

## PRODUCT DATA SHEET

# ISO-POX® HP 89/7

### DESCRIPTION

ISO-POX® HP 89/7 is a cold-curing, highly transparent epoxy casting resin for casting electrical components. Coatings and moldings made from ISO-POX® HP 89/7 form tack-free, scratch-resistant surfaces. ISO-POX® 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 Viscosity (25°C; rot.; 1 s <sup>-1</sup> ) Viscosity (25°C; rot.; 10 s <sup>-1</sup> ) Density (23°C)	Colorless* Approx. 1200 mPas Approx. 1100 mPas Approx. 1,15 g/cm <sup>3</sup>
Component B (hardener)	Colour Viscosity (25°C; rot.; 1 s <sup>-1</sup> ) Viscosity (25°C; rot.; 10 s <sup>-1</sup> ) Density (23°C)	Yellowish clear Approx. 55 mPas Approx. 50 mPas Approx. 1,02 g/cm <sup>3</sup>
Mixture	Mixing ratio resin : hardener Colour Density (23°C) Pot life (23°C) Gel time (23°C) Mixed viscosity (25°C; rot.; 1 s <sup>-1</sup> ) Mixed viscosity (25°C; rot.; 10 s <sup>-1</sup> ) Dielectric strength	2 : 1 parts by weight Yellowish clear* Approx. 1,11 g/cm <sup>3</sup> Approx. 20 min* Approx. 40 min* Approx. 1100 mPas Approx. 500 mPas Approx. 7 kV/mm

\* Special adjustments are possible according to customer requirements.

## 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 δ (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	KA 3c
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°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°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® Degreaser for wipe degreasing or ISO-RC® Flux-Off + ISO-RC® 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.