

### PRODUCT DATA SHEET

## ISO-POX<sup>®</sup> HP 89/7

### DESCRIPTION

ISO-POX<sup>®</sup> HP 89/7 is a cold-curing, highly transparent epoxy casting resin for casting electrical components. Coatings and moldings made from ISO-POX<sup>®</sup> HP 89/7 form tack-free, scratch-resistant surfaces. ISO-POX<sup>®</sup> HP 89/7 contains no phthalates or silicones and does not tend to become brittle. The compound has good anti-corrosion properties and high adhesion to metal, ceramics and many plastics. The standard mixing ratio of resin : hardener is 2 : 1 parts by weight.

### **TECHNICAL DATA - LIQUID PRODUCT**

Component A (resin)	Colour	Colorless*
	Viscosity (25°C; rot.; 1 s <sup>-1</sup> )	Approx. 1200 mPas
	Viscosity (25°C; rot.; 10 s <sup>-1</sup> )	Approx. 1100 mPas
	Density (23°C)	Approx. 1,15 g/cm <sup>3</sup>
Component B (hardener)	Colour	Yellowish clear
	Viscosity (25°C; rot.; 1 s <sup>-1</sup> )	Approx. 55 mPas
	Viscosity (25°C; rot.; 10 s <sup>-1</sup> )	Approx. 50 mPas
	Density (23°C)	Approx. 1,02 g/cm <sup>3</sup>
Mixture	Mixing ratio resin : hardener	2 : 1 parts by weight
	Colour	Yellowish clear <sup>*</sup>
	Density (23°C)	Approx. 1,11 g/cm <sup>3</sup>
	Pot life (23°C)	Approx. 20 min*
	Gel time (23°C)	Approx. 40 min <sup>*</sup>
	Mixed viscosity (25°C; rot.; $1 s^{-1}$ )	Approx. 1100 mPas
	Mixed viscosity (25°C; rot.; 10 s <sup>-1</sup> )	Approx. 500 mPas
	Dielectric strength	Approx. 7 kV/mm

\* Special adjustments are possible according to customer requirements.

# <u>ISO=ELEKTRA</u>®

### TECHNICAL DATA - CURED PRODUCT\*

Mixing ratio resin : hardener	2 : 1 parts by weight
Hardness Shore A (23°C; 14d RT 50% rel. h.)	> 90
Hardness Shore D (23°C; 14d RT 50% rel. h.)	Approx. 75
Hardness Shore A (23°C; oven curing: 4hRT + 24h80°C)	> 90
Hardness Shore D (23°C; oven curing: 4hRT + 24h80°C)	Approx. 76
Long-term temperature resistance	Approx. 120°C
Short-term temperature resistance	Approx. 180°C
Glass transition temperature (midset)	Approx. 38°C
Tensile strength (5A specimen; 2 mm thickness; speed: 10 mm/min; 23°C)	Approx. 27 N/mm <sup>2</sup>
Elongation at break (5A specimen; 2 mm thickness; speed: 10 mm/min; 23°C)	Approx. 40%
Tear resistance (W-specimen; incision; speed: 10 mm/min; 23°C)	Approx. 85 N/mm
Dielectric strength	> 20 kV/mm
Dielectric loss factor tan $\delta$ (25°C; 50 Hz)	Approx. 0,008
Dielectric constant ε (25°C; 50 Hz)	Approx. 4,20
Thermal conductivity	Approx. 0,30 W/K×m
Coefficient of thermal expansion	Approx. 60×10 <sup>-6</sup> K <sup>-1</sup>
Tracking resistance	КА Зс
Water absorption after 28 days in water (immersion; 23°C)	Approx. 5,30%
Water vapour permeability (75% relative humidity; 23°C; 1 mm thickness)	Approx. 3,40×10 <sup>-6</sup> g/(day×mm <sup>2</sup> )

\* Cured for 14d RT at 50% rel. humidity.

### STORAGE AND TRANSPORT

Store in a dry and airtight, closed container at  $15 - 35^{\circ}$ C. Can be stored for at least 12 months in original sealed containers under the above conditions. Short-term deviations during transport and storage are acceptable. When stored at low temperatures, component A may experience crystallization effects. These are reversible. To do this, heat component A to  $40 - 50^{\circ}$ C for several hours.

### CLEANING

To ensure good adhesion of the cast resin the customer should individually test the suitability of the involved surfaces. Possible pre-treatments like cleaning, activation processes (plasma process) etc. should also be taken into account. The contact surfaces should be free of dirt such as dust, grease or water. For cleaning we recommend ISO-RC<sup>®</sup> Degreaser for wipe degreasing or ISO-RC<sup>®</sup> Flux-Off + ISO-RC<sup>®</sup> Spraywash for spray degreasing (available in 400 ml spray cans).

### PROCESSING

Stir up the resin container thoroughly before use to remove any possible sedimentation. Weigh the resin and hardener in the desired mixing ratio and mix for 1 - 3 minutes (depending on mixed quantity and processing time). Apply suitable mixing speed in order to ensure complete homogeneous mixing without introducing too many air bubbles into the reaction mass. The ideal processing temperature is 20 -25°C. In general, curing is delayed at lower temperatures and accelerated at higher temperatures. When using a double chamber bag, empty the corners thoroughly and knead for 3 minutes. Before casting, a homogeneous mass, free of streaks, must be obtained. Pour immediately afterwards and do not scrape the mixing vessel. Air bubbles that have been stirred in, can be removed before the end of the potlife by evacuating the material or carefully fanning the surface with a hot air gun. Machine casting is also possible.

The EC safety data sheet provides information on safety-relevant product properties.

Our technical application advice, whether verbal, written or based on trials, is given to the best of our knowledge and experience, but is to be regarded only as non-binding advice for normal and proper use and storage of the products, also with regard to any third-party property rights, and does not release you from your own examination of the products supplied by us for their suitability for the intended processes and purposes. The application, use and processing of the products are beyond our control and are therefore exclusively your responsibility and liability. Should liability nevertheless come into question, this is limited for all damages to the value of the goods supplied by us and used by you. It goes without saying that we guarantee the perfect quality of our products in accordance with our General Terms and Conditions of Sale and Delivery. We reserve the right to make changes to the product specification. The latest product data sheet applies (for status see page 1).