

# ISO-PUR® K781

### DESCRIPTION

ISO-PUR® K781 is a mineral-filled, cold-curing 2-component polyurethane casting resin based on polyether and ester polyols as well as polymeric aromatic diisocyanates. After curing, the casting compound forms hard and tough, hydrolysis-stable moldings. These do not contain any plasticisers and do not tend to become

brittle. ISO-PUR® K781 is particularly suitable for use in components subject to high mechanical and thermal stress. The system is characterised by good heat dissipation and little shrinkage during curing. The compound shows good corrosion protection properties and high adhesion to metal, ceramics and many plastics.

### 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)	Beige* Approx. 3000 mPas Approx. 1700 mPas Approx. 1,42 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)	Brown Approx. 130 mPas Approx. 120 mPas Approx. 1,23 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 Beige* Approx. 1,35 g/cm <sup>3</sup> Approx. 40 min* Approx. 80 min* Approx. 800 mPas Approx. 700 mPas > 8 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 D (23°C; 14d RT 50% rel. h.)	Approx. 84
Hardness Shore D (23°C; oven curing: 4hRT + 24h80°C)	Approx. 84
Long-term temperature resistance	Approx. 140°C
Short-term temperature resistance	Approx. 200°C
Glass transition temperature (midset)	> 50°C
Tensile strength (5A specimen; 2 mm thickness; speed: 10 mm/min; 23°C)	Approx. 58 N/mm <sup>2</sup>
Elongation at break (5A specimen; 2 mm thickness; speed: 10 mm/min; 23°C)	Approx. 5%
Tear resistance (W-specimen; incision; speed: 10 mm/min; 23°C)	Approx. 67 N/mm
Dielectric strength	> 22 kV/mm
Dielectric loss factor tan δ (25°C; 50 Hz)	Approx. 0,02
Dielectric constant ε (25°C; 50 Hz)	Approx. 4,10
Thermal conductivity	Approx. 0,30 W/K×m
Coefficient of thermal expansion	Approx. 50×10 <sup>-6</sup> K <sup>-1</sup>
Tracking resistance	KA 3c
Water absorption after 28 days in water (immersion; 23°C)	Approx. 1,50%
Water vapour permeability (75% relative humidity; 23°C; 1 mm thickness)	Approx. 1,90×10 <sup>-5</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 10 – 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.

## 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.

Hardener component (containing diisocyanate): As of August 24, 2023, appropriate training must be provided before industrial or commercial use.