BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-123 MS Bond

FLEXIBLE ADHESIVE AND SEALANT

DESCRIPTION

Sikaflex®-123 MS Bond is a 1-part, multipurpose adhesive and sealant with a very broad adhesion and sealing profile which bonds and seals most construction material substrates. Internal and external use.

USES

An adhesive to bond most construction components and materials such as:
- Concrete
- Masonry
- Fibre cement
- Most stones
- Ceramic
- Wood
- Metal
- Glass
- Plastics such as PVC, PA, PET and EPS/XPS

A sealant to seal vertical and horizontal joints.

CHARACTERISTICS / ADVANTAGES

- Bonds well to a wide variety of substrates without surface pre-treatment
- Bonds to damp concrete
- Compatible with with most substrates, EPS/XPS, building wraps and bitumen
- Good mechanical resistance and weathering resistance
- Adhesive-sealant with CE marking

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 EQc 2: Low-Emitting Materials
- VOC emission classification GEV-EMICODE EC 1PLUS
- VOC emission classification of building materials RTS M1
- Class A+ according to French Regulation on VOC emissions

APPROVALS / STANDARDS

CE Marking and Declaration of Performance to EN 15651-1 - Sealants for non-structural use in joints in buildings - Facade elements: Class F EXT-INT CC 20HM
NZ Building Code Compliant
- B1 Structure. When used as a component of compliant building element systems
- B2 Durability: Clauses B2.3.1 (b) 15 years. (c) 5 years
- F2 Hazardous Building Materials: Clause F2.3.1

PRODUCT INFORMATION

Chemical Base	Silane terminated polymer
Packaging	300 ml cartridge, 12 cartridges per box
Colour	White, grey, black
Shelf Life	Twelve (12) months from the date of production when stored as stated.

Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +25 °C. Always refer to packaging.	
Density	~1.50 kg/l	(ISO 1183-1)

TECHNICAL INFORMATION

Shore A Hardness	~36 (after 28 d)	(ISO 868)
Tensile Strength	~1.5 N/mm²	(ISO 37)
Secant Tensile Modulus	~0.65 N/mm² at 60 % elongation (23°C)	(ISO 8339)
Elongation at Break	~250 %	(ISO 37)
Elastic Recovery	~75 %	(ISO 7389)
Tear Propagation Resistance	~4.5 N/mm	(ISO 34)
Service Temperature	–50 °C min. / +80 °C max	
Joint Design	The joint width must be designed to suit the movement capability of the sealant. The joint width shall be ≥ 6 mm and ≤ 20 mm. A width to depth ratio of 2:1 must be maintained. Joints ≤ 10 mm in width are for crack control and therefore non-movement joints. For larger joints contact Sika Technical Services for additional information.	

APPLICATION INFORMATION

Yield

- **Bonding**

Yield 300 ml	Dimension
~ 100 spots	Diameter = 30 mm Thickness = 4 mm
~ 15 m bead	Nozzle diameter = 5 mm (~20 ml per linear meter)

- **Sealing**

Joint width (mm)	Joint depth (mm)	Joint length per 300 ml
10	10	2.9 m
15	12	1.6 m
20	17	0.6 m

Backing Material	Use closed cell, polyethylene foam backing rods such as Sika® PEF Rod.	
Sag Flow	0 mm (20 mm profile, 23°C)	(ISO 7390)
Ambient Air Temperature	+5 °C min. / +40 °C max	
Substrate Temperature	+5 °C min. / +40 °C max., min. 3 °C above dew point temperature	
Curing Rate	~3 mm/24 h (23 °C / 50 % r.h.)	Sika Corporate Quality Procedure (CQP 049-2)
Skin Time	~35 min (23 °C / 50 % r.h.)	(CQP 019-1)

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

- For good workability, the adhesive temperature must be +20 °C.
- Application during high temperature changes is not recommended (due to movement during curing).
- Before bonding or sealing, check adhesion and compatibility of paints and coatings by carrying out preliminary trials.
- Sikaflex®-123 MS Bond can be overpainted with most conventional water-based coating and paint systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials. The best over-painting results are obtained when the

adhesive is allowed to fully cure first. Note: non-flexible paint systems may impair the elasticity of the adhesive and lead to cracking of the paint film.
- Colour variations may occur due to the exposure in service to chemicals, high temperatures and/or UV radiation (especially with white colour shade). This effect is aesthetic and does not adversely influence the technical performance or durability of the product.
- Always use Sikaflex®-123 MS Bond in conjunction with mechanical fixings for overhead applications or heavy components.
- For very heavy components provide temporary support until Sikaflex®-123 MS Bond has fully cured.
- Full surface applications / fixings are not recommended since the inner part of the adhesive layer may never cure.
- Before using on natural stone, contact Sika Technical Services.
- Do not use on natural rubber, EPDM rubber or on any building materials which might leach oils, plasticisers or solvents that could degrade the adhesive.
- For use on bituminous substrates, preliminary trials are recommended or contact Sika Technical Services.
- Do not use on polyethylene (PE), polypropylene (PP), polytetrafluoroethylene (PTFE / Teflon), and certain plasticised synthetic materials. Preliminary trials are recommended or contact Sika Technical Services.
- Do not use to seal joints in and around swimming pools.
- Do not use for joints under water pressure or for permanent water immersion.
- Do not use to seal glass or in floor or sanitary joints.
- Do not use for bonding glass if the bond line is exposed to sunlight.
- Do not use for structural bonding.
- Do not expose uncured Sikaflex®-123 MS Bond to alcohol containing products as this may interfere with the curing reaction.

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 PREPARATION

The substrate must be sound, clean, dry and free of all contaminants such as dirt, oil, grease, cement laitance, old sealants and poorly bonded paint coatings which could affect adhesion of the adhesive / sealant. The substrate should be of sufficient strength to resist the stresses induced by the sealant during movement. Removal techniques such as wire brushing, grinding, sanding or other suitable mechanical tools can be used.
All dust, loose and friable material must be completely removed from all surfaces before application of any activators, primers or adhesive / sealant. Sikaflex®-123 MS Bond adheres without primers and/or activators. However, for optimum adhesion, joint durability and critical, high performance applications the following priming and/or pre-treatment procedures shall be followed:

Non-porous substrates
Aluminium, anodised aluminium, stainless steel, PVC, galvanised steel, powder coated metals or glazed tiles, slightly roughen surface with a fine abrasive pad. Clean and pre-treat using Sika® Aktivator-205 applied with a clean cloth. Before bonding / sealing, allow a waiting time of > 15 minutes (< 6 hours). Other metals, such as copper, brass and titanium-zinc, clean and pre-treat using Sika® Aktivator-205 applied with a clean cloth. After a waiting time of > 15 minutes (< 6 hours). Apply Sika® Primer-3 N applied by brush. Allow a further waiting time of > 30 minutes (< 8 hours) before bonding / sealing.
PVC has to be cleaned and pre-treated using Sika® Aktivator-205 applied with a clean cloth. Before bonding / sealing, allow a waiting time of > 15 minutes (< 6 hours).

Porous substrates
Concrete, aerated concrete and cement based renders, fibre cement, mortars and bricks, prime surface using Sika® Primer-3 N applied by brush. Before bonding / sealing, allow a waiting time of > 30 minutes (< 8 hours). For more detailed advice and instructions contact Sika Technical Services.
Note: Primers are adhesion promoters and not an alternative to improve poor preparation / cleaning of joint surfaces. Primers also improve the long term adhesion performance of the sealed joint.

APPLICATION METHOD / TOOLS

Bonding Procedure
After the necessary substrate preparation, prepare the end of the cartridge before or after inserting into the sealant gun then fit the nozzle. Apply in beads, strips or spots at intervals of a few centimetres each. Use hand pressure only to fix the components to be bonded into position before skinning of the adhesive occurs. Incorrectly positioned components can easily be unbonded and repositioned during the first few minutes after application. If necessary, use temporary adhesive tapes, wedges, or supports to hold the assembled components together during the initial curing time.
Fresh, uncured adhesive remaining on the surface must be removed immediately. Final strength will be reached after complete curing of Sikaflex®-123 MS Bond, i.e. after 24 to 48 hours at +23 °C, depending on the environmental conditions and adhesive layer thickness.

Sealing Procedure
Masking
It is recommended to use masking tape where neat or exact joint lines are required. Remove the tape within the skin time after finishing.
Joint Backing
After the required substrate preparation, insert a suitable backing rod to the required depth.
Priming
Prime the joint surfaces as recommended in substrate preparation. Avoid excessive application of primer to avoid causing puddles at the base of the joint.

Application
Prepare the end of the cartridge before or after inserting into the sealant gun then fit the nozzle. Extrude Sikaflex®-123 MS Bond into the joint ensuring that it comes into full contact with the sides of the joint and avoiding any air entrapment.

Finishing
As soon as possible after application, sealant must be firmly tooled against the joint sides to ensure adequate adhesion and a smooth finish.
Use a compatible tooling agent to smooth the joint surface. Do not use tooling products containing solvents.

CLEANING OF TOOLS

Clean all tools and application equipment immediately after use with Sika® Remover-208. Once cured, 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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