BUILDING TRUST

PRODUCT DATA SHEET

SikaForce®-810

High performance non-sagging structural adhesive for wind turbine blade bonding

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties		Component A SikaForce®-810	Component B SikaForce®-050
Chemical base		Polyols	Isocyanate derivatives
Color (CQP001-1)		White	Brown
	mixed	Beige	
Cure mechanism		Polyaddition	
Density (uncured)		1.23 g/cm³	1.22 g/cm³
	mixed (calculated)	1.23 g/cm³	
Mixing ratio	by volume	100 : 45	
	by weight	100 : 45	
Consistency		Thixotropic paste	
Application temperature		15 – 30 °C	
Shore D hardness (CQP023-1 / ISO 48-4)		75 [A, B]	
Tensile strength (CQP036-2 / ISO 527)		30 MPa [A, B, C]	
Elongation at break (CQP036-2 / ISO 527)		3 % [A, B, C]	
E-Modulus (CQP036-2 / ISO 527)		2800 MPa [A, B, C]	
Tensile lap-shear strength (CQP046-9 / ISO 4587)		20 MPa [A, B, D]	
Glass transition temperature (CQP509-1 / ISO 6721)		55 °C [B]	
Shelf life		12 months [E]	6 months [E]

CQP = Corporate Quality Procedure
[A)] 23 °C / 50 % r.h.
[B)] cured for 4 hours at 70 °C
[C)] tested at 2 mm/min
[D)] adhesive layer: 25 x 12.5 x 3 mm
[E)] stored between 10 °C and 30 °C

DESCRIPTION

SikaForce®-810 is a 2-component polyurethane adhesive with very good adhesion to fiber-reinforced composites, designed for the bonding of wind turbine blades.

PRODUCT BENEFITS

- Very good non-sag behaviour
- Long open time
- Fast strength build up at moderate curing temperatures within short curing time
- High strength and modulus for structural bonding of wind turbine blades

AREAS OF APPLICATION

SikaForce®-810 is used for bonding of rotor blades in the wind turbine industry.
This product is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

CURE MECHANISM
The curing of SikaForce®-810 takes place by chemical reaction of the two components. Higher temperatures speed up the curing process and lower slow it down.

CHEMICAL RESISTANCE
The chemical resistance is influenced by several factors such as chemical composition, concentration, period of exposure and temperature. Therefore a project related testing in case of chemical or thermal exposure is required.

METHOD OF APPLICATION
Surface preparation
Surfaces must be clean, dry and free from grease, oil and dust.
Based on the surface and type of material, a physical or chemical pre-treatment might be required. Type of pre-treatment must be determined by preliminary tests.

Mixing process
For manual application stir the base part in the original containment thoroughly before use.
Fill the desired amount of A-component into mixing pot and add the hardener in the given ratio. Stir constantly until a homogeneous mixture is obtained. Apply mixed adhesive within application time. Consult Technical Service Department of Sika Industry for detailed information.
For automated applications a suitable dosing and mixer system has to be used.
For support on selecting and setting up a suitable pump system, contact the System Engineering department of Sika Industry.

Application
Apply before reaching half of the pot-life and join parts together within the open time. Consider that, if mixed in larger amounts, the exothermic reaction can reduce the pot-life and open time significantly.

Removal
SikaForce®-810 may be removed from tools and equipment with Sika® Remover-208 or another suitable solvent. Once cured, the material can only be removed mechanically.
Hands and exposed skin have to be washed immediately using hand wipes such as Sika® Cleaner-350H or a suitable industrial hand cleaner and water.
Do not use solvents on skin.

STORAGE CONDITIONS
SikaForce®-810 resin and hardener have to be stored at temperature between 10 and 30 °C in a dry place. Do not expose it to direct sunlight or frost. After opening of the packaging, the content has to be protected against humidity.
For transportation purposes, the storage temperature can be exceeded. For a max. period of 2 weeks temperatures between 0 and 40 °C are allowed. Never use crystalized or inhomogeneous components.

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 Industry.
Copies of the following publications are available on request:
- Safety Data Sheets

PACKAGING INFORMATION
SikaForce®-810 (A)

Pail	24 kg
Hobbock	25 kg
Drum	240 kg

SikaForce®-050 (B)

Can	0.45 kg 1 kg 5 kg
Pail	25 kg
Drum	250 kg

BASIS OF PRODUCT DATA
All technical data stated in this document 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.

DISCLAIMER
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