

PRODUCT DATA SHEET

SikaHyflex®-402 Connection

Highly elastic low-modulus phthalate- and primer-free sealant



DESCRIPTION

SikaHyflex®-402 Connection is a 1-part, phthalate free, moisture-curing, elastic joint sealant for sealing many types of joint configurations. It has a primerless application and good adhesion to most construction materials. Provides a waterproof seal with good mechanical properties, remains elastic over a wide range of temperatures and is over-paintable. Movement capability $\pm 25\%$. Internal and External use.

USES

Sealing joints for:

- Movement and connection joints
- Facade elements
- Balconies
- Window and door frames
- Pre-cast elements
- Retaining walls
- Partition walls
- Parapets
- Indirectly food contact

CHARACTERISTICS / ADVANTAGES

- Internal and external use
- Movement capability $\pm 25\%$
- Over-paintable
- Bubble-free curing
- Good resistance to weathering and ageing
- Good adhesion of many construction materials
- Suitable for use in most global conditions
- Elastic over a wide range of temperatures
- 1-part ready to use
- Available in many colors
- Waterproof
- Phthalate free formulation

SUSTAINABILITY

- Conformity with LEED v4 EQc 2: Low-Emitting Materials
- VOC emission classification GEV-Emicode EC1^{PLUS}
- VOC emission classification of building materials RTS M1

APPROVALS / CERTIFICATES

- CE Marking and Declaration of Performance to EN 1565-1 - Sealants for non-structural use in joints - Facade elements
- EN ISO 11600: Building construction - Jointing products - Classification and requirements for sealants.
- Food Industry Approval, SikaHyflex-402 Connection, ISEGA, Certificate No. 55988 U 21

PRODUCT INFORMATION

Product declaration

- EN 1565-1: F EXT-INT CC 25 LM
- EN ISO 11600: F 25 LM

Composition

Silane terminated polymer

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Packaging	290 ml cartridge, 12 cartridges per box. 600 ml cylindrical foil pack, 20 foil packs per box Please contact our customer service, for information of what packaging sizes are sold in Denmark.
Shelf life	12 months from the 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 +25 °C. Always refer to packaging.
Colour	Please contact our customer service, for information of which colors are sold in Denmark. Other colours on request.
Density	~1,25 kg/l (ISO 1183-1)

TECHNICAL INFORMATION

Shore A hardness	~20 (after 28 days) (ISO 868)
Secant tensile modulus	~0,40 N/mm ² at 100 % elongation (23 °C) (ISO 8339) ~0,50 N/mm ² at 100 % elongation (-20 °C)
Tensile strain at break	~500 % (ISO 37)
Movement capability	±25 % (ISO 9047)
Elastic recovery	~70 % (ISO 37)
Tear propagation resistance	~4,0 N/mm (ISO 34)
Service temperature	-40 °C to +70 °C
Resistance to weathering	8 (ISO / DIS 19862)

Joint design

The joint width must be designed to suit the movement capability of the sealant. A width to depth ratio of 2:1 must be maintained (exceptions see below). Joint widths less than 10 mm are generally for interior connection joints or crack control joints and therefore considered as non-movement joints.

All joints must be correctly designed and dimensioned in accordance with the relevant standards and codes of practice before their construction. The basis for calculation of the necessary joint widths are:

- The type of structure
- Dimensions
- Technical values of adjacent building materials
- Joint sealing material
- The specific exposure of the building and the joints

ISO 9047 CALCULATION GUIDELINE FOLLOWING DIN 18540 WITH A 25LM/25HM CLASS SEALANT TO ISO 11600

Joint distance [m]	Min. joint width [mm]	Min. joint depth [mm]
2	10	10
4	15	10
6	20	10
8	30	15
10	35	17

For joint design and calculations contact Sika Technical Services for additional information.

Joint width	Dimensions for movement joint widths:	
	Maximum	50 mm
	Minimum	10 mm

Note: Connection joints have a minimum width of 6 mm.

APPLICATION INFORMATION

Consumption	Joint width [mm]	Joint depth [mm]	Joint length [m] per 600 ml foil pack
	8	8	12
	15	8	6
	20	10	3
	25	12	2
	30	15	1.3

Sag flow	0 mm (20 mm profile, 50 °C)	(ISO 7390)
Ambient air temperature	+5 °C to +40 °C	
Substrate temperature	+5 °C to +40 °C, ≥ 3 °C above dew point temperature	
Backing material	Use closed cell, polyethylene foam backing rods.	
Curing rate	~2 mm/24 hours (23 °C / 50 % r.h.) , Sika Corporate Quality Procedure	(CQP 049-2)
Skimming time	~60 minutes (23 °C / 50 % r.h.)	(CQP 019-1)
Tooling time	~50 minutes (23 °C / 50 % r.h.)	(CQP 019-2)

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.

FURTHER INFORMATION

- Pre-treatment Sealing & Bonding Chart
- Method Statement Joint Sealing
- Method Statement Joint Maintenance, Cleaning and Renovation
- Technical Manual Facade Sealing

IMPORTANT CONSIDERATIONS

- Tests must be performed on the actual surfaces and under current conditions to ensure adhesion and material compatibility.
- 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.
- SikaHyflex®-402 Connection can be over-painted with most conventional facade paint coating systems. However, paints must first be tested to ensure compatibility by carrying out preliminary trials (e.g. according to ISO technical paper: Paintability and Paint Compatibility of Sealants). Optimum results are obtained when the sealant is allowed to fully cure

first. Note: non-flexible paint systems may impair the elasticity of the sealant and lead to cracking of the paint coating.

- Do not use on natural stone.
- Do not use as a glass sealant, on bituminous substrates, natural rubber, EPDM rubber or on any building materials which might leech oils, plasticizers or solvents that could degrade the sealant.
- Do not use to seal joints in or around swimming pools.
- Do not use for joints under water pressure or permanent water immersion.

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 coatings which could affect adhesion of the sealant.

The substrate should be of sufficient strength to cope with the stresses induced by the sealant during movement.

Removal techniques such as wire brushing, grinding,

grit blasting 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 sealant. Where joints in substrate are saw cut. After sawing, all slurry material must be flushed away and joint surfaces allowed to dry.

SikaHyflex®-402 Connection adheres without primers and/or activators.

For optimum adhesion, joint durability and critical, high performance applications such as joints on multi-storey buildings, highly stressed joints, extreme weather exposure. 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 sealing, allow a waiting time of > 15 minutes (< 6 hours).

Other metals, such as copper, brass and titanium-zinc, cleaned 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 sealing.

Porous substrates

Concrete, aerated concrete and cement based renders, mortars and bricks. Prime surface using Sika® Primer-3 N applied by brush.

Before sealing, allow a waiting time of > 30 minutes (< 8 hours).

For more detailed advice contact Sika Technical Services for additional information.

Note: Primers are adhesion promoters and not an alternative to improve poor preparation / cleaning of the joint surface. Primers also improve the long term adhesion performance of the sealed joint.

APPLICATION METHOD / TOOLS

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:

SikaHyflex®-402 Connection is supplied ready to use. Prepare the end of the foil pack or cartridge, insert into the sealant gun and fit the nozzle. Extrude SikaHyflex®-402 Connection 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 (e.g. Sika® Tooling Agent N) to smooth the joint surface. Do not use tooling products containing solvents

CLEANING OF EQUIPMENT

Clean all tools and application equipment immediately after use with Sika® Remover-208. Once cured, hardened material can only be removed mechanically. For cleaning skin use Sika® Cleaning Wipes-100.

LOCAL RESTRICTIONS

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

LEGAL NOTES

Any information or suggestions for use concerning Sika's products, which we either in writing or orally have given buyers or end-users of the product, have been given in good faith based on our own experiences and based on approved praxis and the technological and scientific knowledge on the time of giving such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure, that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Danmark A/S, which are

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considered known and accepted, and which could be handed out when asked for. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise.

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