

PRODUCT DATA SHEET

SikaForce®-453 L04 (AB) BLACK (ADEKIT A252)

TWO COMPONENT POLYURETHANE ADHESIVE FLEXIBLE BONDING - THIXOTROPIC

DESCRIPTION

Semi-structural bonding: car body elements, numerous bonding in shipyard industry, bonding of glasses and thermoplastic elements.

PROPERTIES

- 2 component room temperature curing Polyurethane adhesive
- Non sagging paste product suitable for vertical applications and to fill irregular joints
- Fast setting product adapted to reduce assembly time
- Excellent vibrations, impacts and noise damping
- Excellent behavior at low temperatures
- High elongation material (300%), 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	100	74		
Mix ratio by volume at 25 °C	100	100		
Colour	Black	Light amber	Black	
Density at 25 °C ^(KP)	1.48	1.10	-	LT-020
Density of cured product at 23 °C	-	-	1.1	LT-047
Viscosity at 25 °C ^(KP) (Pa.s)	Thixotropic paste	28 – 36 ^(KP)	Thixotropic paste	LT-001
Pot life on 50 g at 25 °C ^(KP) (min)	-	-	5' – 5'45''	LT-002-B
Open time on 7 mm bead at 23 °C (min)	-	-	4	LT-006-B

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

MECHANICAL PROPERTIES ⁽¹⁾

Hardness ^(KP) ⁽²⁾ (Shore A)	75	LT-022
Tensile strength (MPa)	7	ISO 37
Elongation at break (%)	300	ISO 37
YOUNG Modulus (MPa)	8	ISO 37
Recommended use temperature (°C)	15 to 25	-

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Working temperature ⁽³⁾	(°C)	- 40 to 120	LT-006-B
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(1) Cured 16 hours at 70 °C

(2) Cured 2 hours at 80 °C, measured at 15 seconds

(3) 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 ⁽¹⁾

At 23 °C	(min)	60	LT-006-B
At 40 °C	(min)	30	LT-006-B
At 60 °C	(min)	10	LT-006-B

(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 ⁽¹⁾

	LAP SHEAR STRENGTH AT 23 °C (MPa)	METHOD
Aluminium 2017A (sandblasted)	Initial	12 CF
	After wet cataplast 7 days at 70 °C / 100 % RH	3 AF
	After 15 cycles D3 ⁽²⁾	6.5 AF
Stainless Steel 304 (sandblasted)	Initial	11 CF
	After wet cataplast 7 days at 70 °C / 100 % RH	2.5 AF
Electro-galvanized Steel (sandblasted)		8 AF
Electro-galvanized Steel (acetone wipe)		7 AF
ABS (sanded + Isopropanol)		4 SF
PC (sanded + Isopropanol)		5 SF
PVC (sanded + Isopropanol)		5 SF
PMMA (sanded + Isopropanol)		4 SF
PAGE (sanded + Isopropanol)		3 SCF
GFR Polyester (Isopropanol wipe)		6 CF/DF 20%
GFR Epoxy (Isopropanol wipe)		9 CF

(1) Cured 16 hours at 70°C

(2) Cycle D3 : 16 h at 40 °C/95 % RH + 3 h at -20 °C + 5 h at 70 °C/50 % ± 5 % RH

CF: Cohesive Failure, AF: Adhesive Failure, SCF: Special Cohesive Failure, SF: Substrate Failure, DF: Delamination Failure, according to EN ISO 10365 Standard.

FLOATING ROLLER PEEL STRENGTH AT 23°C

Aluminium 2017A (sandblasted)	(kN/m)	9	ISO 4578
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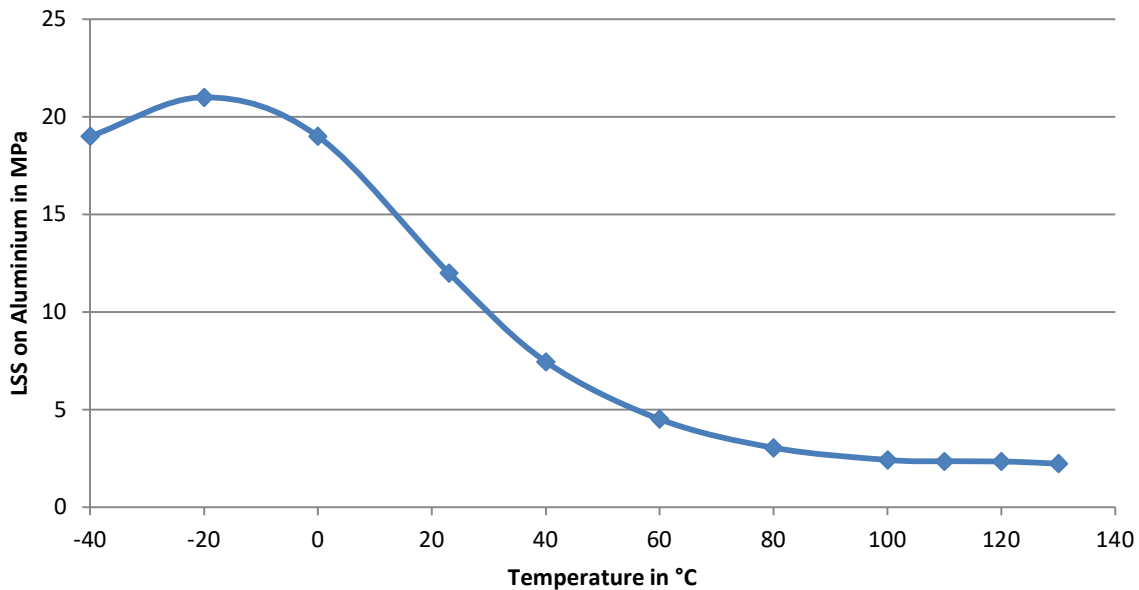
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Lap Shear Strength on Aluminium versus Temperature



PROCESSING

- **Equipment:** SikaForce®-453 L04 (AB) BLACK packaged in 50 ml and 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.

STORAGE CONDITIONS

Shelf life of SikaForce®-453 L04 (AB) BLACK is **9 months** in a dry place and in original unopened containers at a temperature between 15 °C and 25 °C.

PACKAGING

- | | |
|--|----------------------|
| ▪ SikaForce®-453 L04 (AB) BLACK / 50 ml | Box of 12 cartridges |
| ▪ SikaForce®-453 L04 (AB) BLACK / 400 ml | Box of 12 cartridges |

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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'Équerre
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 - 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

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