



## PRODUCT DATA SHEET

## SikaForce®-490 L03 (ADEKIT A290)

## POLYURETHANE ADHESIVE

## DESCRIPTION

Bonding of parts in large series, bonding and repairing of body elements, bonding and repairing of composite parts

## PROPERTIES

- 2 component room temperature cure polyurethane adhesives
- Non sagging paste product suitable for vertical applications and to fill irregular joints
- Excellent vibrations, impacts and noise damping
- Excellent behaviour at low temperatures
- Product adapted to assemblies involving dissimilar materials
- Excellent mechanical performances and ageing
- Excellent strength to dynamic loads (vibrations and impacts)
- Product adapted to stringent ageing and aggressive environments

## PHYSICAL PROPERTIES

Composition	POLYOL (A)	ISOCYANATE (B)	MIX	METHOD
Mix ratio by weight	130	100		
Mix ratio by volume at 25 °C	100	100		
Colour	<b>BLACK</b> <b>BEIGE</b>	Beige	<b>BLACK</b> <b>BEIGE</b>	
Density at 25 °C <sup>(KP)</sup>	1.47	1.17	-	LT-020
Density of cured product at 23 °C	-	-	1.34	ISO 2781
Viscosity at 25 °C <sup>(KP)</sup> (Pa.s)	40 – 90 300 – 600			LT-063 / 15 s <sup>-1</sup> LT-063 / 1.5 s <sup>-1</sup>
		11 – 19		LT-001
Pot life on 50 g at 23°C <sup>(KP)</sup> (min)	-	-	3	LT-002-B
Open time on 7 mm bead at 23 °C (min)	-	-	3	LT-006-B

(KP) Key properties. These values are enclosed in Certificate of Analysis.

MECHANICAL PROPERTIES <sup>(1)</sup>

Hardness (Shore D)		48	ISO 868
Tensile strength (MPa)		13	ISO 527
Elongation at break (%)		95	ISO 527
Young Modulus (MPa)		40	ISO 527
Recommended use temperature (°C)		15 – 25	
Working temperature <sup>(2)</sup> (°C)		-40 – 130	LT-006-B

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(1) Cured 16 hours at 70°C

(2) Working temperature is defined as the temperature at which product keeps 80% of its initial Lap Shear Strength after 1000 hours ageing at this temperature, value on Aluminium, measured at 23°C.

## HANDLING TIME <sup>(1)</sup>

At 23 °C	(min)	10	
At 40 °C	(min)	7	LT-006-B
At 60 °C	(min)	4	

(1) Handling time is defined as the time needed to obtain Lap Shear Strength on Aluminium at 23°C, of 1 MPa.

## MECHANICAL PROPERTIES ON ASSEMBLIES <sup>(1)</sup>

LAP SHEAR STRENGTH AT 23°C (MPa)		METHOD
Aluminium 2017A (sandblasted)	<b>Initial</b>	<b>16 CF</b>
	After wet cataplastm 7 days at 70°C /100% RH on Aluminium coated with Sika Advanced Resins Metal Primer	<b>11 CF</b>
	After wet cataplastm 7 days at 70°C / 100% RH	<b>6 CF</b>
	After 15 cycles D3 <sup>(2)</sup>	<b>13 CF</b>
	<b>After 3 weeks immersion in:</b>	
	Motor oil at 70 °C	<b>16 CF</b>
	Hydrochloric acid (0.1 N)	<b>13 CF</b>
	Soda (0.1N)	<b>9 CF</b>
	Seawater	<b>15 CF</b>
	Gasoil	<b>16 CF</b>
Gas	<b>16 CF</b>	
Stainless Steel 304 (sandblasted)	<b>Initial</b>	<b>16 CF</b>
	After wet cataplastm 7 days at 70°C / 100% RH	<b>11 AF/CF</b>
Electro-galvanized Steel (sandblasted)		<b>11 CF</b>
Electro-galvanized Steel (acetone wipe)		<b>14 AF/CF</b>
ABS (Isopropanol + plastic primer 5069 Sika Advanced Resins)		<b>6 SF</b>
PC		<b>7 SF</b>
PVC (sandblasted)		<b>7 SF</b>
PMMA		<b>5 SF</b>
PA6E (sandblasted)		<b>4 SCF</b>
Composite SMC (sanded)		<b>7 DF</b>

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(1) Cured 16 hours at 70°C

(2) Cycle D3 : 16h at 40°C/95% RH + 3h at -20°C + 5h at 70°C/50% ± 5% RH, according to ISO 9142 standard.

CF : Cohesive Failure, AF : Adhesive Failure, SCF : Special Cohesive Failure, DF : Delamination Failure , according to EN ISO 10 365 Standard

## FLOATING ROLLER PEEL STRENGTH AT 23°C

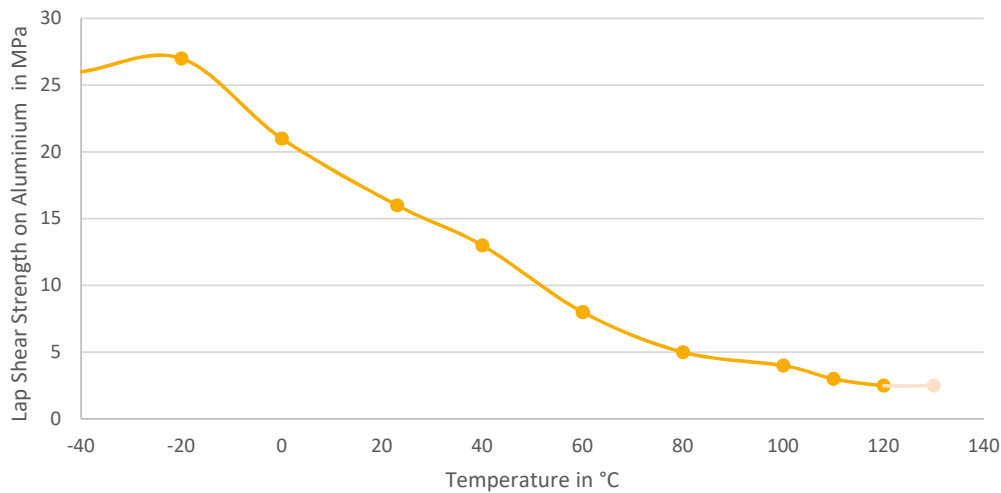
Aluminium 2017A  
(sandblasted)

(kN/m)

12

ISO 4578

Lap Shear Strength on Aluminium versus Temperature



## PROCESSING

- **Equipment:** SikaForce®-490 L03 (AB) BLACK packaged in 50 ml cartridges and SikaForce®-490 L03 (AB) Black or BEIGE packaged in 400 ml cartridges require a manual or pneumatic gun. Please consult our technical department for applications needing a machine.
- **Substrate preparation:** The item to be bonded must be free of all dirt, oil or other foreign matter. A clean, dry surface is a must.  
**Consult our Technical Support about surface preparations.**

## 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 Sheet.**

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BUILDING TRUST



## STORAGE CONDITIONS

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Shelf life of **SikaForce®-490 L03 (AB) BLACK or BEIGE** (cartridges) is **9 months** in a dry place and in original unopened containers at a temperature between 15°C and 25° C.

Shelf life of **SikaForce®-490 L03 (A) BLACK or BEIGE** (Polyol) and **SikaForce®-490 (B)** (Isocyanate) is **12 months** in a dry place and in original unopened containers at a temperature between 15°C and 25° C.

## PACKAGING

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▪ SikaForce®-490 L03 (AB) BLACK / 50 ml	Box of 12 cartridges
▪ SikaForce®-490 L03 (AB) BLACK or BEIGE / 400 ml	Box of 12 cartridges
▪ SikaForce®-490 L03 (A) BEIGE (Polyol)	40 kg
▪ SikaForce®-490 L03 (A) BLACK (Polyol)	40 kg, 290 kg
▪ SikaForce®-490 (B) (Isocyanate)	5 kg, 32 kg, 225 kg, 230 kg

## FURTHER INFORMATION

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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

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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

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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

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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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## CONTACT

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**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.**  
Poligon Industrial Congost - Guardaagullles, 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 Ramirez #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