

PRODUCT DATA SHEET

SikaForce®-411 L60 (ADEKIT A211 BG)

TWO-COMPONENT POLYURETHANE ADHESIVE LONG POT LIFE – SELF-EXTINGUISHING

DESCRIPTION

Bonding of bodywork, bonding of electronic components, bonding of metallic structures (racing vehicles, aeronautics), bonding of insert and composite structure.

PROPERTIES

- Two- component room temperature curing Polyurethane adhesive
- Non sagging paste product suitable for vertical applications and to fill irregular joints
- Slow setting product adapted to cover and bond big surfaces
- 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
- **Self- extinguishing according to FAR 25§853 (a), Appendix F, Part I (a) (1) (ii), Amdt. 25-116.**

PHYSICAL PROPERTIES

Composition	POLYOL (A)	ISOCYANATE (B)	MIX	METHOD
Mix ratio by weight	100	72		
Mix ratio by volume at 25 °C	100	100		
Aspect	Thixotropic paste	Thixotropic liquid	Thixotropic paste	
Colour	Beige ⁽¹⁾	Pale amber	Beige ⁽¹⁾	
Density at 25 °C ^(KP)	1.50	1.08	-	LT-020
Pot life on 100 g at 25 °C ^(KP) (min)	-	-	40 – 50	LT-002-B

⁽¹⁾ Due to the chemical nature of the polyol, some colour variations from beige to green might be observed but they don't affect product performances.

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

MECHANICAL PROPERTIES ⁽¹⁾

Hardness ^(KP)	(Shore A)		94	LT-022
Tensile strength	(MPa)		6	ISO 527
Elongation at break	(%)		80	ISO 527
Working temperature ⁽²⁾	(°C)		- 40 to 80	-
Self-extinguishing	6 mm		V0	UL 94
	Vertical test		Compliant	FAR 25§853 Appendix F Part I (a)(1)(ii)

(1) Cured 2 hours at 80 °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 ⁽¹⁾

At 23 °C	(h)	5	
At 40 °C	(h)	2	LT-006-B
At 60 °C	(min)	45	

(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)	MÉTHODE
Aluminium 2017A (etched in sulfochromic bath)	Initial	10 CF
	After moist cataplast 14 days at 75 °C	6 SCF
	After 21 cycles D3 ⁽²⁾	8 SCF
	After thermal ageing for 3 weeks at 100 °C	8 SCF
	After 90 thermal cycles [-55 °C; + 125 °C]	8 CF
	After 7 wet heat cycles (according MIL STD 310 E method 507.3)	8 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, according to ISO 9142 standard.

CF : Cohesive Failure, SCF : Special Cohesive Failure, according to EN ISO 10 365 Standard

FLOATING ROLLER PEEL STRENGTH AT 23 °C

Aluminium 2017A (etched in sulfochromic bath)	(kN/m)	9 CF	ISO 4578
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CF : Cohesive Failure : Rupture de cohésion

PROCESSING

- **Equipment: SikaForce®-411 L60 (AB)** is packaged in 50 ml cartridges and requires 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.

RECOMMENDATIONS

- Remove the aluminum cap at the bottom just before use.
- Place the cartridge into the gun and drain the cartridge: extrude the product until the 2 parts come out simultaneously. It brings the 2 pistons at the same level and drain the air at the top of the cartridge, in order to ensure the right ratio.
- When the 2 parts come out simultaneously, place the mixer and fill it by extrusion. Throw out the first cm³.
- If the whole cartridge is not used, leave the mixer in place to protect from air and moisture. Store the cartridge away from moisture at a temperature between +15 °C and +25 °C. The mixer must be changed for the next use, and the first cm³ thrown out. The use of an opened cartridge within the next 7 days is recommended.

STORAGE CONDITIONS

Shelf life of **SikaForce®-411 L60 (AB)** is **9 months** in a dry place and in original unopened containers at a temperature between 15 °C and 25 °C.

PACKAGING

- | | |
|---|----------------------|
| ▪ SikaForce®-411 L60 (AB) / 50 ml | Box of 12 cartridges |
| ▪ SikaForce®-411 L60 (AB) (ALUBAG) / 50 ml | Box of 24 cartridges |

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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