----------------|------------|
| Hardeners | | |
| 10D-01 | 50 min | 6 hours |
| 20-01 | 35 min | 1-2 hours |
| 20-01-04 | 14 min | 1-2 hours |
| 20-01-05 | 10 min | 1-3 hours |
| 20-01-06 | 9 min | 1-3 hours |
| | | |

Note

Curing time refers to the compound reaching initial curing hardness to touch, second hand applying via brush, roller or spray gun is possible at significantly shorter times when the product becomes tacky usually in a matter of minutes and not hours. It is recommended to do tests to know the gel and curing times in your application conditions since it is very difficult to predict exact curing times because of temperature, mass and method variations.

Information requested to epox us must be handled by a representative. For storage and handling procedures and to maintain the product specifications please read the certificate of analysis that are available if requested.
The use of other product in combination with epoxa us products may require different procedures and methods and precautions.
Always follow all recommendations and instructions from the manufacturer.

Limitations

Buyers or clients should evaluate epoxa us systems and determine if they work in their applications or projects and with their own methods.

From the mining to the automobile industries, electronic to construction industries and many other manufacturing fields, epoxa us products are leaders in many sectors and have become the standard to follow. Our experience in epoxies and advanced products goes back more than 40 years, our ideology and innovation help improve the daily operations in the industrial world.

Knowing and understanding our customer needs and developing technology for specific clients and applications, we provide solutions to challenges in design and operation of epoxies with the goal of providing better performance and lower costs to your company.

Contacts

For prices, availability and orders please contact our team by calling us or by sending an email. Contact information is available at epoxaus.com

Epoxa us is a registered trademark.

Legal Information

The information presented in this document is considered correct at the moment of writing. Nevertheless it is the buyer responsibility to investigate and understand other knowledge sources to determine if the product is right or not for your application.

Epoxa us is only responsible for the product price only if proven defective since we dont have control of methods and applications.

The products only meet the specifications of sale established by epoxa us.