BUILDING TRUST

PRODUCT DATA SHEET

Sikadur®-61

Flexible Epoxy-PU hybrid adhesive & sealant

DESCRIPTION

Sikadur®-61 is a 2- part flexible hybrid adhesive with unique mechanical properties based on a mix of epoxy, PU and special fillers. It bonds to concrete, masonry, steel and other construction materials and is elastic with very good mechanical properties. Temperature range +10 °C to +35 °C. Internal and external use.

USES

The Product is used as an adhesive for:
- Strengthening of masonry structures
- Bonding of concrete joints
- Bonding of concrete, steel, wooden and masonry substrates
- Filling of horizontal control and construction joints with little or no movement
- It can be used as a safety sealant (non-pick)
- Sealing non-structural static cracks

CHARACTERISTICS / ADVANTAGES

- Elastic with very good mechanical strength
- Easy to mix and apply
- Very good adhesion to concrete, steel and masonry
- Good adhesion to many other construction materials
- Thixotropic: non-sag in vertical and overhead applications
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer required

PRODUCT INFORMATION

Chemical Base	Epoxy and PU resin with selected fillers	
Packaging	Parts A+B	4.5 kg pre-batched unit
Shelf Life	18 months from date of production	
Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging.	
Colour	Part A	light grey
	Part B	dark grey
	Part A+B Mixed	concrete grey
Density	Component A	(1.40 ± 0.1) kg/l at +23 °C
	Component B	(1.75 ± 0.1) kg/l at +23 °C
	Mixed resin	(1.50 ± 0.1) kg/l at +23 °C
Viscosity	135 Pa·s at 23 °C	

TECHNICAL INFORMATION

Shore A Hardness	~90		(ASTM D2240)
Tensile Strength	Cured 1 day at +23 °C	~2.45 MPa (200 mm/min)	(EN ISO 527-2)
	Cured 2 days at +23 °C	~4.50 MPa (200 mm/min)	
	Cured 7 days at +23 °C	~6.50 MPa (200 mm/min)	
Modulus of Elasticity in Tension	Cured 1 day at +23 °C	~3.95 MPa	(EN ISO 527-2)
	Cured 2 days at +23 °C	~15.0 MPa	
	Cured 7 days at +23 °C	~42.0 MPa	
Elongation at Break	Cured 1 day at +23 °C	(270 ± 25) %	(EN ISO 527-2)
	Cured 2 days at +23 °C	(130 ± 10) %	
	Cured 7 days at +23 °C	(95 ± 5) %	

Tensile Adhesion Strength (EN 12188; EN 1542)

Curing Time	Substrate	Curing Temperature	Adhesion strength
7 days	Concrete dry	+23 °C	> 6.5 MPa (100 % concrete failure)
7 days	Concrete mat damp	+23 °C	> 5.5 MPa

Shear Adhesion	Lap shear strength on CFRP (10 mm overlap)	~5.4 MPa	(DIN EN 1465)
	Lap shear strength on steel (10 mm overlap)	~8.5 MPa	
Tear Strength	Cured 1 day at +23 °C	~11.0 N/mm	(ISO 34-1)
	Cured 2 days at +23 °C	~14.5 N/mm	
	Cured 7 days at +23 °C	~19.7 N/mm	
Service Temperature	Maximum	+45 °C	
	Minimum	-20 °C	
Glass Transition Temperature	~+50 °C		(EN 12614)
Reaction to Fire	D-s2,d0; C_{fl}-s1		(EN 13501-1)

APPLICATION INFORMATION

Mixing Ratio	Part A : Part B	2 : 1 by weight
Consumption	(1.5 ± 0.1) kg/m² per mm of thickness. Consumption depends on the roughness and absorbency of the substrate. Note: Consumption data is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.	
Layer Thickness	Maximum	40 mm
	Minimum	5 mm
Sag Flow	Non-sag up to 30 mm layer thickness	
Product Temperature	Maximum	+35 °C
	Minimum	+10 °C

Ambient Air Temperature	Maximum	+35 °C
	Minimum	+10 °C
Substrate Temperature	Maximum	+35 °C
	Minimum	+10 °C

Pot Life (ISO 9514)

Temperature	Pot Life
+10 °C	~120 min
+20 °C	~60 min
+30 °C	~30 min

Open Time (ISO 9514)

Temperature	Pot Life
+23 °C	> 110 min
+30 °C	~110 min

BASIS OF PRODUCT DATA

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.

LIMITATIONS

Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behaviour of all polymer materials under load, when using adhesive for structural applications, the long term structural design load must account for creep. Generally the long term structural design load must be lower than 20–25 % of the failure load. A structural engineer must be consulted for design calculations for specific structural applications.

ECOLOGY HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

CONCRETE / MASONRY / MORTAR / STONE
Concrete and mortar must be at least 3–6 weeks old. Substrate surfaces must be sound, clean, dry or matt damp. Free from standing water, ice, dirt, oil, grease, coatings, laitance, efflorescence, old surface treatments, all loose particles and any other surface contaminants that could affect adhesion of the adhesive.
STEEL
Surfaces must be clean, dry, free from oil, grease, coatings, rust, scale, all loose particles and any other surface contaminants that could affect adhesion of the adhesive.
WOOD
Substrate surfaces must be sound, clean, dry and free from dirt, oil, grease, coatings, all loose particles and any other surface contaminants that could affect adhesion of the adhesive.

SUBSTRATE PREPARATION

CONCRETE / MASONRY / MORTAR / STONE
Substrates must be prepared mechanically using suitable abrasive blast cleaning, needle gunning, light scabbling, bush hammering, grinding or other suitable equipment to achieve an open textured gripping surface profile.
STEEL
Surfaces must be prepared mechanically using suitable abrasive blast cleaning, grinding, rotating wire brush or other suitable equipment to achieve a bright metal finish with a surface profile to satisfy the necessary tensile adhesion strength requirement. Avoid dew point conditions
before and during application.
WOOD
Surfaces must be prepared by planing, sanding or other suitable equipment.
ALL SUBSTRATES
All dust and loose material must be completely removed from all substrate surfaces before application of the product by vacuum / dust removal equipment.

MIXING

IMPORTANT
Maintaining workability and handling time.
When using multiple units during application, do not mix the following unit until the previous one has been used.
PRE-BATCHED UNITS

1. Mix only the quantity which can be used within its pot life
2. Prior to mixing all parts, mix part A (resin) briefly using a mixing spindle attached to a slow speed electric mixer (max. 300 rpm).
3. Add part B (hardener) to part A and mix parts A+B continuously for at least 3 minutes until a uniformly coloured smooth consistency mix has been achieved.
4. To ensure thorough mixing pour materials into a clean container and mix again for approximately 1 minute. Do not over mix. Mix full units only. Mixing time for A+B = 4.0 minutes

APPLICATION

IMPORTANT

Creep

Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behaviour of all polymer materials under load, when using adhesive for structural applications, the long term structural design load must account for creep.

- Generally the long term structural design load must be lower than 20–25 % of the failure load.
- A structural engineer must be consulted for design calculations for specific structural applications.

1. Apply mixed adhesive to the prepared surfaces with a spatula, trowel or notched trowel.
2. For optimum adhesion, apply adhesive to both surfaces that require bonding.
3. For heavy components positioned vertically or overhead, provide temporary support until the Product has fully hardened or cured.
   Note: Hardening and curing will be dependent on ambient temperatures.

CLEANING OF TOOLS

Clean all tools and application equipment immediately after use with Sika® Colma Cleaner. Hardened material can only be removed mechanically.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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