



Resins

1730-01

Description

Epoxa us 1730-01 epoxy resin is a clear low viscosity liquid formulated for applications where high electrical properties, high resistance to mechanical and thermal shock are needed. It is derived from a family of low viscosity resins that possess transparency and ease of use for the final user.

Resin 1730-01 can be mixed with other liquid or solid epoxy resins to achieved the desired product characteristics and viscosities. Liquid modifiers, diluents, flexibilizers can be added to reach optimum properties and because of its low viscosity, high percentages of fillers can be used in systems using this resin.

Long shelf life and product stability makes epoxa us 1730-01 resin an ideal main resin in the formulation of systems for the encapsulation of transformers, coils and other electric-electronic components that operate up to 130c (266f). This product can be cross-linked or hardened with several curing agents to attain desired properties.

Key Features and Benefits

- Higher filler percentages
- Motors, Transformers, coil encapsulation
- Electronic encapsulation systems
- Chemical resistant electrical coatings
- High Impact properties
- Variable working times at room temperature
- Different curing agents technology resin component
- Excellent bonding agent
- Controlled flexibility compounds
- Carbon and fiberglass epoxy electronic laminates
- Nature friendly composition

Sales Specification

PROPERTIES:	Units	Value	Test Method
Color	Gardner	1 maximum	ASTM D1544
Viscosity 77f / 25c	Cpoise	25-45	ASTM D445
Weight per epoxide	G/EQ	168- 175	ASTM D 1652

Typical Properties

PROPERTIES:	Units	Value	Test Method
Viscosity at 50c	Poise	3.9	ASTM D445
Viscosity at 75c	Poise	0.9	ASTM D445
Density 77f / 25c	LB/GAL	9.1	ASTM D1475
Density 77f / 25c	G/ML	1.09	

Curing Agents

Epoxa us 1730-01 resin can be cross-linked or cured with three types of curing agents. The properties of the final product will depend on your selection. These three curing agents are epoxa us 20-01, epoxa us 21-01 and epoxa us 31-01. Some information about these curing agents and their recommended concentrations, typical gel times, density and viscosity data are shown in Table 1.

Table 1 Curing Agents for epoxa us 1730-01

Curing Agent	Type	phr (1730-01)	Gel Time/min/25c/77f	Density/lbs/gal	Viscosity/77f/25c/cP	Color/Gardner
epoxa us 20-01	Liquid	10	35	8.2	26(68f/20c)	2
epoxa us 21-01	Liquid	17	25	8.9	2950	6
epoxa us 31-01	Liquid	14	35	8.7	200-300	8
Main Properties						
epoxa us 20-01	Maximum hardness an excellent mechanical and chemical properties. Room temperature cure. maximum operating temperature 105c (221f).					
epoxa us 21-01	Gives greater flexibility and adhesion to the compound. Easier to work with. Fast cure at room temperature. Performance up to 105c.					
epoxa us 31-01	Highest general properties and excellent thermal resistance. Complete curing through heat. Performance up to (130c 266f).					

Performance Properties

Adhesion Properties

Epoxa us 1730-01 creates strong adhesions specially with curing agent epoxa us 21-01. This hardener also gives flexibility to the system. Applications using any of the three curing agents will exhibit low shrinkage during cure and superb mechanical properties.

Electrical Properties

Epoxa us 1730-01 cured systems have great dielectric and insulating properties. Systems with excellent volume resistivities, high dielectric constants and superb dissipation factors can be obtained at ambient temperatures with epoxa us 20-01 and 21-01 and with heat curing using epoxa us 31-01.

Chemicals Resistance

Epoxa us 1730-01 cured systems have good chemical resistance to a wide range of chemicals like caustic, acids, solvents and petroleum derivatives. Chemical resistant systems can be formulated using epoxa us 1730-01 resin.

Mechanical Properties

High strenght with high performance materials can be obtained using epoxa us 1730-01 resin with various hardeners. Tensile values greater than 7000 psi with modulus greater than 300 000 psi with unfilled systems are possible. This compounds are usually hard unless high percentage elongation is desired.

Curing

For additional information covering the use of epoxa us 1730-01 resin with our variety of curing agents and the formulations resulting from them please contact epoxa us by phone, e-mail or letter and our team will work with you to recommend and achieve the system solution for your project or application.

Epoxy curing agents when mixed with epoxy resin cure faster with high temperature and slower with low temperature, the mixture reaction will generate heat so a thin film of resin and hardener will take longer to cure than a thick mixture or mass of resin and hardener.

Exact cure time will depend on temperature, sample mass or thickness and most importantly curing agent used. Since cure times decrease with mass or volume, special consideration and testing should be conducted when mixing larger amounts of material to achieve desired goals in working times and the overall application of a given system.

Packaging and Dispensing

Epoxa us 1730-01 resin is available in 500 lbs drums, 5 gallon pails and individual gallons. It can be stored at 100-120 f (38-49c) for ease of handling.

Viscosity will change 10-15 poise for each degree in temperature the product varies from 25c the higher temperature less viscous and lower temperature more viscous.

Always dispense the resin at the lower temperature that works for your application because it is always better to handle low temperature material than otherwise even though epoxa us 1730-01 can be dispensed at 100-120f (38-49c) safely.

Spills

Small Spill

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill

Persons not wearing protective equipment should not participate until clean up has been completed. Stop spill at source, dike area of spill to stop spreading of the product, pump liquid to salvage tank and remaining liquid can be taken on sand, clay, or other absorbent material and put into containers.

Dispose of in accordance with all applicable local, state and federal regulations.

Note: If this material becomes a waste, it would not be a hazardous waste by RCRA criteria (40CFR 261).

Place in an appropriate disposal facility in compliance with local and federal regulations

Any clothes affected by the spill should be disposed of to avoid further contamination.

These products are sold and manufactured for industrial use only, Material Data Sheets are available upon request from epoxa us and its affiliates. Epoxa us recommends reading the MSDS completely prior to using the product.

Transportation

DOT Description

NON-REGULATED BY D.O.T.

DOT information - 49 CFR 172.101

CFR_ROAD NOT REGULATED FOR TRANSPORT

IATA_C NOT REGULATED FOR TRANSPORT

IMDG NOT REGULATED FOR TRANSPORT

CFR_RAIL NOT REGULATED FOR TRANSPORT

Requests made to epoxa us about our products shall be handled by a representative. **For product storage and handling procedures to maintain product quality within our stated specifications, please review Certificates of Analysis, which are available.** Use of other materials in conjunction with epoxa us products may require additional procedures and precautions. Please review and follow the safety information provided by the manufacturer of other materials.

Limitations

Customers must evaluate epoxa us products and make their own determination as to fitness of use in their particular applications, projects and methods.

From automotive to mining, from electronics to construction, products from epoxa us incorporated lead the way and have become standard products in their respective industries. We have a strong presence in epoxy systems and advanced materials with a 40+ year heritage of innovation and with applications that improve everyday operations. By knowing our customers needs and creating custom technology for them, we provide science based solutions to help customers increase performance, solve product development issues and engineer better manufacturing processes.

Contact Information

For product prices, availability, or order placement, contact our customer service by visiting www.epoxaus.com
For literature and technical assistance, visit our website or call us with your questions.

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