

Sikaflex[®] Construction

Flexible sealant for porous substrates

Positioning

Description

Sikaflex Construction is a one component polyurethane based joint sealant. It cures by reacting with atmospheric moisture to produce a permanently elastomeric material that has excellent long term durability properties.

Uses

Sikaflex Construction is especially suited to, and has been designed primarily for, use on porous substrates. It is ideal for use as a flexible joint sealant for exterior building facade applications such as:

- Joints between precast concrete panels.
- Joints between natural stone e.g. granite/marble.
- Sealing around timber joinery.
- Joints between masonry / brickwork.
- Sealing pipes or other protrusions.

Advantages

- One component, ready to use.
- Excellent long-term weathering and aging properties.
- Non- sag in vertical and overhead joints.
- Excellent adhesion to many substrates even without the use of a primer.
- Short skinning time, fast curing.
- Can be over-painted (preliminary tests recommended).
- Excellent workability, easy to use.

Tests

Approvals / Standards

- Satisfies the durability requirements of the New Zealand Building Code.
- ISO 11600 Classification F 25HM / F 20LM.

Product Data

Type:

Moisture curing polyurethane prepolymer.

Packaging:

Available in 600 ml unipac foil sausages (20 per carton) in Concrete Grey only.

Storage & Shelf Life:

Twelve (12) months shelf life from date of production when stored in unopened original packaging in cool dry conditions between 10°C and 25°C.

Technical Data

Density:

1.4 kg/litre depending on colour.

Service temperature:

Dry = -40°C to 70°C

Wet = up to 40°C (temporary up to 50°C).

Application temperature:

+5°C to +40°C (substrate and ambient).

Shore A hardness:

~ 25 after 28 days (at +23°C, 50% RH) (DIN 53 505).

Elastic recovery:

> 70% (DIN EN ISO 7389B)

E-Modulus:

~ 0.4 MPa at 100% elongation (+23°C, 50% RH) (DIN 52 455)

Elongation at break:

> 700% (DIN 53 504)

Tensile strength at break:

> 1.0 MPa (DIN 53 455)

Movement capacity:

± 25% of joint width (expansion - contraction)

Skinning time:

~ 60 minutes (at +23°C, 50% RH) (Subject to ambient conditions)

Cure rate:

1 mm per day (at +23°C, 50% RH) (subject to ambient conditions)



Joint Design

Precast Concrete Facade Joints:

Joint Spacing (m)	2	2 - 3.5	3.5 - 5.0	5.0 - 6.5	6.5 - 8.0
Joint Width (mm)	10	15	20	25	30
Joint Depth (mm)	8	10	12	15	15

Joints for General Use:

Joints up to 10 mm wide:	Width : Depth ratio = 1 : 1.
Joints between 10mm and 20mm wide:	Joint dimension = width x 10mm deep.
Joints over 20mm wide:	Width : Depth ratio = 2 : 1.
Minimum joint depth	= 8 mm.
Minimum joint width	= 8 mm.

Application Conditions

Surface Preparation

- All surfaces must be clean, dry and free from any loosely adhering particles or surface contaminants such as dirt, dust, oil, grease, etc.

Backing Rod/ Bond Breaker

- In open based joints the correct depth should be established by inserting a Sika PEF Backing Rod of a suitable dimension. (Refer to **PEF Rod** data sheet).
- If the joint has a solid, formed base it is essential to apply a bondbreaker tape to this surface in order to prevent back adhesion. This will then allow the sealant unrestrained movement throughout the depth of the joint.

Priming

- Sikaflex Construction generally has excellent adhesion to most clean, sound, porous substrates. However, in areas of critical, high performance application such as multi storey building work, high stress joints and extreme weather exposure we always suggest the use of substrate primers and cleaners for optimum adhesion.
- For *porous substrates*, e.g. concrete, masonry, brickwork, hardiflex, timber etc, use **Sika Primer No. 3**.
- When using primers it is essential that they have fully cured before applying Sikaflex Construction.
- For further information refer to **Sika Primer** data sheet or contact the Sika Technical Dept.

Application

- Protect each outside face of the prepared joint with a layer of masking tape.
- Apply the Sikaflex Construction using a Sika hand or pneumatically operated caulking gun at an angle to eliminate the inclusion of air pockets. The sealant should be firmly extruded into the joint, making sure that it is in full contact with the sides of the joint. Tool off the sealant to achieve a smooth finish. Tooling will also compress the sealant, promoting adhesion to the joint walls.
- Remove masking tape before sealant starts curing.

Cleaning of Tools

- Clean tools and equipment immediately after use with Sika Colma Cleaner. Cured Sikaflex can only be removed mechanically.

Notes on Application / Limitations

- Sikaflex Construction will not adhere to polyethylene, polypropylene, polybutylene, polycarbonate, silicone or teflon. If in doubt about substrate suitability consult the Sika Technical Dept or conduct preliminary adhesion tests.
- Protect against water for 8 hours after application.
- Over-painting of sealants with a rigid coating may inhibit their movement capabilities and is generally not recommended.
- Do not apply Sikaflex Construction to pre-painted surfaces without conducting adhesion tests first to determine compatibility.
- Silicone based sealants and coatings can negatively affect the curing and adhesion of other sealants such as Sikaflex Construction.
- Do not apply Sikaflex Construction to bitumen based coatings or surfaces. Do not overcoat Sikaflex Construction with bitumen based products.
- Do not use Sikaflex Construction for securing glass in structural glazing systems.
- All joints subjected to hydrostatic pressure must have a solidly formed base to provide bearing for the sealant.
- Sikaflex Construction, as with all elastomeric sealants, will ultimately break down when continuously exposed to chlorinated water in swimming pools. For pool joints use Sikadur Combiflex system (refer to separate data sheet for further information).
- For potable water tank jointing refer to **Sikaflex 11FC** Technical Data Sheet.



- Sikaflex Construction satisfies the durability requirements of the New Zealand Building Code, provided that it has been used strictly in accordance with all the information contained in this data sheet. All applications must be carried out in accordance with good joint design principles and installation procedures, and the designer, contractor, builder or applicator must satisfy themselves that these requirements will be met.
- Refer to the “Sikaflex Elastomeric Sealants” data sheet, for information on joint design and calculation of joint movement.

Notes	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.
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.

Health & Safety Information

Protective Measures

- To avoid rare allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hands before breaks and after finishing work.
- Local regulations as well as health and safety advice on packaging labels must be observed.
- For further information refer to the Sika Material Safety Data Sheet which is available on request.
- If in doubt always follow the directions given on the pack or label.

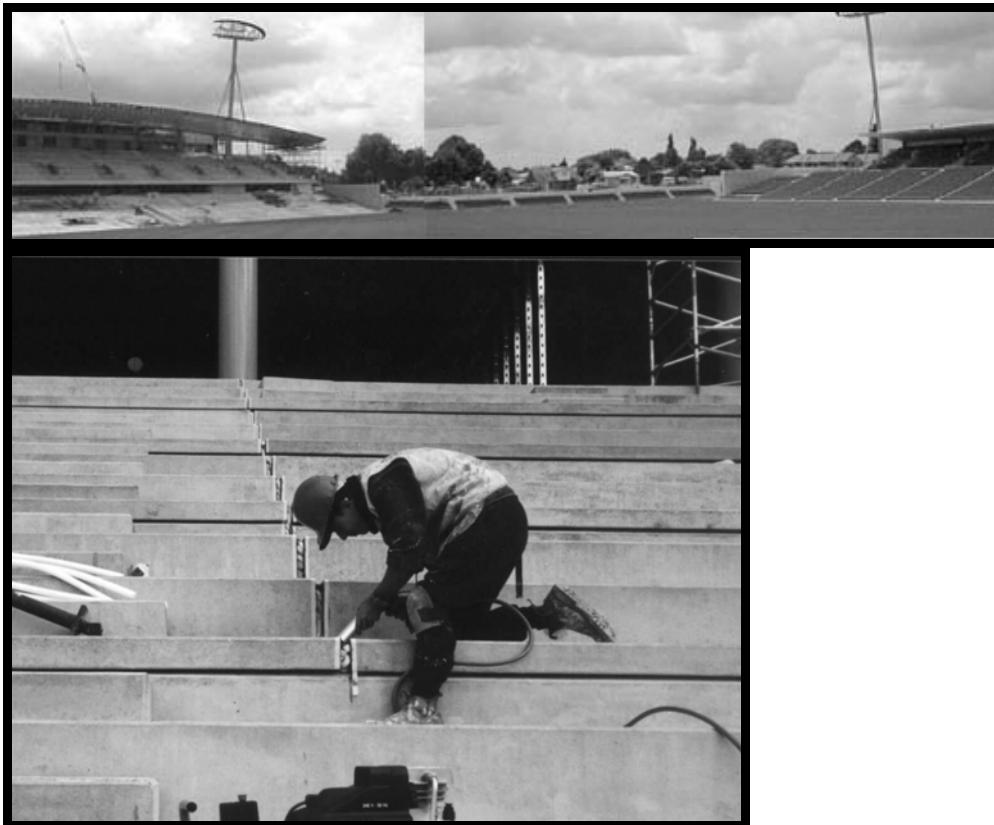
Transportation Class	Sikaflex-Construction is classed as non-hazardous for transportation.
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Legal Notes

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.



Project Reference WAIKATO RUGBY STADIUM



Requirement:

A flexible sealant was required to seal the joints between precast bleacher units and the construction joints in in-situ concrete elements.

Solution:

Sikaflex-Construction and Sikaflex 11FC were used. Sikaflex-Construction allows greater joint movement, while Sikaflex 11FC provides better edge support in more heavily loaded joints.

Products Used:

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|-----------------------|---|--|
| Sikaflex 11FC | } | Jointing |
| Sikaflex Construction | | |
| Sikaflex PRO | - | Windows |
| Purigo 5S | - | Concrete dustproofer and surface hardener |
| Formol | - | Concrete form release agent |
| Emulsion 93 | - | Waterproof bonding agent and mortar improver |
| Sikadur 32 | - | High performance epoxy tie coat |
| Sika Grout 212 | - | High strength, shrinkage compensated pourable cementitious grout |

Reference:

AKL230



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