

ALBIPOX® 3001

ALBIPOX® 3001 is a high performance elastomer–modified epoxy resin based on Bisphenol A/F epoxy resin. It is used for the toughening of rigid and brittle epoxy resin systems. The elastomer used is a special nitrile rubber chemically linked to the epoxy resin. During the cure of the resin phase separation occurs, resulting in excellent properties of the end application.

The cured system compared with a similar unmodified epoxy resin shows improved properties:

- Improved toughness (fracture energy, fracture toughness, impact resistance)
- Much better mechanical properties at low temperatures
- Significantly improved adhesion to complicated substrates, e. g. oil–treated steel
- Nearly unchanged heat deflection temperature
- No or minimal reduction in hardness, thermal, chemical and ageing stabilities

Using ALBIPOX® 3001 toughened epoxy resin systems with excellent price/performance ratio can be formulated.

ALBIPOX® 3001 is silicone–free.

ALBIPOX® 3001 can be blended with all epoxy resins; no restrictions or incompatibilities exist. Any epoxy hardener desired can be used; the cure characteristics are not or nearly not affected by the toughening.

Fields of Application

ALBIPOX® 3001 is used whenever a drastic improvement in toughness over the whole temperature range is required. This product is especially suitable for sophisticated structural adhesives. Some examples of applications are:

- Adhesives (very high toughness, significantly improved crash resistance, excellent adhesion, very good low temperature properties, ...)
- Reinforcement patches, e. g. for car construction
- Composites (improved inter laminar shear strength, increased punching resistance, increased pressure resistance of pipes, improved processability ...)
- Casts, structural foams, etc.

Application Recommendations

In the formulation to be improved the epoxy resin used is replaced by ALBIPOX® 3001. The amount of hardener is adapted to the new epoxy equivalent weight. For some non stoichiometric hardeners like Dicyandiamide a change in hardener amount is unnecessary. Fillers and other ingredients of the formulation are used as usual.

For some applications ALBIPOX® 3001 can be diluted further with a standard epoxy resin.

Technical data ALBIPOX® 3001 (no specification)

Property	Unit	Typical Values
Appearance		yellowish resin
NBR rubber content	[%]	15
Base resin		Bisphenol A/F epoxy resin
Density @ 20 °C	[kg/m ³]	1 130
Viscosity @ 25 °C	[mPas]	22 000
Epoxy equivalent weight		215
Shelf life	[months]	6*
Packaging		180 kg steel drum, 25 kg can

*if stored in the original unopened container

11/2016

This information and all further technical advice are based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

(Status: August 2014)

Evonik Nutrition & Care GmbH

Charlottenburger Str. 9, 21502 Geesthacht, Germany

Phone: +49 4152 8092-0, Fax: 49 4152 79156

nano-and-silicone-technology@evonik.com, www.evonik.com/nano-and-silicone-technology