

## Silicate Based Waterproofing Solution

### DESCRIPTION



TamSeal 7 is a modified silicate product which acts as a waterproofing solution when applied to concrete. It can improve surface properties such as hardness, permeability, chemical durability and abrasion resistance. It reacts with free calcium in the cured concrete matrix to form a water insoluble calcium silicate hydrate. This forms a permanent waterproof barrier by penetrating cracks and pores within the concrete substrate.

### KEY BENEFITS

- > No re-application or future maintenance required
- > 100% trafficable after the first application
- > If stubborn cracks are present - easy to find and fix. No lifting of membranes required
- > Re-seals future hairline cracks

### TYPICAL APPLICATIONS

- > Rooftops and podium decks
- > Car parks
- > Road and rail bridge decks
- > Wharf decks and marine structures
- > Airport runways, taxiways, aprons
- > Water retaining structures

### Specialty Applications

- > Tiled areas (not terracotta or glass glazed)
- > Tiled shower recesses
- > Facades
- > Pre-cast elements and panels

### TECHNICAL DATA

TamSeal 7		
Colour	Colourless	
DG class	Non-toxic and biodegradable	
Solids	25 - 30%	
Density at 25°C	1.225	
Flash point	Boils at 101°C	
Flammability	N/A	
Viscosity	15 – 20 cps	
Determination of water absorption ASTM C642:1997	1.1 (%m/m)	
Water penetration DIN 1048:Part 5	5.5 mm	
Abrasion resistance test SS301 MOHS Scale	6	
Determination of chloride ion penetration AASHTO T-259-02	Max. Absorbed chloride ion at 1.6 mm to 13 mm	0.28 (%m/m)
	Max. Absorbed chloride ion at 13 mm to 25 mm	0.03 (%m/m)

All technical data stated herein is based on tests carried out under laboratory conditions.

### APPLICATION GUIDELINES

#### Surface Preparation

- > TamSeal 7 must be applied to a clean, dust free concrete surface, at least 28 days old.
- > All curing compounds must have degraded or been removed prior to application.
- > Any materials that retard penetration should be removed.
- > Where segregation or voids are apparent, chip out, treat with TamSeal 7 then made good with TamCrete GP or TamCrete 46.
- > Good concrete practice must be followed such as adequate curing, compaction and vibration.
- > Old or carbonated concrete may need a supplementary treatment to re-instate free calcium.

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### Application Rates

General Application: 1.3 kg to 5 square metres on average, this can vary depending on substrate absorption.

For cracked areas: an additional 1.3 kg per 3 linear metres is recommended.

### Application Method

- > Locate all cracks and flood with solution ensuring they are filled with product.
- > Apply the solution to the remaining area at a rate of between 4 - 6 square metres per kg.
- > When surface becomes touch dry (usually 2 - 6 hours depending on wind conditions and ambient temperatures) flood spray the treated areas with water. If product is still wet after 6 hours, begin first watering.
- > On day 2 - 24 hours later, floor spray the treated areas with water again.
- > On day 3 - 24 hours later, floor spray the treated areas with water again.
- > After the third watering, block drains and pond areas for a minimum of 12 hours to verify a waterproof seal has been achieved.

### Concrete

#### Mix Design

TamSeal 7 will meet or exceed its stated performance when applied to slag blend concrete and ordinary Portland cement Type GP concrete. Also type C fly ash up to 30% of cement. Type F fly ash is not suitable for use with TamSeal 7.

#### Fall Lines

Pour structural slabs to fall lines where possible. No protective screed is required.

#### Curing Compounds

Water curing is preferred. Aqueous Acrylics that degrade within 28 days are also suitable. Other materials such as chloro-rubber or wax emulsions require removal by grit blasting or grinding to allow the penetration of the product.

#### Construction / Pour Joints

A vertical stop board should form the joint during construction. Use a hydrophilic water stop such as TamSeal R or an Injection tube system such as Injection Tube RI in construction joints. The alternative is to grind out and fill with a non-shrink grout such as TamCrete GP, or an elastomeric joint sealing compound if there is a risk that the joint will move.

#### Upturns / Kickers

First preference is having up-turn / kickers poured in-situ or hydrophilic water stop placed in the joint.

#### Penetrations

Use TamSeal R extending 100 mm around penetrations, drains, inlets etc.

### Control Joints

Create a joint extending  $\frac{1}{4}$  of the depth of the slab prior to drying shrinkage of the concrete. Use an elastomeric joint sealing compound to seal the joint.

### Large or Stubborn Cracks

Create a small dam and flood crack with product repeating the application process. A liquid, fine grind cement slurry can be used in large, stable cracks. 5:1 ratio of water: cement. Consult Normet for the latest techniques and where cracks are volatile.

### Precautions

Protect glass, aluminium, wood and painted finishes from over-spray.

### Limitations

- > Do not apply where ambient temperatures are below +2°C or above +40°C.
- > Avoid contact with glass, metals, etc as it will etch and corrode them.
- > TamSeal 7 is not suitable for sealing working / volatile cracks as a result of structural defects or those caused by mechanical damage. (See - Large or Stubborn Cracks)
- > TamSeal 7 is not suitable for sealing where segregation and voids are likely, such as construction joints or pour joints. Nor is it suitable around penetrations where there is a non-masonry/ retaining wall.

## STORAGE

TamSeal 7 should be stored at room temperature (min 4°C and max 30°C), kept dry and out of direct sunlight. If these conditions are maintained and the product packaging is unopened, then a shelf life of one year can be expected.

## HEALTH & SAFETY

TamSeal 7 should only be used as directed. We always recommend that the Safety data sheet (SDS) is carefully read prior to application of the material. Our recommendations for protective equipment should be strictly adhered to for your personal protection. The Safety Data Sheet is available upon request from your local Normet representative.