SynFlex Elektro GmbH
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WEVOPUR 7210 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. The cured polymer exhibits tough properties. The product processes a high thermal distortion temperature.
Temperature range of use: -40 °C to +145 °C
Wevopur 7210 FL is used with hardener WEVONAT 507.

Application

Encapsulation of electrical components for medium and high voltage applications.

Standards

- Class B
- UL 94 V 0 (6 mm)
- UL File E 108835

Delivery forms

30 kg metal container and 250 kg barrel.

Color

WEVOPUR 7210 FL: black (standard)
WEVONAT 507: brown

Storage

6 months after production in closed containers, dry storage at 15 to 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 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

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- Pot life: 20-35 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
- 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 7210 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.

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Mechanical	Unit of measure	Values	Test method
Shore-D-hardness		85-90	DIN ISO 48-4:2011-02
Tensile strength	N/mm²	54	ISO 527-2:2012-06
Elongation at break	%	2	ISO 527-2:2012-06
E module	N/mm²	5500	ISO 527-2:2012-06

Thermal	Unit of measure	Condition	Values	Test method
Thermal conductivity	W/m*K		0.55	DIN 22007-2:2008
Glass transition temperature	°C		85	TMA ISO 11359-2:2021-11
Coefficient of expansion	ppm/K	<70	54	TMA ISO 11359-2:2021-11
Coeficient of expansion	ppm/K	>100	151	TMA ISO 11359-2:2021-11
Thermal class			B	DIN EN 60085

Chemical	Unit of measure	Condition	Values	Test method
Water absorption	%	after 30 days storage	0.3	
Burning behavior		6 mm	V-0	UL 94

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Electrical	Unit of measure	Condition	Values	Test method
Dielectric strength	kV/mm		34	IEC 60243
Specific volume resistance	Ω*cm	at 23 °C / 50 % RH	10^14	DIN EN 62631-3-1:2016
Surface resistivity	Ω	at 23 °C / 50 % r.H.	10^17	DIN EN 62631-3-1:2016
Dielectric constant (AC, 23 °C, 50 Hz)			3.7	IEC 62631-2-1:2018-12
Dielectric constant; at 1 kHz, 23 °C			3.6	IEC 62631-2-1:2018-12
Dielectric constant ε at 1 MHz, 23 °C			3.5	IEC 62631-2-1:2018-12
Dielectric loss factor at (AC, 23 °C, 50 Hz)			0.01	IEC 62631-2-1:2018-12
Dielectric loss factor tan б at 1 kHz, 23 °C			0.007	IEC 62631-2-1:2018-12
Dielectric loss factor tan б at 1 MHz, 23 °C			0.014	IEC 62631-2-1:2018-12
Creep resistance			CTI 600	DIN EN 60112

Glowing wire test	Unit of measure	Condition	Values	Test method
Glowing wire test	°C	6 mm	960 / 825	IEC 60695-2-12/-13, GWFI/GWIT

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Liquid phase	Unit of measure	WEVOPUR 7210 FL	WEVONAT 507	Resin-/hardener-mixture	Test method
Mixing ratio	Gew-%	100	43		
Viscosity (22 °C)	mPas	7,000-8,500	10-40	400-600	
Density (22 °C)	g/cm³	1.53-1.57	1.20-1.24		