

# Sikaflex® Tank N

1-part elastic sealant for joints exposed to chemicals

Construction

## Product Description

Sikaflex® Tank N is a one part, moisture curing, elastic joint sealant based on polyurethane. It is used in areas for the storage, filling and handling of water polluting liquids.

## Uses

*Floor and perimeter joints in areas exposed to chemicals:*

- Facilities for storage
- Filling and handling of water - polluting liquids, i. e. filling stations, handling areas storage tanks and containment bunds, barrel stores, etc.
- Floor joints in petrol stations
- Floor and connection joints according to IVD data sheet no. 1. I. E. in workshops and parking garages

## Characteristics / Advantages

- 1-part component, ready to use
- High chemical resistance
- High mechanical resistance
- Movement capability 25%
- Non-sag
- Excellent application properties
- High tear propagation resistance

## Tests

### Approval / Standards

European Technical Approval ETA-09/0272, used in facilities for the storage, handling and filling of substances hazardous to water

## Product Data

### Form

#### Colours

Concrete grey

#### Packaging

600 ml sausages, 20 sausages per box

## Storage

### Storage Conditions / Shelf-Life

12 months 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.



## Technical Data

<b>Chemical Base</b>	1-part polyurethane, moisture curing
<b>Density</b>	~ 1.50 kg/l (DIN 53 479)
<b>Skinning Time</b>	~ 60 - 120 minutes (+23°C / 50% r.h.)
<b>Curing Rate</b>	> 2.5 mm/24 h (+23°C / 50% r.h.)
<b>Movement Capability</b>	25%
<b>Joint Dimensions</b>	Min. width = 10 mm / max. width = 35 mm
<b>Sag Flow</b>	0 mm, very good (DIN EN ISO 7390)
<b>Service Temperature</b>	-40°C to +70°C

## Mechanical / Physical Properties

<b>Tear Strength</b>	~ 1 N/mm <sup>2</sup> (+23°C / 50% r.h.) (DIN 53 515)
<b>Tear Propagation Resistance</b>	~ 8 N/mm
<b>Shore A Hardness</b>	~ 35 after 28 days (+23°C / 50% r.h.) (DIN 53 505)
<b>E-Modulus</b>	~ 0.6 N/mm <sup>2</sup> at 100% elongation (+23°C / 50% r.h.) (DIN EN ISO 8340)
<b>Elongation at Break</b>	~ 700% (+23°C / 50% r.h.) (DIN 53 504)
<b>Elastic Recovery</b>	> 80% (+23°C / 50% r.h.) (DIN EN ISO 7389 B)

## Resistance

### Chemical Resistance

List of liquids for which the joint-sealing system is impermeable and resistant for up to 72 hrs. (medium duty). For these liquids Sikaflex® Tank N is approved according to TRwS (Technical Rules on Substances Hazardous to Water) for sealing surfaces in storage/filling/handling facilities for water-polluting liquids.

Group no.*	Liquids
DF 1 + 1 a	Petrol (Gasoline) for motor vehicles to DIN 51600 and DIN EN 228
DF 2	Aviation fuels
DF 3+ 3 a+3b	Extra-light heating oil (DIN 51603-1), diesel fuel (DIN EN 590), unused internal combustion engine oils and unused vehicle gear oils, mixtures of saturated and aromatic hydrocarbons with an aromatic content < 20% by weight and a flash point > 55°C.
DF 4	All hydrocarbons
DF 4a	Benzene and benzene-containing mixtures
DF 4b	Crude oils
DF 4c	Used internal combustion engine oils and used vehicle gear oils with a flash point > 55°C.
DF 5	Monohydric and polyhydric alcohols (up to max. 48% by volume methanol) glycol ethers
DF 5a	All alcohols and glycol ethers
DF 5b	Monohydric and polyhydric alcohols > C <sub>2</sub> .
DF 11	Inorganic alkalis and alkaline-hydrolysing inorganic salts in aqueous solutions (pH > 8), excluding ammonia solutions and oxidising salt solutions (i. e. hypochlorite).

\*) as specified in approval guidelines for joint-sealing systems in storage/filling/handling facilities for water-polluting liquids, Part 1. See DIBt (German Institute for Construction Technology) documentation, Book 16.1

# System Information

## Application Details

### Consumption / Joint Design

*Joint design:*

The relevant technical rules for joints with elastic sealants have to be considered. All joint sealing in storage/filling/handling facilities for water-polluting liquids and in water pollution control have to be made according to the national technical approval for Sikaflex® Tank N (no. Z-74.6-73) and its annexes. Installations of the joint-sealing system in storing/filling/handling facilities for water-polluting liquids have to be made only by operators who are approved according to § 19 I of WHG (German Water Resources Management Law) and have received instruction from the manufacturer.

To avoid damage to sharp edges in in-situ concrete a chamfer (approx. 3 – 5 mm) should be provided to the sides of the joint.

*Joint dimension:*

Minimum joint width 10mm. Control joints < 10mm are for crack control and therefore these are no joints in the sense of IVD (German Sealant Manufacturers' Association) data sheet no 1. Relevant is the joint width at the time of the application of the sealant (guide value of + 10°C).

We recommend for internal areas (temperature difference of 40°K):

Joint spacing	2.0 m	3.0 m	4.0 m	5.0 m	6.0 m	8.0 m
Min. joint width (mm)	12	12	12	12	12	12
Sealant thickness	12	12	12	12	12	12

We recommend for external areas (temperature difference of 80°K):

Joint spacing	2.0 m	3.0 m	4.0 m	5.0 m	6.0 m	8.0 m
Min. joint width (mm)	12	12	15	18	20	30
Sealant thickness	12	12	12-15	15	17	25

These recommendations consider only the longitudinal thermal movement of the concrete elements. If additional movement is expected (e.g. vibrations, settlements or horizontal displacement) the joints have to be adapted accordingly.

Joints must be properly dimensioned as changes are normally no longer possible after construction. Basis for calculation of the necessary joint width are the technical characteristic values of the joint sealant and the adjacent building materials, the exposure of the building elements and their construction size.

Joint length (m) per 600 ml unipac

Joint depth	Joint width (mm)				
	10	15	18	20	30
D (mm)	10	15	18	20	30
12	4.8	3.3	2.7	2.5	1.6
15	4.0	2.5	2.2	2.0	1.3
17	3.5	2.3	2.0	1.8	1.1
20	3.0	2.0	1.6	1.5	1.0
D (mm)	10	15	18	20	30

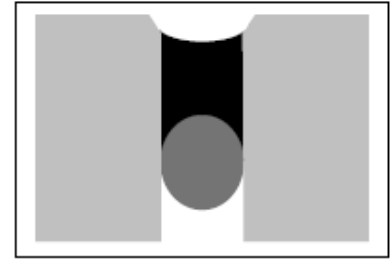
The stated values are indications only.

#### Joint detailing

Proposal for floor joint detailing:



The flush joint design rules out trip hazards and dirt traps.



The recessed joint design projects the sealant against mechanical loads.

See also Annex 1 of the DIBt (German institute for Construction Technology) national technical approval (no. Z-74.6-73).

#### Substrate Quality

Clean and dry, homogeneous, free from grease, dust and loose particles. Paint, laitance and other poorly adhering particles must be removed. Clean joints with compressed air. Standard construction rules must be observed.

The Sikaflex® Tank N joint sealing system is approved for application on uncoated liquid proofed precast concrete elements with a national technical approval for use in storage / filling/ handling facilities for water-polluting liquids or grade B 35 BII in-situ concrete to DIN 1045 as "FD" (liquid proof) concrete or "FDE" (penetration-tested liquid-proof) concrete.

#### Substrate Preparation / Priming

##### Non porous substrates:

E.g. metals, powder coatings etc. have to be cleaned with a fine abrasive pad and Sika® Aktivator-205 (Sika® Cleaner-205) by using a clean towel / cloth.

After a flash off time of at least 15 min, apply Sika® Primer-3 N by using a brush.

Before sealing allow a flash off time of at least 15 min. (max. 8 hrs.).

For PVC use Sika® Primer-215.

Before sealing allow a flash off time of at least 15 min. (max. 8 hrs.).

##### Porous substrates:

E. g. concrete, aerated concrete and cementitious renders, mortars, brick, etc. have to be primed with Sika® Primer-215 by using a brush.

Before sealing allow a flash off time of at least 15 min. (max. 8 hrs.).

Important note: Primers are only adhesion promoters. They neither substitute for the correct cleaning of the surface nor improve their strength significantly.

Primers improve long term performance of a sealed joint.

For further information refer to the Sika® Primer table.

##### Pre-treatment for Sikafloor® water protecting systems:

Sika® Primer-3 N:

For Sikafloor®-381 / -381 AS; Sikafloor®-390 / -390 AS and Sikafloor®-400.

Cleaning of the floor is recommended e. g. with Cleaner 5. It must be ensured that the coats are fully cured. Before priming beads or runs in the coating have to be removed. The coating must have adequate strength and adhesion to the substrate. (The Sikafloor® water protection systems form not part of the national technical approval for the joint-sealing system).

#### Application Conditions / Limitations

**Substrate Temperature** +5°C min. / +40°C max.

**Ambient Temperature** +5°C min. / +40°C max.

#### Substrate Humidity

**Dew Point** Substrate temperature must be 3° C above the dew point.

## Application Instructions

### Application Method / Tools

Sikaflex® Tank N is supplied ready to use.

After suitable joint and substrate preparation, insert Backing Rod to required depth and apply primer if necessary. Insert cartridge into sealant gun and firmly extrude Sikaflex® Tank N into joint making sure that it is full contact with the side of the joint. Fill the joint, avoiding air entrapment. Sikaflex® Tank N should be tooled firmly against joint sides to ensure good adhesion.

Masking tape should be used where sharp exact joint lines or exceptionally neat lines are required. Remove the tape whilst the sealant is still soft. Slick joint with smoothing liquid for a perfect sealant surface.

### Cleaning of Tools

Clean all tools and application equipment with Sika® Sealant Remover / Sika® TopClean T immediately after use. Hardened / cured material can only be removed mechanically.

### Notes on Application / Limitations

Elastic sealants should generally not be over painted.

Compatible coatings may cover the joint sides to max. 1 mm. The compatibility must be tested according to DIN 52 452-2.

Colour deviations may occur due to exposure to chemicals, high temperatures, UV-radiation (especially with colour shade white). However a change in colour will not adversely influence the technical performance or the durability of the product.

Before using on natural stone contact our Technical Service.

Do not use Sikaflex® Tank N as a glass sealer, on bituminous substrates, natural rubber, EPDM rubber or on building materials which might bleed oils, plasticisers or solvents which could attack the sealant.

Do not use Sikaflex® Tank N to seal swimming pools.

### Value Base

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 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.

### 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.



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