

Thermal Conductivity

Resin 8500/30N (ex TC 51) + Hardener 8973 (ex 1073)

- 2-components polyurethane casting resin
- solvent-free system
- semi-hard curing degree
- no halogenated flame-retardants
- self-extinguishing properties
- high thermal conductivity
- electrically insulating
- excellent adhesive and shock-resistant properties
- ideal for electronic components, e.g. sensors, lithium-ion batteries and transformers

Product specification:

Mixing ratio (weight):	Resin 8500/30N	100 parts
	Hardener 8973	12 parts
Viscosity at 22°C:	Resin 8500/30N	4'500 – 5'800 mPa·s
(DIN 53019-1;	Hardener 8973	15 – 35 mPa·s
Plate/Plate; 10 rpm)	Mixing viscosity	1'400 – 2'400 mPa·s
Density at 22°C:	Resin 8500/30N	1.40 – 1.50 g/cm ³
(DIN EN ISO 2811-1)	Hardener 8973	1.20 – 1.25 g/cm ³
Colour:		Nature (beige)
Pot life:		
(Triplification of the initial viscosity)		25 – 40 minutes
Curing time at 22°C:		16 – 30 hours
Final hardness at 22°C:		10 – 14 days

Physical properties:

Shore-Hardness: (DIN EN ISO 868)		A 40 – 50
Thermal conductivity: (TMA; ISO 11359)		1.0 W/(m·K)
Glass transition temperature: (TMA; ISO 11359)		-23.1°C
Coefficient of expansion: (TMA; ISO 11359)	< T _g > T _g	141.5 ppm/K 174.4 ppm/K
Shrinkage after curing:		< 1 %
Water absorption: (30 days at 23°C)		0.2 %
Operating temperature:		-40°C up to +130°C
Flammability classification: (UL 94)		V-0 in 4.0 mm

Electrical properties:

Dielectric strength: (IEC 60243-1, VDE 0303, TI.2)		24 kV/mm
Volume resistance: (IEC 60243-1, VDE 0303, TI.30)	23°C / 50% r.H.	10 ¹⁵ Ω·cm
Surface resistance: (IEC 60243-1, VDE 0303, TI.30)	23°C / 50% r.H.	10 ¹⁶ Ω
Dielectric constant (ε _r) at 23°C: (IEC 60250, VDE 0303, TI.4)	at 50 Hz	5.2
	at 1 KHz	4.6
	at 1 MHz	4.3
Dielectric dissipation factor at 23°C (tan δ): (IEC 60250, VDE 0303, TI.4)	at 50 Hz	0.12
Comparative Tracking Index (CTI): (IEC 60112, VDE 0303, TI.1)		600

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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