

System Product Data Sheet

Edition 26/07/2012

Identification no:

01 05 02 01 002 0 System

SikaTack®-Panel System



SikaTack®-Panel System

The panel fixing system for ventilated façades

Construction

System

Description

The SikaTack®-Panel System is an adhesive system for the economic, concealed fixing of ventilated façade panels.

The system consists of the elastic adhesive SikaTack®-Panel, the double sided SikaTack®-Panel fixing tape and pre-treatment products. With the SikaTack®-Panel System, façade panels are invisibly attached to their normal substructures.

Uses

Concealed bonded fixing of ventilated façade panels for:

- Residential and commercial buildings
- New build and renovation projects
- Interior finishing works

Characteristics / Advantages

- 1-part products, ready to use
- Economical for rapid fixing
- Uniform tension over the whole façade panel (no stress points)
- Resistant to weathering and ageing
- Vibration and movement absorbing fixing system
- Provides creative opportunities for façade design
- Good looking, easy to maintain façade surface
- Silicone free

Tests

Approval / Standards

BBA Certificate 05/4218.

Approval from "Deutsches Institut für Bautechnik" Berlin, Reg. No.: Z-10.8-408.

Note: Panels have to be pre-tested to confirm their suitability.
Our Technical Department can assist in this evaluation.



Product Description	SikaTack®-Panel Adhesive		
Uses	1-part adhesive for the SikaTack®-Panel System.		
Product Data			
Form			
Colour	Ivory		
Packaging	300 ml cartridges 600 ml sausages		
Storage			
Storage Conditions / Shelf Life	9 months from date of production if stored properly in undamaged original sealed containers in dry conditions and protected from direct sunlight at temperatures between +10°C and +25°C.		
Technical Data			
Chemical Base	1-part polyurethane, moisture curing.		
Density	1.18 kg/l		(DIN 53 479)
Skinning- / Laying Time	20 min.	(+23°C / 50r. h.)	
Curing Rate	3 mm / 24h	(+23°C / 50 r. h.)	
Service Temperature	-40°C to +90°C		
Building-Material Class	B2 DIN 4102 part 1		
Mechanical / Physical Properties			
Ultimate Shear Strength	~ 2.00 Mpa - See Maximum Permissible Strengths on Page 6		
Ultimate Tensile Strength	~ 2.50 Mpa – See Maximum Permissible Strengths on Page 6		
System Information			
Application Conditions / Limitations			
Ambient Temperature	+5°C min. / +35°C max.		

Product Description	SikaTack® Products for Panel Pre-treatment	
Uses	Cleaning and bonding agents to optimise adhesion.	
Product Data		
Form	Sika® Aktivator-205 (Sika® Cleaner-205) SikaTack®-Panel Primer	
Colours	Clear, colourless	Black
Packaging	1000 ml 250 ml	1000 ml
Storage	Sika® Aktivator-205 (Sika® Cleaner-205) SikaTack®-Panel Primer	
Storage Conditions / Shelf -Life	From date of production if stored in undamaged original sealed containers, in dry conditions and protected from direct sunlight at temperatures between +10°C and 25°C.	
	12 months	9 months
Technical Data	Sika® Aktivator-205 (Sika® Cleaner-205) SikaTack®-Panel Primer	
Chemical Base	Bonding agent in alcohol solution.	Solvent containing pigmented epoxy resin
Density	0.80 kg/l	1.00 kg/l
Flash Point	+12°C	-4°C
System Information		
Application Conditions / Limitations		
Ambient Temperature	+5°C min. / +35°C max.	+5°C min. / +35°C max.

Product Description**SikaTack®-Panel Fixing Tape****Uses**

A double sided self adhesive fixing tape used for the initial fixing of façade panels (until the adhesive has cured and also to ensure that the minimum thickness of the SikaTack®-Panel adhesive is 3 mm.

Product Data**Form**

Colour Anthracite

Packaging 33 m per roll

Storage**Storage Conditions / Shelf life**

24 months from date of production if stored properly in undamaged original sealed containers in dry conditions and protected from direct sunlight at temperatures between +10°C and +25°C.

Technical Data

Chemical Base Closed cell polyethylene foam.

Density 0.064 kg / l (DIN 51 757)

Thickness 12 mm

Dimension 3.3 mm (± 0.2 mm)

Service Temperature -40°C to +70°C

Mechanical / Physical Properties**Compressive Strength**

Deflection	Compressive strength (ISO 844)
10%	22 kPa
25%	47 kPa
50%	120 kPa

Shear Strength > 150 hours (1 kg / 25 x 25 mm) (FTM 2)

Tensile Strength MD 25 N / 15 mm, CD 20 N / 15 mm (DIN 53 455)

Elongation at Break MD 250%, CD 150% (DIN 53 455)

Peel Strength > 23 N / 25 mm (180°C - 30 min.) on stainless steel (FTM 1)

Important

Long-term strength is provided by the SikaTack-Panel adhesive. Do not include the mechanical values of the tape in the calculation of the long term strength required. The tape must be applied onto the full length of the substructure.

System Information**Application Conditions / Limitations**

Ambient Temperature +10°C min. / +35°C max.

System Information

System Structure

Aluminium vertical carrier rail system:

The substructure must be approved by the construction supervisory authority (L, T or H shapes or equivalent) consisting at least of the alloy AlMgSi 0.5 F 22 in accordance with DIN 1748-1. Framing solutions must be non elemental and supplied from a proprietary source and as a single responsibility and in accordance with EN 9001.

Timber vertical carrier rail system

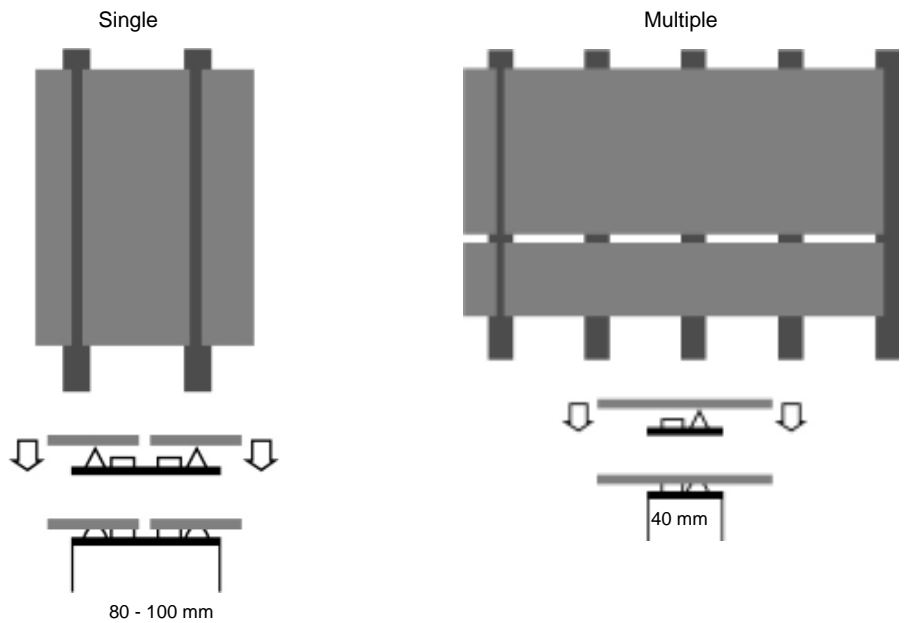
Perpendicular battens made of spruce or pine, planed, smooth and with a max. moisture content of the wood < 14% in accordance with DIN 1052. The adhesive area must be untreated. The joints between the individual battens must be at least 1 cm wide.

Design and dimensions:

The dimensions of the perpendicular substructure depends on the façade construction. The distances between the substructure battens and their width are determined by the load requirements and by the type of panel used.

N.B Each project requires specific design detailing. The framing must be designed by others in accordance with all relevant standards and appropriate consideration granted to design and manufacture. Project specific documented calculations and drawings should be issued by a qualified and competent person. N.B Sika are unable to provide or approve designs other than the specific interface between rainscreen panels and the vertical carrier rail component incorporating the SikaTack®-Panel Adhesive system.

Examples



Required width of substructure battens for the use of the SikaTack®-Panel System.

The full height of the façade panel must be bonded.

Panels

The rainscreen panel brand must have proof of suitability for use ideally with BBA accreditation and manufactured in accordance with EN 9001. Relevant panel manufacturers instructions with respect to structural adhesive fixation must be adhered to and incorporated within the full rainscreen build up design (Design by others than Sika Limited)

Calculated permissible values of load bearing capacity:

- Width of adhesive: 10 mm
- Tensile stress: ~ 0.15 Mpa
- Shear stress: ~ 0.12 Mpa (permissible reduction factor $S = 1.0$)
- According to the BBA requirements the maximum sheer movement of the joint (between panel and substructure) must be limited to 1 mm
- The temperature related material behaviour of the SikaTack®-Panel adhesive has to be considered in every calculation

Movement joints:

For the correct design and dimensioning of the system and for correct anchoring of the vertical aluminium or timber substructure, all standard building regulations for cladding apply.

The vertical aluminium or wooden battens must be parallel and even in order to ensure uniform, stress free adhesion of the cladding panels. Joints in the substructure must not be bonded over by panels. The distances between the panels at joints must be sufficiently wide to avoid compression of the panels due to thermal movement. The data of the panel manufacturer are to be compiled with expansion coefficient of the substructure. Sufficiently large openings for ventilation must be provided at the top and bottom of the system.

For the fixation of the direct substructure on the load bearing building shell, any transfer of loads or movements from the building shell to the vertical substructure and the adhesive joint has to be avoided.

Note: These system configurations must be fully complied with as described and details and may not be changed.

Application Details

Consumption / Dosage

Material	Application	Consumption
SikaTack®-Panel Cartridge 300 ml Sausage 600 ml	Triangular bead 8 x 10mm	~ 44 ml / m, corresponds to 6.5 m / cartridge or 13 m / sausage
Sika® Aktivator-205 (Sika® Cleaner-205) 250 ml bottle 1000 ml bottle	Width 50 mm	~ 3.5 ml / m, corresponds to ~ 71 m / 250 ml bottle to ~285 m / 1000 ml bottle
SikaTack®-Panel Primer 1000 ml bottle	Width 50 mm	~ 8 ml / m, corresponds to ~125 m / 1000 ml bottle
SikaTack®-Panel Fixing Tape, Roll 33 m		1 m / m

Substrate Quality

Clean and dry, homogeneous, even, free from oils and grease, dust and loose or friable particles.

Paint, laitance and other poorly adhering particles must be removed.

Standard construction rules must be observed.

Applications Conditions / Limitations

Substrate Temperature

For 5 hours after mounting, the temperature should not fall below the minimum temperature of +5°C.

Ambient Temperature

+5°C min. / +35°C max.

Material Temperature

The temperature of the building components to be bonded (cladding panels, sub structure etc.) must be at least 3°C higher than the dew point temperature of the air in order to avoid the formation of condensation on the surfaces.

Substrate Humidity

Dry, wood moisture content < 14%.

Relative Air Humidity

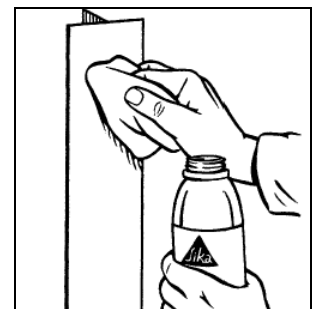
Max. 75%

Application Instructions

Application Method / Tools

Aluminium substructures:

- Clean with a fine abrasive pad e.g. Scotch Brite very fine.
- Clean the surface with a clean, grease- and fluff free cellulose cloth or cleaning paper soaked in Sika® Aktivator-205 by wiping the surface in one direction only (dirty cloths must be replaced).
- Allow a flash off time of at least 10 minutes.
- Shake the SikaTack®-Panel Primer thoroughly (the movement of the steel balls in the container must be clearly audible).
- Apply one thin coat of SikaTack®-Panel Primer uniformly all over the surface with a brush or felt pad.
- Allow a flash off time of at least 30 minutes (maximum 8 hours).



Timber substructures:

- Remove dust.
- Shake SikaTack®-Panel Primer thoroughly (the movement of the steel balls in the container must be clearly audible).
- Apply one thin coat of SikaTack®-Panel Primer uniformly over the whole surface with a brush or felt pad.
- Allow a flash off time of at least 30 minutes (maximum 8 hours).

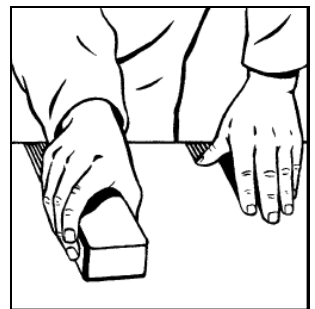


Caution

Do not use cloudy or whitish Sika® Aktivator-205 (Sika® Cleaner-205) or any old, contaminated, gelled or non-homogeneous Primer. Fully cured Primer can only be removed mechanically. Sika® Aktivator-205 (Sika® Cleaner-205) leaves a cloudy film. Only the surface to be bonded must be treated. Under all circumstances minimum flash off times for Sika primers and cleaners must be complied to. Splashes on visible surfaces must be removed immediately with a clean cloth or cleaning paper.

Pre treatment of cladding panels:

- The surface to be bonded must be clean, dry and free from grease. After the application of the primer, surfaces must be protected against dirt, dust, grease etc..
- Manual cleaning with an abrasive pad (e.g. Scotch Brite very fine) or mechanical grinding of the surfaces to be bonded with a very fine grinder, (grain 80).
- Clean the surface to be bonded with a clean, grease free and fluff free cloth or cleaning paper soaked in Sika® Aktivator-205 (Sika® Cleaner-205) by wiping in one direction only (dirty cloths must be replaced).
- Allow a flash off time of 10 minutes.
- Ceramics and cementitious panels must always be cleaned by grinding. Vacuum clean all surfaces after grinding.
Note: Ceramic and cementitious panels *do not* clean with Sika® Aktivator-205 (Sika® Cleaner-205).
- Shake *SikaTack®-Panel Primer* thoroughly (the movement of the steel balls in the container must be clearly audible)
- Apply one thin coat of *SikaTack®-Panel Primer* uniformly over the whole surface with a brush or felt pad.
- Allow a flash off time of at least 30 minutes (max. 8 hours).



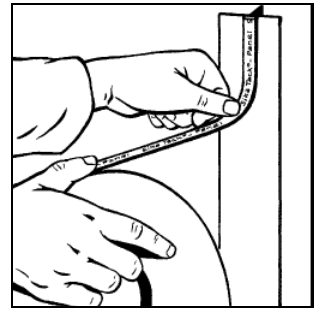
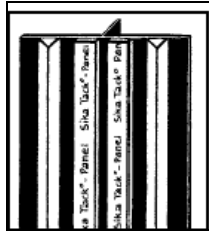
Always comply with the panel manufacturers instructions with regard to storage of the panels. Prior to bonding the panels avoid exposure to heat or direct sunlight.

Important Note:

These are general pre-treatment instructions. For the many different façade cladding panels available on the market, different or additional pre-treatments may be required. Thus always refer to the panel manufacturers instructions.

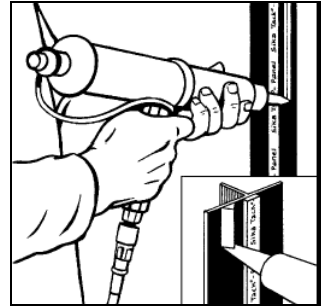
Bonding-Tape Application:

- Apply SikaTack®-Panel Fixing Tape over the whole length of the vertical sections and parallel to the edges. Do not pull off the protective foil at this time.



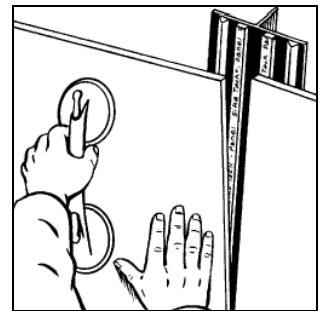
Bonding-Adhesive Application:

- Apply SikaTack®-Panel Adhesive in a triangular bead by using the triangular nozzle supplied (width 8 mm, height 10 mm) with at least 5 mm gap to the fixing tape and to the side of the batten.
- Application should be with Sika® hand or compressed air guns.



Panel placing:

- Remove the protective foil on the SikaTack®-Panel Fixing Tape. Place the cladding panel in the required position on the adhesive bead without the panel touching the fixing tape. To simplify mounting, the panels should be carefully designed. Position the panels precisely and press them firmly until they contact the SikaTack Panel fixing tape.



Important Note:

Placing of the panels must be completed within 10 minutes after application of the adhesive to the battens of the supporting substructure.

Cleaning of Tools

Clean all tools and application equipment with Sika® Remover-208/Thinner C immediately after use. Hardened / cured material (adhesive) can only be mechanically removed.

Notes on Application / Limitations	<p>This product may only be used by professional and experienced applicator.</p> <p>All panel bonding / fixing works should only be carried out by suitably qualified, trained and experienced contractors and their operatives. Always ensure proper treatment of panels and apply SikaTack®-Panel on trial area first.</p> <p>Bonding work can be carried out in the workshop or at site. The work must be protected from weather and dust. During application, the air temperature must not fall below +5°C or exceed +35°C. The relative air humidity must not be more than 75%. For 5 hours after mounting, the temperature should of fall below the minimum temperature of +5°C. The temperature of the building part to be bonded (facade panels, sub construction) must be at least 3°C higher than the dew point temperature of the air in order to avoided the formation of condensation on the surface.</p> <p>For indoor application the SikaTack® Panel Primer may only be applied in good ventilated rooms. During application smoking is prohibited. Do not apply SikaTack® Panel Primer close to ignition sources.</p> <p>Consultation of the local fire insurance might be necessary in some cases.</p>
Value Base	<p>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.</p>
Local Restrictions	<p>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.</p>
Health and Safety Information	<p>For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.</p>
Legal Notes	<p>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.</p>

Cladding Installation and Handling - Daily Record

General

<i>Contractor</i>		<i>Project</i>	
Company:		Project name:	
Address:		Address:	

Names of operatives:	Start date:	End date:
	Training obtained: Y / N	When:

Sunny:	<input type="radio"/>	Overcast:		Rainy:	<input type="radio"/>
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Weather Conditions

Air temp.:	Min.	° F / C (morning)	Min.	° F / C (midday)	Indicate ° C or ° F
Air humidity:		%			Relative humidity

Construction Details

Panel

Material of panel:	Adhesion tested by:		
Max. length:		mm / in	Indicate mm or in
Max. width:		mm / in	Indicate mm or in
Thickness:		mm / in	Indicate mm or in
Max. weight:		kg / lb	Indicate kg or lb

Note: Panel and under-construction must be clean, dry, free from grease and dust. Paint, laitance and other poorly adhering particles must be removed.

Grid Reference

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Cladding panel treatment

Pre-treatment of the cladding panels

Grinding (i. e. Scotch Brite very fine):	Y / N	<i>Flash off time</i>	
Sika®Aktivator-205:	Y / N	Time:	min.:
SikaTack®-Panel Primer:	Y / N	Time:	min.:

Wood*:	Dry on surface	<input type="radio"/>	Dust free	<input type="radio"/>	None impregnation	<input type="radio"/>	Planed	<input type="radio"/>
Aluminium:	Dry	<input type="radio"/>	Dust free	<input type="radio"/>	Free of grease	<input type="radio"/>	Smooth	<input type="radio"/>

***Note:** Moisture content of wood < 14%

Substructure treatment

Pre-treatment of the substructure

Grinding (i. e. Scotch Brite very fine):	Y / N	<i>Flash off time</i>	
Sika®Aktivator-205:	Y / N	Time:	min.:
SikaTack®-Panel Primer:	Y / N	Time:	min.:

Bonding the panel to the substructure

SikaTack®-Panel Fixing Tape:	Yes	<input type="radio"/>	Applied on full length	Y / N
SikaTack®-Panel Adhesive:	Cartridge	<input type="radio"/>	Unipac	<input type="radio"/>
Batch nr:			Best before:	

Place and date: _____

Signature: _____



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