Waterproofing Warehouse
4/12 Strathaird Road, Bundall, 4217
www.wpw.com.au
Phone: +61 07 55921329
Fax: +61 07 55921227

WATERPROOFING WAREHOUSE

Revised November 2005

Construction

Sikaflex-Tank

High Performance, Chemical Resistant Polyurethane Joint Sealant

Description

Sikaflex-Tank is a one component, thixotropic, polyurethane based joint sealant. It is used in areas for storage, filling and handling of contaminated water and other liquids.

Uses

- Floor and perimeter joints in areas exposed to chemicals.
- Facilities for storage, filling and handling of contaminated water and other liquids in filling stations, handling areas/yards, storage tanks and bunds, barrel stores.
- Floor joints in petrol stations.
- Floor and connection joints (workshops, car parks etc).
- Sealing joints in water retaining structures (sewerage and water treatment plants, filtration and aeration tanks).

Advantages

- One-component, ready-to-use.
- Excellent chemical resistance to a wide variety of liquids.
- High mechanical resistance.
- High tear propagation resistance.
- Non-sagging.
- Excellent movement capacity.
- Non-corrosive.
- Movement capability 25%
- Resistant to bacterial attack

Tests

Sikaflex-Tank conforms to the most stringent sealant standards:

DIBt : Approved no. Z-74.6-6. Technically approved for use in storage/filling/handling facilities for water polluting liquids'.

Potable water approved AS4020:2002

Instructions for Use

Surface Preparation

Clean, sound, dry and free of oil, grease and surface contaminants such as form release agents, curing membranes and hydrophobic water. Thoroughly remove all loose particles and dust as well as corrosion.

Priming

(Refer to Primer Selection Guide for detailed information. This is a separate document.)

Application

Slide unipac into the special applicator gun, then either "nick" the unipac wrapper at the extrusion end or cut off the very end of the sausage if it contains partially cured lumpy Sikaflex. Fit the gun with a suitable nozzle that has been cut to deliver the right bead size.

All primer on joint sides, which is generally applied after backer rods or release tapes are in place (refer joint design section) must not exceed its open time and it must be thoroughly dry and not just skinned over; otherwise in conditions of rising temperature trapped solvent can blow bubbles in the uncured sealant.

Porous substrates such as poorly compacted or cracked concrete must have their porous bond area surfaces thoroughly sealed to avoid the possibility of air bubbles being blown into the uncured sealant if the substrate temperature rises.

Extrude the Sikaflex-Tank into the joint ensuring that no air is trapped in the joint. Wide joints will require more than one pass of the application gun to make sure that Sikaflex-Tank is in full contact with the sides and bottom of the joint. Tooling-off the sealant will assist by forcing the sealant into the joint against its sides and back up material; this will also break any air bubbles and expose any air pockets.

Construction

Application *(continued)*

Final tooling of the joint surface can be done effectively with a spatula dipped in a 20% solution of washing up detergent in water (test to ensure it does not discolour the cured Sikaflex-Tank) or a profiled piece of raw potato. When tooling off with detergent solution, ensure no solution is allowed to get onto adjacent joint sides/bonding areas before the sealant has reached the final tooling stage in those locations. When masking sides of joints for neatness, remove tape before the sealant cures. Always allow sufficient surface exposed to moisture.

In conditions of low atmospheric humidity, say less than 45% R.H. at 20°C or <60% R.H. at 10°C when early joint movement is anticipated (eg. the joint has been sealed in the late afternoon sun and at sunset a rapid temperature drop is expected – Canberra or Alice Springs in winter), it is advisable to spray the surface of the tooled Sikaflex-Tank with a fine mist of water to promote early skinning. Seal joints in walls facing west in morning.

Cleaning

Use Sika Colma Cleaner to remove uncured sealant from tools after first removing the bulk of the Sikaflex material with a scraper followed by a rag or paper tissue. Sikaflex Hand Cleaner will remove fresh and partially cured Sikaflex from the skin. Hardened material can only be removed mechanically.

Joint Design

Permissible change in joint width at ambient temperatures:

- above 0°C is ± 25% of average joint width at the time of sealing
- below 0°C is a total of ± 20½% of average joint width at the time of sealing
- admissible total shear movement is 20% of joint width at time of sealing

For the successful sealing of joints with Sikaflex-Tank it is essential that the following guidelines on joint configuration are observed:

General Use: for joints up to 12 mm wide, width to depth ratio = 1 : 1
for joints over 12 mm wide, width to depth ratio = 2 : 1
(minimum joint depth 10mm: maximum joint width 35mm)

An approximate rule of thumb for joints in external areas

Joint interval (metres)	up to 2.0	2.0-3.5	3.5-5.0	5.0-6.5	6.5-8.0
Joint width (mm)	12	15	18	20	30

To ensure that the correct width to depth ratio is achieved and to provide a firm backing against which the sealant can be tooled off and also to prevent the sealant from adhering to the bottom of the joint, the space under the Sikaflex must be filled with a tight fitting, non-rotting, non-absorbent backing material eg. fibreboard combined with a bond breaking tape (eg. polypropylene or PVC) or, alternatively, an open cell polyurethane or closed cell polyethylene backer rod supplied by Sika. Open cell PU backer rod has the advantages of allowing moisture access to the front and back of the joint simultaneously facilitating faster curing. Also open cell PU backer rod is much more compressible than closed cell PE foam thus one diameter rod can be used in a much wider range of joint widths. Closed cell PE backer rod can cause bubbling in uncured sealant in rising temperature conditions if its outer skin is punctured.

It is essential that oil or tar impregnated backing materials are not used.

Construction

Technical and Physical Data

Colour	Concrete Grey
Density	1.25 kg / litre depending on colour
Basis	Moisture curing polyurethane prepolymer
Priming	Refer separate Primer Selection Guide for more details
Application Temperature	5°C to 40°C
Service Temperature	-40°C to 70°C (maximum +40°C in water and temporarily +50°C)
Shelf Life	Minimum 15 months stored dry below 30°C unopened in original containers
Shore A Hardness	35 after 28 days (at 23°C, 50%R.H.)
Packaging	600 ml unipac (1 box = 20 units)
Elastic Recovery (DIN EN 27 389)	85%
Tensile Strength (DIN 28 339-B)	>0.4 MPa at 100% elongation @ +23°C
Tensile Strength at Break (JIS A 5758 1992)	>0.7 MPa
Skinning Time (at 23°C, 50% R.H)	1 to 2 hours
Cure Rate (at 23°C, 50% R.H)	2.5 mm in first 24 hours

Chemical Resistance

Continuous immersion – worst case testing 3 months exposure

Acetic Acid 75%	Resistant, < 3 months	H - Heptane	Resistant up to 3 months
Acetic Acid 10%	Resistant up to 3 months	Lactic Acid up to 20%	Resistant up to 3 months
Acetone	Resistant up to 2 months	MEK	Resistant up to 2 months
Alcohol	Resistant up to 24 hours	Motor Oil (unused, used) 100%	Resistant, no attack
Aliphatic aldehydes	Resistant up to 72 hours	Methylated Spirits	Resistant up to 3 months
Aliphatic esters	Resistant up to 24 hours	Nitric Acid	Not Resistant
Amines	Not Resistant	Organic Acids	Resistant up to72 hours
Automotive Brake Fluid	Resistant, no attack	Petrol, unleaded 100%	Resistant up to 24 hours
Aviation Fuel	Resistant up to 24 hours	Phosphoric Acid 10%	Resistant up to 3 months
Benzene	Resistant up to 24 hours	Skydrol	Resistant up to 24 hours
Citric Acid 10%	Resistant up to 3 months	Sodium Hypochlorite up to 12%	Resistant up to 3 months
Crude Oil	Resistant up to 24 hours	Sodium Hydroxide up to 50%	Resistant, no attack
Detergent 2%	Resistant, no attack	Sugar Solution (saturated)	Resistant, no attack
Diesel Fuel 100%	Resistant, no attack	Sulphuric Acid up to 25%	Resistant up to 3 months
Formic Acid	Not resistant	Sulphuric Acid 50%	Resistant, < 21 days
Glycol 100%	Resistant, no attack	Sulphuric Acid 75%	Not Resistant
Hydrocloric Acid up to 20%	Resistant up to 3 months	Xylene	Not Resistant

Construction

Chemical Resistance (continued)

Service life for intermittent exposure will be significantly longer than indicated above. It is recommended, that wherever possible exposed areas sealed with Sikaflex-Tank are washed down and cleaned immediately after chemical spills to increase life span.

The list above is constantly being updated. Please contact us if you can't find the chemical you are looking for.

Important Notes

- For best results use opened sausage the same day otherwise the Sikaflex-Tank in the nozzle will cure and have to be removed.
- When applying sealant, avoid air entrapment.
- Protect from chemical contact during the first seven days of cure.
- For specific chemical resistance please contact our Technical Service Department.
- Do not use Sikaflex to seal joints in chlorinated swimming pools because occasional overdosing with chlorine can eventually cause the Sikaflex-Tank surface to become sticky.
- Where possible backer rod should be placed in a joint before it is primed. Always use closed cell backing rod.
- Do not twist or puncture cell polyethylene backer rod during installation, this can lead to "out gassing". The gas from the backer rod blows bubbles into freshly applied Sikaflex-Tank during conditions of rising temperature.
- Not to be used in glazing applications where the Sikaflex to glass bond is exposed to direct or indirect sunlight or UV radiation.

Handling Precautions

- Avoid contact with skin and eyes.
- Wear protective gloves and eye protection during work.
- If skin contact occurs, wash skin thoroughly.
- If in eyes, hold eyes open, flood with warm water and seek medical attention without delay.
- A full Material Safety Data Sheet is available from Sika on request.

Important Notification

The information, and, in particular, the recommendations relating to the application and end-use of Sika's 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 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 proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the Australian version of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.

Sika Australia Pty Limited
ABN 12 001 342 329

55 Elizabeth Street
Wetherill Park NSW 2164
Tel: 1300 22 33 48

www.sika.com.au