

# Sikadur® WTG-1280

High performance toughened adhesive for wind turbine blade bonding

## Technical Product Data

Properties	Component A Sikadur® WTG-1280 (A)	Component B Sikadur® WTG-1280 (B)
Chemical base	Epoxy	Amine
Color (CQP <sup>1</sup> 001-1)	Yellow	Blue
Color mixed	Green	
Curing mechanism	Polyaddition	
Density (CQP 553-2)	1.22 g/cm <sup>3</sup> approx.	1.45 g/cm <sup>3</sup> approx.
Density mixed (calculated)	1.3 g/cm <sup>3</sup> approx.	
Mixing ratio	by volume by weight	100 : 50 100 : 60
Solids content	100%	
Viscosity <sup>2</sup>	at 10s <sup>-1</sup> at 10s <sup>-1</sup>	480 Pa·s approx. 85 Pa·s approx.
Consistency (mixed)	Thixotropic paste	
Application temperature	15 - 30°C (60 - 85°F)	
Open time <sup>3</sup>	120 min. approx.	
Curing time (full cure)	4h at 70°C	
Tensile strength (CQP 545-2 / ISO 527)	40 N/mm <sup>2</sup> approx.	
Elongation at break (CQP 545-2 / ISO 527)	2% approx.	
E-Modulus (CQP 545-2 / ISO 527)	3500 N/mm <sup>2</sup> approx.	
Tensile lap-shear strength (ISO 4587) <sup>4</sup>	25 N/mm <sup>2</sup> approx.	
Critical stress intensity factor K <sub>IC</sub> (ISO 13586) <sup>5</sup>	3.3 MPa m <sup>1/2</sup> approx.	
Critical energy release rate G <sub>IC</sub> (ISO 13586) <sup>5</sup>	3.5 N/mm approx.	
Glass transition temperature (peak tanδ) <sup>6</sup>	90°C (194°F) approx.	
Heat deflection temperature HDT (ISO 75-2, Type A)	67°C (153°F) approx.	
Shelf life (CQP 016-1) (storage between 10°C and 30°C)	12 months	

<sup>1</sup> CQP = Corporate Quality Procedure      <sup>2</sup> Rheometer PP25, d=1 mm      <sup>3</sup> at 28°C (82°F) / 70% r.h.

<sup>4</sup> On GRE with layer thickness 3 mm

<sup>5</sup> CT-specimens (Optical Crack Tracking)

<sup>6</sup> Dynamic Mechanical Thermo Analysis (DMTA)

### Description

Sikadur® WTG-1280 is a tough, high strength, solvent free, thixotropic epoxy adhesive.

Sikadur® WTG-1280 is manufactured in accordance with ISO 9001 /14001, quality assurance system and with the responsible care program.

### Product Benefits

- Superior fatigue properties
- High resistance against crack initiation and propagation
- Long open time at high temperatures and humidity
- Fast curing at moderate temperature
- Low exothermic peak temperature
- Excellent non-sag properties

### Areas of Application

Sikadur® WTG-1280 is used for bonding highly stressed components in the manufacturing process of wind turbine rotor blades (shells, shear webs, etc.)

This product is suitable for professional experienced users only. Tests with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.



\* This product is currently in the field test phase and has not been finally released. Technical data stated herein is based on preliminary testing and experience and is subject to change. Product is only suitable for experienced users and only after suitable pre-testing. Subject to mandatory legal provisions, Sika's liability is limited to the replacement of the defective products.

### Cure Mechanism

The curing of Sikadur® WTG-1280 takes place by chemical reaction of the two components. Higher temperatures speed up the curing process and lower temperatures slow down the curing process.

### Environmental Resistance

In view of potential chemical or thermal exposure, conduct a project related testing. Consult the Technical Department of Sika Industry for advice.

### Method of Application

#### Surface preparation

Sikadur WTG-1280 adheres usually well on fresh epoxy composites without additional pretreatment, if applied subsequently after the removal of the protecting peel ply. In other cases, cleaning and physical or chemical pre-treatment of the substrates may be required.

Advice on specific applications is available from the Technical Department of Sika Industry.

#### Mixing

Sikadur® WTG-1280 is designed to be applied with automatic application equipment. For advice on selecting and setting up a suitable pump system contact the System Engineering Department of Sika Industry.

### Cleaning

Uncured Sikadur® WTG-1280 may be removed from tools and equipment with Sika® Remover-208. Once cured, the material can only be removed mechanically.

Hands and exposed skin should be washed immediately using Sika® Handclean towels or a suitable industrial hand cleaner and water. Do not use solvents!

### Storage Conditions

Sikadur® WTG-1280 has to be kept between 10°C and 30°C in a dry place. Do not expose to direct sunlight or frost. After opening of the packaging, the contents have to be protected against humidity.

### Further Information

The following publications are available on request:  
- Safety Data Sheet

### Packaging Information

#### Sikadur® WTG-1280 (A)

Drum	240 kg
------	--------

#### Sikadur® WTG-1280 (B)

Drum	240 kg
------	--------

### 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 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.



Further information available at:  
[www.sika.ch](http://www.sika.ch)  
[www.sika.com](http://www.sika.com)

Sika Schweiz AG  
Business Unit Industry  
Tüffenwies 16  
CH-8048 Zurich  
Switzerland  
Tel. +41 58 436 40 40  
Fax +41 58 436 55 30

