

Description:

TamSil 7 is a biochemical modified silicate solution that provides long term waterproofing and durability benefits to concrete. It penetrates into concrete and reacts with calcium and water to form a calcium silicate gel complex in cracks, pores and capillaries. This gel creates a sub-surface barrier against the ingress of water and contaminants such as chloride ions.

TamSil 7 will seal existing leaking cracks to 2.00mm. In the matrix the product remains active when in contact with water and provides an autogenous seal.

Typical Applications:

- Rooftops & Podium Decks
- Car-Parks
- Road & Rail Bridge Decks
- Wharf Decks & Marine Structures
- Airport Runways, Taxiways, Aprons
- Water Retaining Structures
- Dust proofing of concrete floors

Specialty Applications:

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

Key benefits:

- Long-term performance no reapplication or future maintenance required
- 100% trafficable after the first watering minimal risk of damage during construction or there after
- Faultfinding, if stubborn cracks are present easy to find and fix. No lifting of membranes required

Application:

- TamSil 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 TamSil 7, then make good with TamCrete GP or TamCrete 40 repair mortar
- Good concrete practice must be followed such as adequate curing, compaction and vibration
- Old or carbonated concrete may need a supplementary treatment to reinstate free calcium
- Do not apply where ambient temperatures are below +2°C or above +40°C

Performance Characteristics:

- Permanently seals cracks up to 2.00mm
- Reseals future hairline cracks
- Reduction of chloride diffusion coefficient by up to 89%
- Water permeability reduced by 70%
- Increases surface hardness from 6-8 on a Moh's scale
- Reduces scaling in freeze-thaw environments by >80% at 50 cycles
- Allows >80% moisture vapour permeability
- Suitable for tanking applications (positive hydrostatic pressure) – up to 10 bar.
- Non-Toxic – suitable for potable water.

Technical Data – TamSil 7	
Colour	Colourless
DG Class	Non-toxic and biodegradable
Solids	25-30%
Specific Gravity at 25°C	1.225
Flash Point	Boils at 101°C
Flammability	N/A
Viscosity	15-20 cps

Application rates:

Normal: 1 litre to 5 square metres on average. Can vary depending on substrate absorption.

For cracked areas: an additional 1 litre per 3 lineal metres is recommended.

Method:

1. Locate all cracks and flood with solution ensuring they are filled with product.
 2. Apply the solution to the remaining area at a rate of between 4-6 square metres per litre.
 3. 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 at 6 hours, begin first watering.
 4. On day 2 – 24 hours later water again.
 5. On day 3 – 24 hours later water again.
 6. After the third watering, block drains and pond areas for a minimum of 12 hours to verify a waterproof seal has been achieved.
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Precautions:

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

Limitations:

TamSil 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). The product is not suitable for sealing where segregation and voids are likely, such as construction joints, pour joints. Nor is it suitable around penetrations where there is a non-masonry/ retaining wall.

CONCRETE**Mix Design:**

TamSil 7 will meet or exceed its stated performance when applied to slag blend concrete and ordinary Portland cement Type GP concrete. Type C fly ash up to 30% of cement. Type F fly ash is not suitable for use with TamSil 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 grounding 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-O-Strip or an Injection tube system such as Tam Injection Tube (T.I.T) in construction joints. The alternative is to grind out and fill with a non-shrink grout such as TamCrete GP or TamCrete 40 mortar, 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 waterstop placed in the joint.

Penetrations:

Use TamSeal-O-Strip or GripSet 38 extending 100mm around penetrations, drains, inlets etc.

Expansion Joints:

Responsibility of others.

Control Joints:

Create a joint extending $\frac{1}{4}$ 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 Tam for the latest techniques and where cracks are volatile.

Packaging:

Supplied in 20ltr drums.

Storage:

TamSil 7 must be stored above freezing and below 40°C out of direct sunlight. Shelf life should be at least 1 year if left unopened and stored correctly. Always agitate drum before use.

Health and Safety:

TamSil 7 is alkaline pH of 11.7. Protect hands with rubber gloves. Avoid contact with skin and eyes. Should this occur, flush with clean water. If irritation persists, contact a physician. For full details please read the Health and Safety data sheet.

Technical Services:

Complete technical information including testing data is available on request from your nearest Tam office.
