PRODUCT DATA SHEET

SikaBiresin® RE461 RE101

ELECTRICAL POLYURETHANE RESIN – SEMI-FLEXIBLE – SELF EXTINGUISH – UL 94 V0

APPLICATIONS

- Mechanical and numerous electrical applications for low and medium voltage when requiring an extinguish characteristic

MAIN PROPERTIES

- Semi-flexible
- Low viscosity
- Several reactivities & colrs
- UL 94 V0, UL 746 HAI, HWI, RTI 150°C
- EN 45545, NF F 16101
- Good thermal conductivity & thermal resistance

DESCRIPTION

Basis	Two component polyurethane casting system
Component A	**SikaBiresin® RE461**, polyol SikaBiresin® RE 461-11 -16 white SikaBiresin® RE 461-74 grey SikaBiresin® RE 461-94 black SikaBiresin® RE 461-35 red
Component B	**SikaBiresin® RE101**, isocyanate, dark amber

PHYSICAL PROPERTIES

			Polyol (A)	Isocyanate (B)
Component			**SikaBiresin® RE461**	**SikaBiresin® RE101**
Viscosity, 25 °C	mPa.s	ISO 2555	7,000	20
Density, 25 °C	g/cm³	ISO 1675	1.57	1.22
Mixing ratio	by weight		100	16
Mixing ratio, 25 °C	by volume		100	20
			Mixture	
Color			White, red, grey, black	
Viscosity	mPa.s	ISO 2555	1,100	
Gel time, 25 °C, 200 g	min	Gel Timer TECAM	SikaBiresin® RE461-11	10
			SikaBiresin® RE 461-94	30
			SikaBiresin® RE 461-74- 35	35
			SikaBiresin® RE 461-16	50

MECHANICAL PROPERTIES

(approx. values after 16 hours / 80 °C + 24 hours / 23 °C)

Density	ISO 2781	g/cm³	1.55
Shore hardness	ISO 868	D1 / D15	46 / 36
Tensile strength	ISO 37	MPa	7
Elongation at break	ISO 37	%	110

THERMAL AND SPECIFIC PROPERTIES

(approx. values after 16 hours / 80 °C + 24 hours / 23 °C)

Application temperature		°C	-50 / +150
Relative temperature Index RTI[3)] Mechanical / Electrical	UL 746 B	°C	 150/140
Glass transition temperature (Tg)	ISO 11359	°C	-5
Coefficient of thermal expansion (CTE) -40 to -20 °C /+20 to +120 °C	ISO 11359	10^{-6} K^{-1}	 45 / 140
Auto-extinguishing[3)]	UL94		V0 6 mm [3)]
Hot wire ignition (HWI)	UL 746 A	Category PLC	1 – 3 mm [3)] 0 – 6 mm [3)]
High current arc ignition (HAI)	UL 746 A	Category PLC	0 – 3 mm [3)] 0 – 6 mm [3)]
Fire behavior [1)]	NF F 16101 EN 45545-2	- R22 R23 R24	I 3 – F1 HL1 HL2 HL3
Water absorption (23 °C, 24 hours)	ISO 62	%	0.3
Directive 2015/863/EU (ROHS) [2)]			Conform

[1)] Products SikaBiresin® RE 461-(16), SikaBiresin® RE 461-(35) and SikaBiresin® RE 461-(94) are certified EN 45545-2. SikaBiresin® RE 461-(94) is also certified NF F16101.

[2)] European directive on the restriction of the use of certain hazardous substances electrical and electronic equipment.

[3)] UL file number: E113398.

DIELECTRIC AND INSULATING PROPERTIES

(approx. values after 16 hours / 80 °C + 24 hours / 23 °C)

Dielectric strength (50 Hz - 1 mm)	CEI 60243-1 E2	kV/mm	25
Dielectric constant ε (100 Hz)	CEI 60250		7.7
Dissipation factor tan δ (100 Hz)	CEI 60250		0.12
Volume resistivity (1,000 V)	CEI 60093	Ω cm	2.10^{14}
Tracking resistance	CEI 60112		IRC-600 - < 0.1

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PACKAGING UNITS

▪ Polyol (A), **SikaBiresin® RE461**	5 kg / 20 kg / 250 kg
▪ Isocyanate (B), **SikaBiresin® RE101**	0.8 kg / 3.2 kg / 22 kg / 225 kg

PROCESSING DATA

- The material, processing and mold or master-model temperature shall be between 18 °C and 25 °C.
- Make sure the mold or master model is clean, dry, dust and grease free.
- Prior to use check the material for homogeneity and crystallization.
- After prolonged storage at low temperature, crystallization of components may occur. This process can be easily reversed by heating the affected component to a maximum of 70 °C until the crystals have disappeared.
- Setting may be observed on the polyol. In that case, it is necessary to mix the polyol part until both color and aspect become homogeneous. This is not harmful for the product quality.
- Both parts have to be mixed at a temperature higher than 18 °C according to the mixing ratio indicated on the technical data sheet.
- Containers must be closed tightly immediately after use to prevent moisture ingress.
- Once opened the product shall be used up as soon as possible.

STORAGE CONDITIONS

Shelf life	▪ Polyol (A), **SikaBiresin® RE461**	12 months
	▪ Isocyanate (B), **SikaBiresin® RE101**	12 months
Storage temperature	▪ Polyol (A), **SikaBiresin® RE461**	15 °C – 25 °C
	▪ Isocyanate (B), **SikaBiresin® RE101**	15 °C – 25 °C

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FURTHER INFORMATION
The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Advanced Resins. Copies of the following publications are available on request: Safety Data Sheets.

BASIS OF PRODUCT DATA
All technical data stated in this document are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

HEALTH AND SAFETY INFORMATION
For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

LEGAL NOTICE
The information, and, in particular, the recommendations relating to the application and end use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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