SynFlex Elektro GmbH
Auf den Kreuzen 24
D-32825 Blomberg Germany
Telefon +49-5235-968-0
E-Mail info@synflex.de

Voltacast 3210 Polyurethane casting resin

Voltacast 3210 is a pigmented, filled and cold-curing two-component polyurethane casting resin with low temperature development while curing based on hydroxy-functional polyester. The hardener Voltacast H132 is based on aromatic polyisoncyanate.

Attributes

- flame retardant
- free of halogens or antimony oxides
- hard
- good adhesion on most metals and plastics except on anodized, smooth surfaces especially on light metals
- low shrinkage

Application

Voltacast 3210 is suitable for embedding and potting of UL – listed transformers (in particular small transformers) and electronics.

Standards

- Temperature Class 130 – 140 (B)
- Flame retardant acc. to UL 94 V-0
- UL-File-Nr.: E72640 (M) Underwriters Laboratories Inc, USA
- Electrical Insulation Systems in acc. with UL 1446 (IEC 61858):

Class 130	R150HE Table II
	Z130HE Table II
Class 155	R201HE Table II

Delivery forms

Voltacast 3210 is supplied in non-returnable one-way containers of 20 kg.

Storage

In closed original cans and at 25 °C storage temperature maximum the resin can be stored for 12 months. The hardener can be stored for 4 months under the same conditions. Both resin and hardener have to be protected against water and humidity and therefore must not be stored outside. Additionally the respective hardener must be stored and transported frost-protected (above 10 °C).

Hardening

After curing of 48 hours at 20 °C minimum the resin compound can be fully stressed (both mechanically and electro-technically).

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.
Updated 04/24

SynFlex Elektro GmbH
Auf den Kreuzen 24
D-32825 Blomberg Germany
Telefon +49-5235-968-0
E-Mail info@synflex.de

Protection

Cured resin is biologically inactive and not dangerous to health. When processing the liquid components please refer to the respective Material Safety Data Sheets (MSDS's).

Processing

Due to the contents of fillers which will settle to the ground during a longer storage period Voltacast 3210 needs to be stirred up homogenously (without including foam) prior to use. In any case the resin shall rest for about 2 hours after stirring to allow degasing. The time needed for degasing the resin may be shortened by storing the resin at approx. 60 °C or at a vacuum of approx. 20 mbar.

Provided the mixture is consumed very soon, the hardener Voltacast H132 may be added to the warm resin. Otherwise the resin has to cool down to room temperature again in order to avoid a significant shortening of the mixture's pot life. Casting resin, hardener and mixtures made must be protected against humidity! The temperature in the working area must be above 18 °C!
The same way it is essential to dry the parts the casting resin shall be applied on. An example for best practice is to extract all humidity on and inside the parts used by drying them at approx. 50 °C for about 1 hour, as otherwise the resin may form gas bubbles while curing.
Hardener Voltacast H132 shall be added to the casting resin in the mixing ratio stated above. The mixture has to be stirred homogenously and carefully without including foam.

Provided the product shall be blended with extra fillers, these fillers must be completely dried prior to adding them to the casting resin. Best practice to add fillers to the product is to add the respective amount slowly and to stir the product until a homogenous mixture is ensured. The same way it is useful to heat up the mixture moderately to 60 °C or to establish vacuum in order to accelerate the degasing as mentioned above. Voltacast 3210 can be applied on all common mixing and dispensing equipment with our without applying vacuum.

Cleaning

Once cured the resin compound is almost insoluble. Therefore, application equipment should be cleaned regularly with cleaner Voltatex® T050. All equipment cleaning and maintenance should be carried out in accordance with the equipment manufacturer's instructions.

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.
Updated 04/24

SynFlex Elektro GmbH
Auf den Kreuzen 24
D-32825 Blomberg Germany
Telefon +49-5235-968-0
E-Mail info@synflex.de

Mechanical	Conditions	Values	Test method
Shore-D-hardness	after 3 days	70 ± 10	acc. DIN 53505
Water absorption	after 96h at 23 °C	0.24 ± 0.02	company standard

Thermal	Unit of measure	Values	Test method
Temperature index	°C	131	20000-h-value acc. IEC 60216, due to weight loss 5 % limit
Dimensional stability under heat	°C	25 ± 2	acc. Martens DIN 53462

Electrical	Unit of measure	Conditions	Values Voltacast 3210 with Voltacast H132	Test method
Dielectric strength at 23 °C and 50 % r.h.	kV/mm		51-56	IEC 60455-2; test method acc. IEC 60243-1
Dielectric strength at 23 °C after 96 h storage at 92 % r.h.	kV/mm		6-21	IEC 60455-2; test method acc. IEC 60243-1
Dielectric strength at 105 °C after 168 h oil immersion	kV/mm		59-77	IEC 60455-2; test method acc. IEC 60243-1

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.
Updated 04/24

SynFlex Elektro GmbH
Auf den Kreuzen 24
D-32825 Blomberg Germany
Telefon +49-5235-968-0
E-Mail info@synflex.de

Electrical	Unit of measure	Conditions	Values Voltacast 3210 with Voltacast H132	Test method
Specific volume resistance	Ω*cm	at 130 °C	2.0 x 10^9	acc. IEC 60455-2; test method acc. IEC 60093
Specific volume resistance after 96 h water immersion	Ω*cm		7.0 x 10^14	acc. IEC 60455-2; test method acc. IEC 60093
Creep resistance			CTI 375M	DIN IEC 60112
Dielectric constant at 23 °C between 50 Hz and 1 MHz			5 - 6	acc. DIN 53483
Loss factor at 23 °C from 50 Hz and 1 MHz			0.15 - 0.23	acc. DIN 53483
Loss factor cross section 0.2=200x10^-3	°C		88 ± 5	acc. DIN 53483

Liquid phase	Unit of measure	Values Voltacast 3210	Values Voltacast 3210 with hardener H132	Test method
Mixing ratio	Gew-%		100 : 20	
Viscosity resin + hardener	mPas	8500 ± 900	1050 ± 300	acc. DIN 53019 at 25 °C
Mixture density	g/cm³	1.62 ± 0.03	1.54 ± 0.03	acc. DIN 53217. T.5 at 20 °C
Curing time	min		48 h - RT	

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.
Updated 04/24

SynFlex Elektro GmbH
Auf den Kreuzen 24
D-32825 Blomberg Germany
Telefon +49-5235-968-0
E-Mail info@synflex.de

Liquid phase	Unit of measure	Values Voltacast 3210	Values Voltacast 3210 with hardener H132	Test method
Impact on enamelled wires			Compatible with all common enamelled wires	
Pot-Life	min		80 ± 15	at 23 °C (100g-sample)

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.
Updated 04/24