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## **WEVOPUR 390 PU encapsulating system**

Two-component encapsulating system based on polyurethane.

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### **Attributes**

The resin component is formulated with a mineral filler which provides self-extinguishing properties. The resin contains no halogenated flame-retardants. Once cured it has visco-plastic properties.

The casting resin WEVOPUR 390 is used with WEVONAT 300.

Recommended use from -40 °C to +130 °C.

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### **Application**

Encapsulation of electrical components for low and medium voltage applications.

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### **Standards**

Class B

UL 94 V 2 (1.5 mm)

UL File E 108835

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### **Delivery forms**

30 kg metal containers

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### **Color**

WEVOPUR 390: Black. Others on request

WEVONAT 300: Dark brown

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### **Storage**

6 months after production in original containers, dry storage between 15 °C and 25 °C.

- Store resin (A component, polyol) and hardener (B component, Isocyanat) dry and at temperatures between 15 °C and 25 °C. Store on pallets or collecting tray and do not expose to draft.
- At temperatures below 15 °C the hardener can crystallise which can be seen by opacity and/or clumps/crystals (usually hardeners are clear, transparent liquids in spite of their dark brown colour). In this case the hardener should not be used anymore.
- At temperatures higher than 25 °C the sedimentation of fillers contained in the resin component is accelerated. As a consequence it is more difficult to prepare (stir) the resin.

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### **Hardening**

Pot life: 35 - 50 min at room temperature, depending on coat thickness and pouring volume.

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Curing time: 12 - 24 h at room temperature

Complete chemical curing: 10 - 14 days at room temperature

- High air moisture may lead to forming of bubbles. Reference value: the rel. air humidity should not exceed 40 - 60 %, depending on the product. To avoid a reaction of the surface curing should be in an air conditioned room, a container with low air moisture or in an oven.
- Elevated temperatures accelerate the curing.
- Curing temperature should not exceed 80 °C to avoid tensions of the resin.
- Final hardness of WEVOPUR 390 will be attained after 7 - 14 days at room temperature.
- This process can be accelerated by post curing at 60 - 80 °C for 16 - 24 h. This is relevant for potted components subject to qualification tests.
- Electrical tests can usually be carried out straight after potting.

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### Protection

Observe the common protective measures acc. to EG safety data sheets and the data sheet M044 of the German Chemical Industry Association (BG Chemie) when using the liquid resin.

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### Processing

Our processing instructions please find [here](#).

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### Cleaning

Since the cured resin is practically insoluble, tools and equipment have to be cleaned in sufficient time.

Mechanical	Unit of measure	Condition	Value	Test method
Shore-D-hardness		3 sec	35-45	ISO 7619-1
Tensile strength	N/mm <sup>2</sup>		7	ISO 527-2
Elongation at break	%		88	ISO 527-2
E module	N/mm <sup>2</sup>		15	ISO 527-2
Water absorption	%		0.3	after 30 days storage in water
Burning behaviour		1.5 mm	V-2	UL 94

Thermal	Unit of measure	Value	Test method
Thermal conductivity	W/m*K	0.4	DIN 2007-2/2008
Glass transition temperature	°C	-4	TMA
Thermal class		B	DIN EN 60085

Chemical	Unit of measure	Condition	Value	Test method
Coefficient of expansion	ppm/K	<-10 °C	79	TMA
Coefficient of expansion	ppm/K	> +5 °C	178	TMA

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Liquid phase	Unit of measure	WEVOPUR 390	WEVONAT 300	Hardener / Hardener-mixture
Mixing ratio	Gew-%	100	30	
Viscosity (22 °C)	mPas	1,600-2,400	70-120	800-900
Density (22 °C)	g/cm <sup>3</sup>	1.28-1.31	1.20-1.24	

Electrical	Unit of measure	Value	Test method
Dielectric strength	kV/mm	32	DIN EN 60243
Specific volume resistance	Ω*cm	6,7x10 <sup>14</sup>	DIN EN 62631-3-1:2016
Surface resistivity at 23°C and 50 % r.h.	Ω	1,1x10 <sup>15</sup> Ω	DIN EN 62631-3-2:2016
Dielectric constant &epsilon;; at 50 Hz, 23 °C		5.5	DIN EN 60250
Dielectric constant; at 1 kHz, 23 °C		4.4	DIN EN 60250
Dielectric constant &epsilon;; at 1 MHz, 23 °C		3.6	DIN EN 60250
Dielectric loss factor tan δ; at 50 Hz, 23 °C		0.14	DIN EN 60250
Dielectric loss factor tan δ; at 1 kHz, 23 °C		0.09	DIN EN 60250
Dielectric loss factor tan δ; at 1 MHz, 23 °C		0.03	DIN EN 60250

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Electrical	Unit of measure	Value	Test method
Creep resistance		CTI 600	DIN EN 60112

Glowing wire test	Unit of measure	Value	Test method
Glowing wire test	°C	960	DIN EN 60695-2-11:2014-11

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