

# AXISHIELD™

SILANE / SILOXANE PENETRATING SEALER FOR NATURAL STONE & CONCRETE

**AXISHIELD™** impregnating sealer deposits a silicone polymer inside the pore walls of porous building materials, thereby waterproofing the structure. Impregnation prevents the movement of liquid water but does not inhibit drying out through water vapour movement. The product is tack free when applied, shows no gloss and does not block the pores. Treated surfaces are still able to breathe.

**SOLVENT FREE // 100% SOLIDS // GOOD CHEMICAL RESISTANCE // FAST CURE**

## USE

**AXISHIELD™** is used to prevent water entry into concrete, concrete block, bluestone and sandstone building materials due to rain. By preventing water entry, the treated material will not show mould growth or darken in colour. Impregnated walls are able to resist water entry from torrential rain and up to 100km/h winds. **AXISHIELD™** is also effective against ponding water on a car park or patio roof deck. It is not suitable however for waterproofing structures subject to hydrostatic pressure such as backfilled walls. Untreated walls would be completely saturated in such conditions. **AXISHIELD™** is also used in the prevention of rising damp in buildings with faulty damp or no courses.

## TYPICAL APPLICATIONS

- Elimination of mould and moss in brick housing.
- Single wall block constructions in industrial premises.
- Precast panel construction.
- Natural stone construction.
- Brick and sandstone paving.
- Prevention of rising damp.

## FEATURES AND BENEFITS

- Prevents water entry through porous walls.
- Prevents mould and moss growth.
- Maintains good ventilation.
- Long service life in excess of 10 years.
- Invisible – no change in surface finish.
- Prevents darkening of walls due to water absorption.
- Reduces accumulation of dirt from treated substrates.
- Enables ease of cleaning.
- Resistant to alkali degradation.



## CHEMICAL PROPERTIES

The dry polymer of **AXISHIELD™** is highly resistant to UV attack and protects treated surfaces from deterioration as a result of acid rain. **AXISHIELD™** is alkali resistant, therefore is suitable for fresh alkaline mortars as well as the brickwork itself. **AXISHIELD™** does not deposit alkaline salts that crystallise and cause unsightly white deposits that are difficult to remove. The waterproof polymer is formed by reaction with water within the building material and is not dependent upon absorption of external carbon dioxide.

TYPICAL PROPERTIES at 25°C	
Specific gravity	0.80
Drying time	Surfaces become water repellent after 8 hours
Application temperature	Between 10 and 30°C
Service temperature	-10 to 50°C
Active ingredient	Alkyl silane-siloxane concentrate, 5% in odourless mineral spirit
Film thickness	Penetration up to 5mm
Applicable standards	Complies with APAS specification GPC-M-168, silicone water repellents part 2

## APPLICATION GUIDELINES

### SURFACE PREPARATION

Siloxane impregnation can only work if structural defects have been repaired and the surface is clean. Algae and moss growth must be removed. Soiled surfaces must be steam cleaned. Damaged expansion joints and cracks of width greater than 300 microns need to be repaired. Construction joints, gaps between walls and roofs, walls and floor surfaces, windows, doors and surface penetrations need to be made waterproof. Faulty mortar joints have to be recaulked. The roof must be sound and waterproof.

Water penetration from the ground by way of backfilled soil needs first to be addressed. When being used to damp course injection, highly porous rubble type walls need to be first injected with a liquid cement slurry to block all voids and fissures.

### PRODUCT PREPARATION

**AXISHIELD™** is ready to use and needs no preparation. Care must however be taken to ensure that the containers are tightly sealed and no water entry has occurred. Damaged product will not be clear and a milky deposit may be observed. All contaminated product is to be discarded.

## APPLICATION

### Waterproofing of Walls

Long time durability of a Siloxane impregnation is dependent upon correct application. The more active ingredient that is absorbed and the deeper the absorption depth the better will be the performance. For satisfactory results, the product must be applied as a flood coat using airless spray equipment, or alternatively using low pressure high flow flood coats (e.g. backpack spray).

It is very important that the product is applied as a liquid and not as a mist. The nozzle of the application unit is held 5-10 cms from the wall and product is applied until no more will penetrate the wall, with the overflow liquid starting to run 50 cm down the wall. This method applies the product in both a horizontal and vertical direction.

A second application is then carried out once the surface no longer shows a wet look. Multi application is critical to success. For areas around windows and penetrations, application by brush or roller is possible. In this case, great care must be taken to ensure adequate product is applied and many coats may be necessary. To avoid missing any areas impregnation should proceed in defined pre-selected areas before work is interrupted.

### Dampcourse Injection

Penetration of sufficient injection fluid is fundamental to the success of chemical injection. This is a factor of injection pressures, material porosity and distance between injection points. Generally, the distance between injection points should be around half the penetration depth. Diameter of the injection hole should be 12 – 18mm with a drilling angle of around 30 degrees. The drill holes should be in the centre of the brick and be deep enough to penetrate at least one layer of mortar. Very dense brick work may require injection through the mortar joint. When injecting, the drill hole is plugged with a specially designed injection packer complete with nozzle. Injection fluid is then pumped in under pressure using suitable pumps and delivery wands. Applied pressures in the 200-700 kPa region are usually acceptable, giving a good balance between application and required fluid absorption.

## CLEAN UP

Splashes on glass, ceramic surfaces and cars must be avoided as these cannot be removed, other than by mechanical sanding. Plants may die if allowed to come in contact with impregnating solution.

## SAFETY PRECAUTIONS

**AXISHIELD™** is highly flammable and may present a fire hazard. Keep away from direct sources of ignition. Bitumen seals must be protected otherwise the bitumen will dissolve and stain the wall surface. Do not allow product to come in contact with eyes and wear protective breathing masks if applying in confined spaces.

## COVERAGE

The more material that can penetrate, the better the result. Porosity of surfaces vary greatly, with some brickwork and natural stone absorbing upto 1 sqm/litre. Concrete surfaces typically take between 2 and 3 sqm/ litre. A small 2 sqm sample trial is always recommended prior to a project.

## PACKAGING

Available in 4L and 20L.

## SHELF LIFE

12 months in unopened containers. **AXISHIELD™** will react and deteriorate if moisture is allowed to enter partially full containers.

## WARNING – ENVIRONMENTAL CONDITIONS

Epoxy products are sensitive to the prevailing temperature and humidity at the time of application.

- High temperatures will shorten the pot life and application may become difficult due to insufficient time being available to lay the product.
- Low temperatures and high humidity will result in the epoxy reacting with surface moisture to produce a white powdery finish. To avoid this, epoxy coatings and toppings must not be applied if surface temperatures are below the dew point while the material has not yet cured.
- The white surface finish is only an aesthetic consideration and does not affect the performance of the material.
- Chemical spillage of acids and sanitizing agents may attack the pigments used in the coating and result in discolouration.
- Differing epoxy products have differing resistance to chemicals, always ensure that the correct product is chosen for the service environment to be encountered.

**PRODUCT DATA SHEET: CLEANERS AND SEALERS: AXISHIELD™****Field Support**

Field support where provided, does not constitute supervisory responsibility. Suggestions made by **ATECH®** either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not **ATECH®** are responsible for carrying out procedures appropriate to a specific application.

**Customer Responsibility**

The technical information and application advice given in this publication is based on the best information available at time of print. As the information herein is of a general nature, no assumption can be made as to the products suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

**Safety Precautions**

These products may cause allergic reactions through skin contact, goggles, protective gloves and overalls must be worn. Ensure that there is adequate ventilation and avoid breathing the vapour.

**Exclusion Clause**

1. The information contained in this data sheet is based on many years experience and is correct to the best of our knowledge. **ATECH®** will be under no liability whatsoever whether in:
  - a) Contract or tort (including, without limitation, negligence)
  - b) Breach of statute
  - c) Any other legal or equitable obligation other than the quality of the product at the time of despatch.
2. Any queries about specification use or application should be directed to our technical service department immediately.
3. This exclusion clause does not operate to exclude any warranty that by law may not be excluded.

