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WEVOPUR 552 FL PU encapsulating system

Two-component encapsulating system based on polyurethane.

Attributes

The resin component contains a mineral filler providing the material with self-extinguish properties. The resin contains no halogenated flame-retardants and is tough elastic. WEVOPUR 552 FL ist used with WEVONAT 300.
Temperature range of use: -40 °C to +130 °C.

Application

Encapsulation of electrical components like transformers, sensors, capacitors or PCBs.

Standards

Class B
RTI 130 °C
UL 94 V 0 (1.5 mm)
UL File No. E 108835
Colours:
WEVOPUR 552 FL: black (standard) or by choice
WEVONAT 300: dark brown

Delivery forms

30 kg metal containers and 250 kg barrel.

Storage

- In closed original container and dry storage between 15 °C and 25 °C, 6 months after production.
- 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 then 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.

Hardening

Pot life: 30 - 50 min at room temperature, depending on coat thickness and pouring volume.
Curing time: 12 - 24 h at room temperature
Complete chemical curing: 10 - 14 days at room temperature

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- 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 552 FL 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 subjec to qualification tests.
- Electrical tests can usually be carried out straight after potting.

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.

Processing

Our processing instructions please find here.

Cleaning

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

Additional information

Technical data and processing instructions you will receive on request.

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Mechanical	Unit of measure	Values	Test method
Shore-D-hardness		60-70	acc. to ISO 7619-1
Tensile strength	N/mm²	6	ISO 527-2
Elongation at break	%	62	ISO 527-2
E module	N/mm²	55	ISO 527-2
Water absorption	%	0.4	after 30 d immersion

Thermal	Unit of measure	Condition	Values	Test method
Thermal conductivity	W/m*K		0.61	ISO 22007-2:2008
Glass transition temperature	°C		15	TMA
Coefficient of expansion	ppm/K	<10 °C	58	TMA
Coeficient of expansion	ppm/K	>20 °C	142	TMA
Thermal class			B	IEC 60085
Curing shrinkage	%		1	
Burning behaviour		1.5 mm	V-0	UL 94

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Electrical	Unit of measure	Values	Test method
Dielectric strength	kV/mm	29	DIN EN 60243
Volume resistance specific at 23 °C, 50 % r.h.	Ωxcm	10^13	DIN EN 62631-3-1:2016
Surface resistivity at 23°C and 50 % r.h.	Ω	10^16	DIN EN 62631-3-1:2016
Dielectric constant ε at 50 Hz, 23 °C		5.6	DIN EN 60250
Dielectric constant; at 1 kHz, 23 °C		4.6	DIN EN 60250
Dielectric constant ε at 1 MHz, 23 °C		3.7	DIN EN 60250
Dielectric loss factor at (AC, 23 °C, 50 Hz)		0.117	DIN EN 60250
Dielectric loss factor tan б at 1 kHz, 23 °C		0.0842	DIN EN 60250
Dielectric loss factor tan б at 1 MHz, 23 °C		0.038	DIN EN 60250
Creep resistance		CTI 600-0.1	DIN EN 60112

Glowing wire test	Unit of measure	Condition	Values	Test method
Glowing wire test	°C	3.5 mm	960	DIN EN 60695-2-11:2014-11

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Liquid phase	Unit of measure	WEVOPUR 552 FL	WEVONAT 300	Resin-/hardener mixture
Mixing ratio	Gew-%	100	20	
Viscosity (22 °C)	mPas	6,000-7,000	70-120	1,000-1,600
Density (22 °C)	g/cm³	1.55-1.60	1.20-1.24	

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