

Thermal Conductivity

Resin 8513/30N (ex FR28) + Hardener 8973 (ex 1073)

- 2-components polyurethane casting resin
- solvent-free system and electrically insulating
- excellent thermal conductivity
- no metallic fillers
- no halogenated flame-retardants
- excellent adhesive properties
- ideal for heat-reduction of winding goods, electric motors, accumulators, and high-performance components
- TIP: Design variations of effective cooling elements, good combination with Kisling's LED-casting resins

Product specification:

Mixing ratio (weight):	Resin 8513 Hardener 8973	100 parts 8 parts
Viscosity (22°C) (At 10 rpm):	Resin 8513 Hardener 8973 Mixing viscosity	100'000 – 140'000 mPa·s 15 – 35 mPa·s 15'000 – 35'000 mPa·s
Density (22°C):	Resin 8513 Hardener 8973	2.25 - 2.35 g/cm ³ 1.20 - 1.25 g/cm ³
Colour:	Nature (beige)	
Pot life:	10 – 30 minutes The curing time depends on thickness of the layer, the casting volume and the temperature	
Curing time (22°C):	16 – 30 hours	
Final hardness	10 – 14 days	

Physical properties:

Shore-Hardness:	D 40 – 50	ISO 868, DIN 53505
Thermal conductivity:	2.6 W/(m·K)	DIN EN ISO 22007
Glass transition temperature:	-23.1 °C	TMA
Coefficient of expansion:	91.4 ppm/K 129.1 ppm/K	< T _g , TMA > T _g , TMA
Shrinkage after curing:	<1 %	
Water absorption:	0.4 % (30 days at 23°C)	
Operating temperature:	-40°C up to +130°C	
Flammability classification:	V-0 in 4.0mm	

Electrical properties:

Dielectric strength:	31 kV/mm	IEC 60243-1, VDE 0303, TI.2
Volume resistance:	10 ¹⁵ Ω·cm (23°C/ 50% r.F.)	IEC 60243-1, VDE0303, TI.30
Surface resistance:	10 ¹⁶ Ω (23°C/ 50% r.F.)	IEC 60243-1, VDE0303, TI.30
Dielectric constant (ε _r):		
at 50 Hz, 23 °C	5.8	IEC 60250,
at 1 KHz, 23 °C	5.2	VDE 0303, TI.4
at 1 MHz, 23 °C	4.6	
Dielectric dissipation factor:		IEC 60250,
(tan δ)		VDE 0303, TI.4
at 50 Hz, 23 °C	0.09	
Comparative Tracking Index:	CTI 600	IEC 60112, VDE 0303, TI.1

Shelf life:	6 months in sealed original containers when stored in dry conditions (15°C to 25°C).
Packaging:	Resin and hardener are offered in separate packaging units.

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