

Technical Data Sheet

SPECIAL IMPREGNATING RESIN IM 3000

Product type: Cross-linking mixture of mono- and polyfunctional methacrylic monomers.

Physical Properties of Uncured Resin

Appearance: Yellow to light yellow and clear
(fluorescent type can be supplied on request)

Odour: like ester

Flash point: 102°C (DIN 51758)

Boiling point: 240°C at 1013 mbar

Surface tension: 29,8 mN/m

Viscosity at 20°C: 16 ± 1 mPas
27 ± 1 s Frikmar-Cup No. 3
33 ± 1 s Zahn-Cup No. 1

Density at 20°C: 1,043 ± 0,003 g/ml

Vapour pressure at 20°C: 0,1 mbar

Washability: Excellent

Solubility in water: 107 g/l

Storage life: Non-catalyzed: 12 months at max. 35°C
Catalyzed: 6 months at max. 25°C
Modifications through metals, alkalis, peroxides
and sunlight.

Gel time at 90°C: 3 – 7 minutes recommended (catalyzed with 0,2 or 0,3%
Catalyst KT 64)

Physical Properties of Cured Resin

Appearance: Clear, translucent, synthetic material without fissures.
Fluorescent formulation enables to trace resin in casting porosities with an UV-lamp.

Density: 1,2 g/ml

Hardness: 98 Shore A

Temperature range: -110°C to +200°C; short time up to +250°C (max. 1 h)

Chemical resistance: Resin sticks do not show any remarkable absorption
of non-polar liquids such as fuel and oil.
Chemical stability list available upon request.

Pressure resistance: Identical to resistance of ambient metal.

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Linear heat expansion coefficient:	$40^{\circ}\text{C} = (120 \pm 5) 10^{-6} \text{ K}^{-1}$ $60^{\circ}\text{C} = (130 \pm 4) 10^{-6} \text{ K}^{-1}$ $80^{\circ}\text{C} = (152 \pm 2) 10^{-6} \text{ K}^{-1}$ $100^{\circ}\text{C} = (157 \pm 2) 10^{-6} \text{ K}^{-1}$
Heat conductivity:	$0,18^{\circ}\text{C W/m K (*)}$
Specific heat:	$1,47 \text{ KJ/kg K}$
Surface resistance:	$10^{15} \Omega \text{ DIN 53482 (*)}$
Specific volume resistance:	$>10^{15} \text{ DIN } \Omega \text{ cm DIN 53482 (*)}$
Dielectric number DIN 53483:	$3,5 \pm 0,4 \text{ at } 50 \text{ Hz (*)}$ $2,7 \pm 0,5 \text{ at } 10^6 \text{ Hz (*)}$
Dielectric breakdown voltage:	$450 \pm 50 \text{ kV DIN 53481 (*)}$
Dielectric loss factor DIN 53483:	$0,05 \pm 0,01 \tan \alpha \text{ at } 50 \text{ Hz (*)}$ $0,022 \pm 0,018 \tan \alpha \text{ at } 10^6 \text{ Hz (*)}$

(*) These are not measured values but are typical for this kind of resin.

Approvals of IM 3000

- Test certificate according to the UBA-Guideline
Hygiene-Institut Gelsenkirchen (12.06.2015):
Cold water test (23°C), Hot water test (85°), Release for drinking water
- Certified to UL87, EQQY2; UL Underwriter Laboratories (3rd April 2012)
UL87 Power-Operated Dispensing Devices for Petroleum Products
IM 3000 may be used when in contact with the following fluids: Fuel oil, Kerosene; Diesel,
Gasoline, Gasoline/ethanol blends at levels designated as gasohol" (E10 maximum),
LP-Gas, natural or manufactured gas.
- Approval QPL-17563, class 1 and 3 according to MIL-I-17563-B (1992) and C (1995)
- Biological degradation: Technologisches Gewerbemuseum, Wien (1988)
- Lloyds Register of Shipping, London (2014): Statement of non-objection
- Resistance against gas (used for gas fittings): Gaswärme-Institut e.V., Essen (1992)

The producer of the Special Impregnating Resin is certified according to DIN ISO 9001/EN 29001 since 1993; renewal in November 2017 according to DIN EN ISO 9001:2015. Environmental management according to DIN EN ISO 14001:2009 since December 2011, renewal in November 2017 according to DIN EN ISO 14001:2015.

All data of this sheet correspond to the actual state of our technical knowledge and experience. They are not a legal binding assurance of certain characteristics or of the suitability to a concrete use and do not exempt the users from carrying out their own tests and taking corresponding security measures, because of the many possible effects during the use of our products. Industrial law has to be respected.