BUILDING TRUST

PRODUCT DATA SHEET

SikaBiresin® RE 820 POLYOL /SikaBiresin® RE 102 ISOCYANATE*

*(previously RE 11820 / RE 1020)

ELECTRICAL POLYURETHANE RESIN
SOFT– HYDROLYSIS RESISTANCE

DESCRIPTION

Casting resin for numerous electrical applications especially for low or medium voltage.
Example: electronic cards, fragile electronic components and radio components.

PROPERTIES

- Flexible
- Very low dielectric constant
- Low glass transition temperature
- Excellent behaviour in water immersion and salt spray atmosphere
- Excellent dielectric properties

PHYSICAL PROPERTIES

Composition			POLYOL SikaBiresin® RE 820	ISOCYANATE SikaBiresin® RE 102	MIXED
Mix ratio by weight			100	25	
Mix ratio by volume at 25 °C			100	22	
Aspect			liquid	liquid	Liquid
Colour		SikaBiresin® RE 820-(22)	beige	Dark amber	beige
		SikaBiresin® RE 820-(95)-(92)	Black		black
Viscosity at 25 °C	(mPa.s)	ISO 2555 : 2018	7.500	125	4.300
Specific gravity at 25 °C	(g/cm³)	ISO 1675 : 1985	1,06	1,22	-
Specific gravity cured solid		ISO 2781 : 1996	-	-	1,10
Gel time at 25 °C (125 g)	(min)	Gel Timer TECAM	SikaBiresin® RE 820-(22)-(92)		10
			SikaBiresin® RE 820-(95)		40

MECHANICAL PROPERTIES at 23 °C (1)

Hardness	ISO 868 : 2003	Shore A1 / A15	82 / 78
Tensile Strength	ISO 37 : 2011	MPa	6
Elongation at break		%	230

(1) Average values obtained on standard specimens / Hardening 16 hours at 80°C and 24 hours at 23°C

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THERMAL AND SPECIFIC PROPERTIES (1)

Working temperature	-	°C	-55 to + 120
Thermal conductivity	ISO 2582 : 1978	W/m.K	0,25
Glass transition temperature (Tg)	ISO 11359 : 1999	°C	-50
Coefficient of thermal expansion (CTE) [-40 to +100]°C	ISO 11359 : 1999	10^{-6} K^{-1}	170
Water absorption (23°C – 24 Hours)	ISO 62 : 1999	%	0,3
Directive 2015/863/EU (ROHS) (2)	-	-	Conform

(1) Average values obtained on standard specimens / Hardening 16 hours at 80°C and 24 hours at 23°C.

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

DIELECTRIC AND INSULATING PROPERTIES at 23°C (1)

Dielectric strength (50 Hz - 1 mm)	CEI 60243-1 E2 : 1998	kV/mm	28
Dielectric constant Ɛ (100 Hz)	CEI 60250 : 1969	-	3,5
Dissipation factor tan δ (100 Hz)	CEI 60250 : 1969	-	0,12
Volume resistivity (1.000 V)	CEI 60093 E2 : 1980	Ω.cm	2.10^{14}

(1) Average values obtained on standard specimens / Hardening 16 hours at 80°C and 24 hours at 23°C

PROCESSING

- Before use ISOCYANATE SikaBiresin® RE 102 check carefully the absence of crystallisation or dimerization on each package
  - Solid particle presence
  - Cloudy liquid
- In case of crystallization or dimerization, the product must be placed in an oven at 60°C until complete decrystallization (16 hours maximum). Rehomogenize and return to room temperature. After shaking the product into the package, the product is not clear, DO NOT USE THE PRODUCT.
- Setting may be observed on the polyol. In that case, it is necessary to mix the POLYOL part until both colour and aspect become homogeneous. This is not harmful for the product quality.
- Both parts (POLYOL and ISOCYANATE) have to bemixed at a temperature higher than 18°C according to the mix ratio indicated on the technical datasheet. Before casting check that parts or moulds are free of any trace of moisture

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products :

- Ensure good ventilation.
- Wear gloves, glasses and protective clothes.

For further information, please consult the Safety Data Sheets.

STORAGE CONDITIONS

Storage at a temperature below 5°C can cause crystallisation and dimerization of the ISOCYANATE SikaBiresin® RE 102.
Shelf life is 12 months for the POLYOL and 12 months for ISOCYANATE in a dry place and in their original unopened containers at a temperature between 15 to 25°C.
Any open can must be tightly closed under dry inert gas (dry air, nitrogen, etc…).

PACKAGING

Packaging information on request, please contact your local sales representative or find your local contact on www.sikaadvancedresins.com

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.

VALUE BASES

All technical data stated in this Product Data Sheet 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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