

# WATERPROOFING

# SikaProof<sup>®</sup> Bentonite

NATURAL SODIUM BENTONITE BELOW GROUND WATERPROOFING SYSTEM

BUILDING TRUST



# FULLY BONDED, SELF HEALING WATERPROOFING SYSTEM

## DESCRIPTION

SikaProof Bentonite is a concrete sealing system that efficiently protects basement structures from the penetration of water and from attack by many potentially aggressive chemical substances present in the surrounding soil.

The sealing technology of SikaProof Bentonite consists of two basic elements:

- Natural sodium bentonite as the sealing component.
- Robust geotextiles encapsulating and containing the bentonite. The geotextiles are thermally locked to provide high internal shear strength to SikaProof Bentonite.

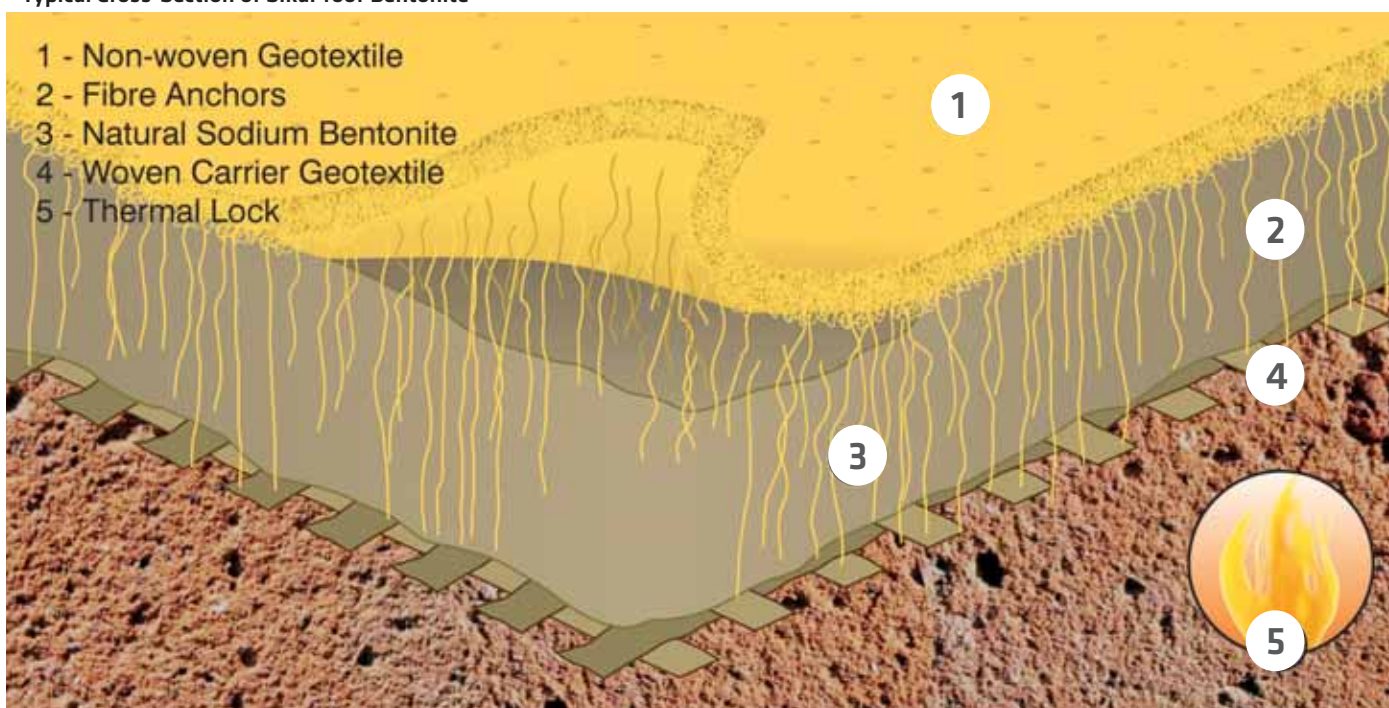
Natural sodium bentonite is a chemically stable clay that provides predictable long term performance. A special property of natural sodium bentonite is its ability to swell when it comes into contact with moisture, which causes the dry clay to form an impervious dense gel. Upon contact with moisture, the volume of natural sodium bentonite enlarges by approximately 15 times its dry volume. The clay becomes a highly efficient sealing medium when held in place by an effective confining pressure. This, together with several other properties, makes natural sodium bentonite the ideal material for the safe sealing of concrete structures.



SikaProof Bentonite Basement Waterproofing Application

Geotextiles play an important role in the sealing technology of SikaProof Bentonite. During the manufacturing process, millions of fibres from the non-woven cover geotextile are punched through the clay and thermally locked to the woven carrier geotextile. This bonding process ensures the clay is not lost during installation, and provides important nominal confining pressure should the clay become prematurely hydrated. The correct installation of SikaProof Bentonite between the structure and the substrate provides a flexible, self-healing and durable waterproofing system.

## Typical Cross-Section of SikaProof Bentonite



The key attribute of a geosynthetic clay liner such as SikaProof Bentonite is its ability to self-heal, which cannot be matched by other sealing systems. This is facilitated by the high swell capacity of the clay, which when hydrated will expand into damaged areas. If the product should receive minor damage during placement of the concrete (this type of damage is often hidden instantaneously and hence rarely repaired), rips and holes of up to 15mm may self seal (although we would always recommend that any observed damage should be repaired via patching details as per our installation guidelines). This is achieved because the clay adjacent to the damage is allowed to swell into the void created. The clay also swells into the pores of the non-woven geotextile, providing intimate contact between the structure and the lining system. This means that should a large hole occur, any water will be unable to spread beyond the area of the damage.

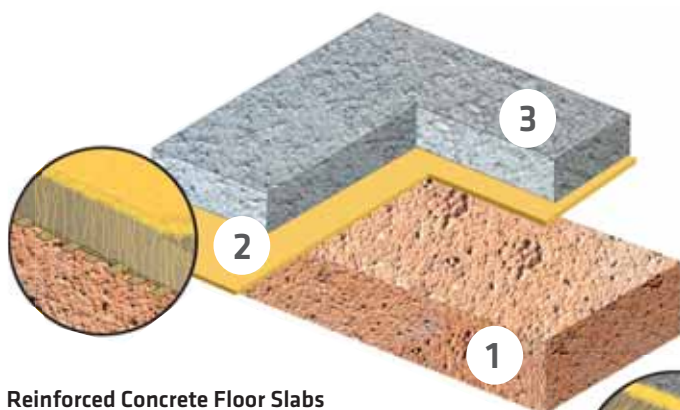
This unique feature sets SikaProof Bentonite apart from any other paint-on or plastic sealing system, provides designers with confidence in the long term performance of the system, and reduces the risks and cost associated with post-construction repairs and maintenance of leaking structures.

### USES

SikaProof Bentonite is ideally suited to conventional construction waterproofing applications as well as applications where concrete is poured against the waterproofing system, where traditional membranes are susceptible to damage. The product has been used successfully in the following applications:

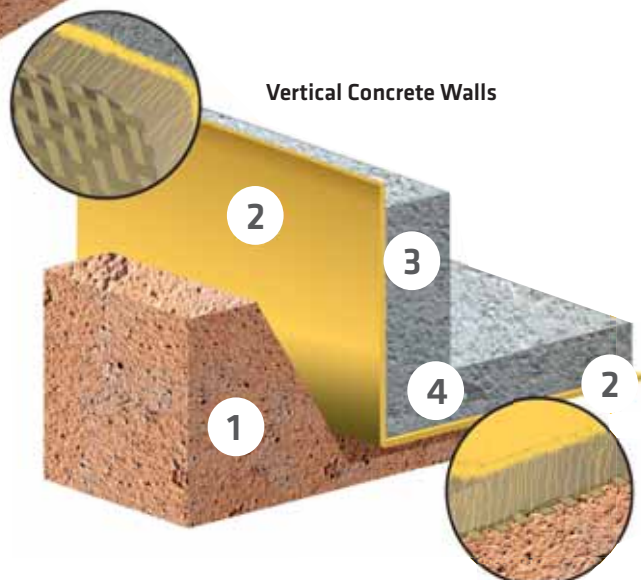
- 1 Basements
- 2 Tunnels
- 3 Diaphragm walls
- 4 Cast in-situ and precast concrete walls.

Issues such as settlement, sealing around penetrations into the structure, and complex pile cap details are effectively overcome when using SikaProof Bentonite.



Reinforced Concrete Floor Slabs

- 1 Compacted fill or natural ground
- 2 SikaProof Bentonite
- 3 Concrete
- 4 SikaSwell-P Profile Waterstop



Vertical Concrete Walls

**Note: Refer to installation guidelines for correct preparation, handling and installation.**

## PRODUCT

### DAMAGE RESISTANCE:

The heavy non-woven cover geotextile provides unparalleled wear and damage protection.

### SELF-HEALING:

The ability of the bentonite clay component to swell and seal any minor holes is unique.

### FLEXIBILITY:

The product is able to deform to accommodate intricate foundation and connection details.

## INSTALLATION

Comprehensive installation guidelines, standard specifications and typical general details are available.

### ROLL SIZE:

SikaProof Bentonite is available in convenient roll sizes of 1.1 x 10m and 2.2 x 10m.

### PACKAGING:

SikaProof Bentonite is supplied in heavy duty weather resistant polyethylene wrapping.

### HANDLING:

SikaProof Bentonite rolls are supplied in specifically designed stillages which ensure quick unloading and safe and effective storage.

### JOINTS/ OVERLAPS:

No high tech equipment is needed to produce an effective joint.

### REPAIRS:

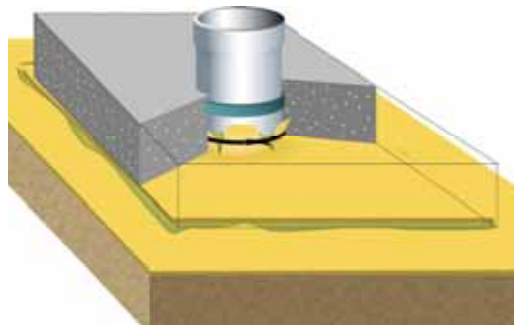
Simple patching techniques.

## ANCILLARY PRODUCTS

*SikaSwell-P Profiles* - Swellable joint sealing profiles to seal construction joints and around penetrations.

*SikaProof Bentonite Paste* - Natural sodium bentonite paste used as a detailing compound around penetrations and for corner details and terminations.

*SikaProof Bentonite Powder* - Natural sodium bentonite powder. Used for making a detailing compound and for filling large voids.



## MANUFACTURING QUALITY ASSURANCE AND CONTROL

SikaProof Bentonite is manufactured under the ISO 9001 quality control regime. Under this scheme, manufacturing plants and products are subject to strict monitoring by both internal and external bodies.

The Sika sales team is able to provide comprehensive technical assistance relating to the design and installation of our product range.

# FOR MORE Waterproofing INFORMATION:



Our most current General Sales Conditions shall apply.  
Please consult the Data Sheet prior to any use and processing.



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