

## PRODUCT DATA SHEET

### SikaBiresin® RE 531-93 POLYOL / SikaBiresin® RE 102 ISOCYANATE\*

\*(previously RE 12531- (93) / RE 1020)

ELECTRICAL POLYURETHANE RESIN

SEMI-FLEXIBLE – SELF EXTINGUISH – UL 94 V0

#### DESCRIPTION

Casting resin for mechanical and numerous electrical applications for low and medium voltage when requiring an extinguish characteristic.

Example: capacitors, transformers, electronics cards and components with RTI, UL 94 and EN 45545 qualification.

#### PROPERTIES

- Semi Flexible
- Low viscosity
- Good thermal conductivity
- UL 94 V0, UL 746 HAI, HWI
- EN 45545,
- High thermal resistance RTI 150°C

#### PHYSICAL PROPERTIES

Composition			POLYOL SikaBiresin® RE 531-(93)	ISOCYANATE SikaBiresin® RE 102	MIXED
Mix ratio by weight			100	14	
Mix ratio by volume at 25 °C			100	18	
Aspect			liquid	liquid	Liquid
Viscosity at 25 °C	(mPa.s)	ISO 2555 : 2018	4,100	125	1,650
Specific gravity at 25 °C	(g/cm <sup>3</sup> )	ISO 1675 : 1985	1.58	1.22	-
Specific gravity cured solid		ISO 2781 : 1996	-	-	1.57
Gel time at 25 °C (200 g)	(min)	Gel Timer TECAM			22

#### MECHANICAL PROPERTIES at 23 °C <sup>(1)</sup>

Hardness	ISO 868 : 2003	Shore D1 / D15	53 / 47
Tensile Strength		MPa	5
Elongation at break	ISO 37 : 2011	%	50

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

## THERMAL AND SPECIFIC PROPERTIES <sup>(1)</sup>

Working temperature	-	°C	-50 to + 160
Thermal class	-	-	F class
Thermal conductivity	EN 993-15	W/m.K	0.73
Glass transition temperature (Tg)	ISO 11359 : 1999	°C	-10
Coefficient of thermal expansion (CTE)			
[-60 to -20]°C	ISO 11359 : 1999	10 <sup>-6</sup> K <sup>-1</sup>	40
[+10 to +160]°C			155
Relative temperature Index RTI	UL 746 B	°C	
Mechanical / Electrical			150/150
Auto-extinguishing	UL94 : 1979	-	V0 3 mm <sup>(3)</sup>
Hot wire ignition (HWI)	UL 746 A	Category PLC	0 - 3 mm <sup>(3)</sup>
High current arc ignition (HAI)	UL 746 A	Category PLC	0 - 3 mm <sup>(3)</sup>
Glow-wire flammability index (GWFI)	IEC 60695-2-12	3 mm	960°C
Glow-wire ignition temperature (GWIT)	IEC 60695-2-13	3 mm	960°C
Fire behaviour (railway applications)	EN 45545-2 : 2013	R 22 R 23 R 24	HL2 HL3 HL3
Water absorption (23°C – 24 Hours)	ISO 62 : 1999	%	0,3
Directive 2015/863/EU (ROHS) <sup>(2)</sup>	-	-	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.

(3) UL file number: E113398.

## DIELECTRIC AND INSULATING PROPERTIES at 23°C <sup>(1)</sup>

Dielectric strength (50 Hz - 1 mm)	CEI 60243-1 E2 : 1998	kV/mm	22
Dielectric constant $\epsilon$ (100 Hz)	CEI 60250 : 1969	-	7.0
Dissipation factor $\tan \delta$ (100 Hz)	CEI 60250 : 1969	-	0.14
Volume resistivity (1.000 V)	CEI 60093 E2 : 1980	$\Omega$ .cm	4.10 <sup>13</sup>
Comparative Tracking resistance	UL 746 A	Category PLC	0 <sup>(3)</sup>
Inclined Plane Tracking (IPT) at 2,5kV	ASTM D2303	min	60

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

(3) UL file number: E113398.

## PROCESSING

- Before use ISOCYANATE SikaBiresin<sup>®</sup> 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 be mixed 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

### PRODUCT DATA SHEET

SikaBiresin<sup>®</sup> RE 531-93 POLYOL /  
SikaBiresin<sup>®</sup> RE 102 ISOCYANATE\*  
September 2020, Version 02 /2020  
Sika Advanced Resins



## 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](http://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.



---

## CONTACT

---

**SIKA DEUTSCHLAND GmbH**  
Stuttgarter Straße 139  
72574 Bad Urach – GERMANY  
Tel.: (+49) 7 125 940 492  
Fax.: (+49) 7 125 940 401  
E-mail : tooling@de.sika.com  
Website : www.sikaadvancedresins.de

**SIKA AUTOMOTIVE FRANCE S.A.S.**  
ZI des Béthunes - 15, Rue de l'Equerre  
95310 Saint-Ouen-l'Aumône  
CS 40444  
95005 CERGY PONTOISE Cedex – FRANCE  
Tel.: (+33) 1 344 034 60  
Fax: (+33) 1 342 197 87  
E-mail: advanced.resins@fr.sika.com  
Website : www.sikaadvancedresins.fr

**AXSON TECHNOLOGIES SPAIN, S.L.**  
Polígono Industrial Congost - Guardaagullés, 8  
08520 LES FRANQUESES DEL VALLES – SPAIN  
Tel.: (+34) 932 25 16 20  
E-mail: spain@axson.com  
Website: www.sikaadvancedresins.es

**AXSON ITALIA S.R.L**  
Via Morandi 15  
21047 Saronno (Va) – ITALY  
Tel.: (+39) 02 9670 2336  
Fax: (+39) 02 9670 2369  
E-mail: axson@axson.it  
Website: www.sikaadvancedresins.it

**AXSON UK Ltd**  
Unit 15 Studlands Park Ind. Estate  
Newmarket Suffolk, CB8 7AU – UNITED KINGDOM  
Tel.: (+44) 1638 660 062  
Fax: (+44) 1638 665 078  
E-mail: sales.uk@axson.com  
Website: www.sikaadvancedresins.uk

**SIKA AUTOMOTIVE SLOVAKIA s.r.o.**  
Tovarenska 49  
95301 ZLATE MORAVCE – SLOVAKIA  
Tel: (+421) 376 422 526  
Fax: (+421) 376 422 527  
E-mail: axson.sk@axson.com  
Web site: www.sikaadvancedresins.sk

**SIKA ADVANCED RESINS US**  
30800 Stephenson Highway  
Madison Heights, Michigan 48071 – USA  
Tel.: (+1) 248 588-2270  
Fax: (+1) 248 577-0810  
E-mail: axsonmh@axson.com  
Web site: www.sikaadvancedresins.us

**SIKA AUTOMOTIVE MEXICO S.A. DE C.V.**  
Ignacio Ramírez #20  
Despacho 202 Col. Tabacalera  
C.P. 06030 CDMX – MEXICO  
Tel.: (+52) 55 5264 4922  
Fax: (+52) 55 5264 4916  
E-mail: marketing@axson.com.mx  
Website: www.sikaadvancedresins.mx

**SIKA AUTOMOTIVE SHANGHAI CO. Ltd**  
N°53 Tai Gu Road  
Wai Gao Qiao  
Free Trade Zone, Pudong  
200131 Shanghai – CHINA  
Tel.: (+86) 21 5868 3037  
Fax: (+86) 21 5868 2601  
E-mail: marketing.china@axson.com  
Website: www.sikaadvancedresins.cn

**SIKA JAPAN Ltd**  
2-5-12 Onishi Okazaki Aichi  
444-0871 – JAPAN  
Tel.: (+81) 564 26 2591  
Fax: (+81) 564 26 2593  
E-mail: sales.japan@axson.com  
Website: www.sikaadvancedresins.jp

**AXSON INDIA Pvt. Ltd.**  
Office n°8, Building Symphony C - 3rd Floor  
Range Hills Road  
Bhosale Nagar  
PUNE 411 020 – INDIA  
Tel: (+ 91) 20 25 56 07 10  
Fax: (+ 91) 20 25 56 07 12  
E-mail: info.india@axson.com  
Website: www.sikaadvancedresins.in

---

## PRODUCT DATA SHEET

SikaBiresin® RE 531-93 POLYOL /  
SikaBiresin® RE 102 ISOCYANATE\*  
September 2020, Version 02 /2020  
Sika Advanced Resins