

PRODUCT DATA SHEET

SikaForce®-457 L05 (AB) BLACK (ADEKIT A257 BK / H6257 BK)

TWO-COMPONENT POLYURETHANE ADHESIVE LOW MODULUS – HIGH FLEXIBILITY

DESCRIPTION

Bonding of parts in large series, bonding of body elements (spoiler, tailgate...) made of composite (SMC, RTM, BMC, ...) or thermoplastics materials (ABS, PP, PC/PET, ASA, ...). Developed to bond dissimilar materials with high CTE gap.

PROPERTIES

- Two- 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 cure speed in temperature
- 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	100		
Colour	Black (BK)	Light amber	Black (BK)	
Density at 25 °C ^(KP)	1.40	1.10	-	LT-020-A
Density of cured product at 23 °C	-	-	1.26	LT-047
Viscosity at 25 °C ^(KP)	(Pa.s) 12.5	27	-	LT-001
Pot life on 25 g at 25 °C ^(KP)	(min) -	-	5	LT-002-B
Open time on 6-7 mm bead at 23 °C	(min) -	-	4'30 – 5'30	
Open time on 6-7 mm bead at 35 °C ⁽¹⁾	(min) -	-	3'30	LT-006-B

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

(1) Room temperature, Adhesive and substrates are used at 35 °C for open time measure.

MECHANICAL PROPERTIES ⁽¹⁾

Hardness ^(KP) ⁽²⁾	(Shore A)	60	LT-022-A
Tensile strength	(MPa)	3	ISO 37
Elongation at break ^(KP) ⁽¹⁾	(%)	380	LT-003
Tensile Modulus at 10 % elongation	(MPa)	1	ISO 37
Working temperature ⁽²⁾	(°C)	- 40 to 80	LT-006-B

(1) Cured 16 h at 40 °C + 8h at 23°C

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

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Sika Advanced Resins

(2) Cured 24h at 23°C. Measured at 7 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)	90	LT-006-B
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(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 ON 23 °C (MPa)		MÉTHODE	
Aluminum 2017A ^(KP) (sandblasted)	≥ 5 CF		
Flame treated Polypropylene ⁽²⁾	Initial	4 CF	LT-006-B
	At 80 °C	2 CF	
	After 1 week moist cataplasme at 70 °C	2.5 CF	

(1) Cured 16 h at 40 °C + 8h at 23°C

(2) Flame treatment parameters: speed of 900 mm/s to 90 mm to the flame. Ratio/flow rate : Qair 335 L/min – Qgaz 14.5 L/min.

CF: Cohesive Failure according to EN ISO 10365 standard.

FLOATING ROLLER PEEL STRENGTH AT 23 °C

Aluminium 2017A (sandblasted)	(kN/m)	10 CF	ISO 4578
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CF: Cohesive Failure according to EN ISO 10365 standard.

PROCESSING

- **Equipment:** SikaForce[®]-457 L05 (AB) BLACK 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.

STORAGE CONDITIONS

Shelf life of **SikaForce®-457 L05 (AB) BLACK** (cartridges) is **5 months** in a dry place and in original unopened containers at a temperature between 5 °C and 30 °C.

Shelf life of **SikaForce®-457 L05 (A)** (Polyol) is **6 months** packaged in 28kg and is **5 months** packaged in total opening drums of 235kg, in a dry place and in original unopened containers at a temperature between 5 °C and 30 °C.

Shelf life of **SikaForce®-457 (B)** (Isocyanate) is **5 months** in a dry place and in original unopened containers at a temperature between 5°C and 30°C.

PACKAGING

▪ SikaForce®-457 L05 (AB) BLACK / 400ml	Box of 12 cartridges
▪ SikaForce®-457 L05 (A) (Polyol)	28 kg, 235kg (Total Opening drum)
▪ SikaForce®-457 (B) (Isocyanate)	22 kg, 185 kg (Total Opening drum)

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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