



Triton Chemical Manufacturing Co. Ltd.

Triton TT Super – Pile Cap Sealer

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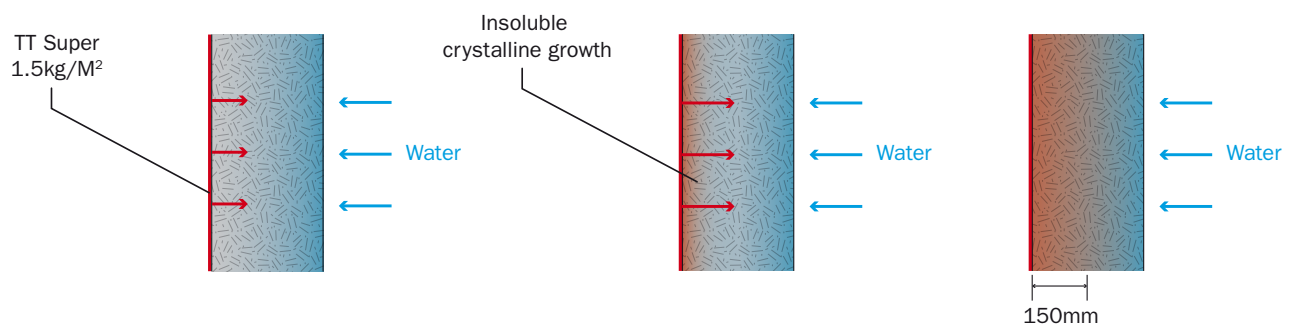
Triton TT Super – Pile Cap Sealer

1. Description

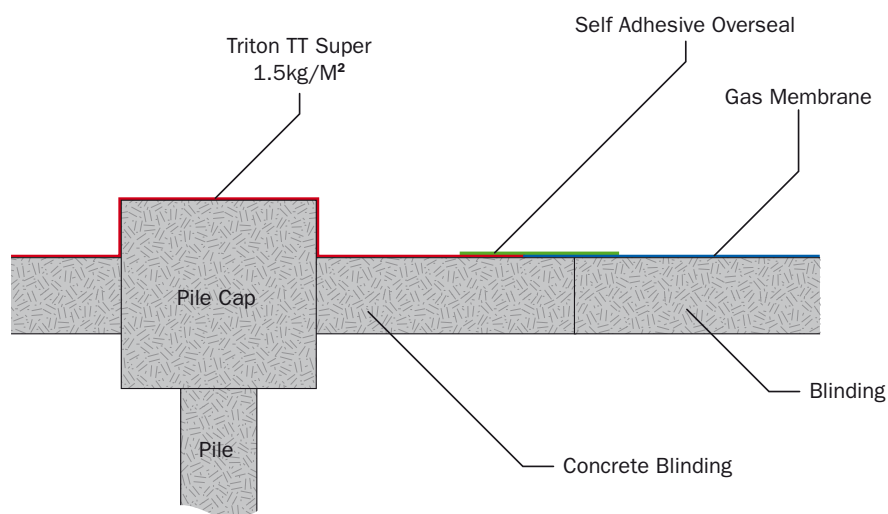
Triton TT Super is a surface applied system which waterproofs and protects concrete in depth. TT Super consists of ordinary Portland cement, specially treated quartz sand and a compound of active chemicals.

When applied to a concrete surface, the active chemicals react with the free lime and moisture within the concrete to form in depth, insoluble crystals which fill and block all capillaries, pores and minor cracks within the concrete.

As well as waterproofing, the TT Super also protects the concrete against seawater, aggressive groundwater and certain chemical solutions.



Triton Chemical Manufacturing Co Ltd, working alongside Visqueen Building Products, have developed a suitable pile cap sealing system using the TT Super in conjunction with Visqueen membranes. This is shown in the detail section below and as per Visqueen drawing no. SW-01 attached.



The use of the TT Super to the pile cap, suitably sealed and linked to the sheet membranes, ensures protection to the pile cap and eliminates the sheet membrane through the pile cap and floor slab construction detail, thus eliminating the “slip plane” through this detail.

2. Technical Data

Colour:	cement grey
Hydrostatic water:	> 12 bars @ 28 days
Bulk Density:	approximately 1.25
Setting Time:	60 minutes

For full technical data and installation and application guidelines for TT Super please refer to TT Super data sheet and Health & Safety data sheet (attached).

3. Surface Preparation

All concrete surfaces to be treated with Triton TT Super must be clean and have an “open capillary” system. This is achieved by the removal of the laitance, dirt and grease etc, by means of either jet washing, grit blasting or scabbling.

4. Mixing & Application

TT Super is mixed mechanically with water, approximately 2 parts water – 5 parts powder by volume. It should be mixed for a minimum of five minutes until a consistency of thick oil paint is achieved.

Two coats of TT Super should be applied to the prepared concrete surface at a rate of 0.75kg/m² per coat. The second coat should be applied whilst the first coat is still “green”.

TT Super to be cured in accordance with TT Super data sheet attached.

Please refer to TT Super data sheet for full information.

5. Packaging & Storage

TT Super is supplied in either 25kg bags or tubs and should be stored unopened in its original packaging in a dry place. Shelf life is 12 months.

6. Health & Safety

Please refer to TT Super health & safety data sheet attached.

7. NBS Clause

J10 – 130 Proprietary Crystallization Active Mortar.

See www.nbsplus.com website or www.triton-chemicals.com for further details.

For further technical advice and information please contact Triton Chemical Manufacturing Co Ltd’s technical department on 020 8310 3929.

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TRITON TT SUPER

DESCRIPTION

Triton TT Super is a surface applied material, which waterproofs and protects concrete in-depth. It consists of grey or white Portland cement, specially treated quartz sand and a compound of active chemicals. Triton TT Super is supplied in powder form in 25kg pails and needs only to be mixed with water prior to application.



AREAS OF APPLICATION

1. Basements / retaining walls
2. Concrete slabs (floor/roof/balcony)
3. Construction joints
4. Water retaining structures
5. Swimming pools
6. Sewage treatment plants
7. Channels
8. Potable water tanks

TECHNICAL DATA

	Triton TT Super	Triton TT Super (White)
Withstand water pressure	> 12 bars @ 28 days	> 7 bars @ 28 days
Colour	Cement grey	White
Bulk density	Approx 1.25	Approx 1.20
Setting time	60 min	120-180min

All data are averages of several tests under laboratory conditions. In practice, climatic variations such as temperature, humidity and porosity of substrate may affect those values.

PROPERTIES

When Triton TT Super is applied to a concrete surface the active chemicals combine with the free lime and moisture present in the capillary track, to form insoluble crystalline complexes. These crystals block the capillaries and minor shrinkage cracks in the concrete to prevent any further water ingress (even under pressure). However, the layer will still allow the passage of water vapour through the structure (i.e. the concrete will still be able to “breathe”). In addition to waterproofing the structure, Triton TT Super protects concrete against seawater, wastewater, aggressive ground water and certain chemical solutions. Triton TT Super is suitable for the treatment of water storage tanks, reservoirs, water towers etc...

Triton TT Super is not a decorative material.

SURFACE APPLICATION

All concrete to be treated with Triton TT Super must be clean and have an “open” capillary system. Remove laitance, dirt, grease etc... by means of high pressure water jetting, wet sandblasting or wire brushing.

Faulty concrete in the form of cracks, honeycombing, etc... must be chased out, coated with Triton TT Super and filled flush with Triton Fillet Seal. Surfaces must be carefully pre watered prior to the Triton TT Super application. The concrete surface must be damp but not wet.

MIXING

Triton TT Super is mechanically mixed with clean water to a consistency of thick oil paint. Approximate mixing ratio is 2 parts water to 5.0 parts of powder (by volume).

Mix only as much as can be used within 20 minutes and stir mixture frequently. If the mixture starts to set do not add more water, simply re-stir to restore workability.

APPLICATION

Slurry consistency.

Apply Triton TT Super in one or two coats according to specification by masonry brush or appropriate power spray equipment. When two coats are specified apply the second coat whilst the first coat is still “green”.

Dry powder consistency (for horizontal surfaces only).

The specified amount of Triton TT Super is distributed in powder form through a sieve and towelled into the freshly placed concrete once this has reached initial set.

Post treatment.

Once the Triton TT Super treatment has reached initial set it should be moist cured with a fine fog spray of water 2-3 times per day for three days. In hot or windy conditions it should be moist cured more frequently. During the curing period the Triton TT Super treatment must be protected from rainfall, frost or puddling of water.

NOTE: Do not apply Triton TT Super at temperatures below +5°C. Triton TT Super cannot be used as an additive to concrete, please refer to Triton TT Super Admix data sheet.

CONSUMPTION

Concrete surfaces to be backfilled. One coat of Triton TT Super at 0.75kg/m² followed by one coat at 1kg/m². Brush or spray applied.

Water retaining structures, internal concrete wall surfaces.

Two coats of Triton TT Super each at 0.75kg/m². Brush or spray applied.

Concrete slabs.

Triton TT Super at 1.00kg/m² applied in one slurry coat to hardened concrete or dry sprinkled and trowel applied to fresh concrete when this has reached initial set.

Construction Joints.

Triton TT Super at 1.5kg/m² applied in slurry or dry powder consistency immediately prior to placing the next lift/bay of concrete.

Building concrete.

Triton TT Super at 1.2kg/m² applied in slurry or dry powder consistency immediately prior to placing the overlay concrete slab.

PACKAGING

25kg Pails

STORAGE

When stored in a dry place in unopened, undamaged original packaging, shelf life is 12 months.

HEALTH AND SAFETY

Triton TT Super contains cement and is Irritating to eyes and skin. Triton TT Super may cause sensitisation by skin contact. Keep out of reach of children. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves. For further information please refer to material safety data sheet.

For further information please contact:

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Ref: TT Super 06/07

Health & Safety Handling Guide

Triton TT Super / Super White



PRODUCT IDENTIFICATION

Triton TT Super is intended for use in the building and construction industry. They should be used only by trained personnel.

(1) COMPOSITION

Blends of Portland cement, (CAS no. 65997-15-1) graded silica sands or crushed limestone aggregates together with small quantities of other additives.
EEC Symbol: Xi R Phrases 36/37/38.

(2) HAZARDS IDENTIFICATION

Mixing with water or contact of powder with body fluids produces a strong alkaline solution. This may cause serious burns and ulceration both to skin and eyes.

Ref: HSE Construction Industry Advisory Committee Hazard Information Sheet No 1 Note on Cement Hazards.

(3) FIRST AID MEASURES

Skin Contact:

Wash the affected area thoroughly with soap and water. If irritation continues seek medical advice. Clothing contaminated with wet product should be removed and washed thoroughly before re-use.

Eye Contact:

Wash eyes immediately with plenty of clean water for at least 15 minutes and seek medical advice without delay.

Inhalation:

Move affected person to fresh air. If nose or airways become inflamed seek medical attention.

Ingestion:

If swallowing has occurred do not induce vomiting. Give person plenty of water to drink. Seek medical attention.

(4) FIRE FIGHTING MEASURES

Cement-based products are not flammable and will not facilitate combustion of other materials.

Exposure Hazards

Do not release water contaminated with cement-based products into surface drains.

(5) ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid contact with skin, eyes and clothing. Avoid breathing dust.

Environmental Precautions:

Prevent contamination of surface water.

Methods For Cleaning:

Recover spillage in dry state if possible. Minimise generation of airborne dust. The product can be slurred with water. Keep children away from clean-up operations. Dispose to a place authorised to accept builders' waste. Small quantities can be disposed of as normal household waste.

(6) HANDLING AND STORAGE

Handling:

When handling bags of cement-based products most of which weigh 25kg, due regard should be paid to *Manual Handling Regulations 1992*. Some bags may have a small amount of cement dust on their outer surface. Appropriate personal protection should be used whilst handling.

Storage:

Bags should be stacked in a safe and stable manner. Store in dry conditions.

(7) EXPOSURE CONTROLS/PERSONAL PROTECTION

Technical Protective Measures:

No special measures required.

Exposure Limits:

Occupational Exposure Standard (OES) Limits 8 hour TWA (According to EH40/95).

All TRITON Cement based products¹ contain powders which if handled carelessly can raise dust.

The personal exposure to such dusts (cement, silica sand, crushed limestone etc.) must be kept below 10mg/m³ 8 hour TWA total inhalable dust and 5mg/m³ respirable dust². Some of the cement based products contain microsilica form of silica. The personal exposure level to amorphous silica must be kept below 6mg/m³ 8 hour TWA total inhalable dust and 3mg/m³ respirable dust. Some sands and other fillers may contain small quantities of respirable silica for which the personal exposure must be kept below 0.4mg/m³ 8 hour TWA.

Health & Safety Handling Guide

Triton TT Super / Super White



If care is taken not to raise dust and the exposure levels for nuisance dusts are not exceeded, the levels for respirable silica should be very low.

Applying Occupational Exposure Standards EH40/95 Sections 40 and 4.1. Also see Dust: General Principles of Protection HSE Guidance Note EH 44 Rev 1991.

- Occupational Exposure Standard Limits - 8 hour TWA, reference period from *Guidance Note EH40/95, Table 2.*

Amorphous Silica:

Total inhalable dust: 6mg/m³

Respirable dust: 3mg/m³

Portland Cement:

Total inhalable dust: 10mg/m³

Respirable dust: 5mg/m³

Respiratory Protection:

Suitable respiratory protection should be worn to ensure that personal OES is not exceeded. If care is taken not to raise dust during handling the use of respirators is not normally necessary.

Hand Protection:

Wear suitable gloves.

Eye Protection:

Suitable goggles or face protection should be worn wherever there is a risk of product powder or product / water mixture entering the eye.

Skin Protection:

Wear overalls and closed footwear.

(8) PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Particulate

Particle Size: 5 - 6000 pm

pH: pH of wet cement 12 - 14

(9) STABILITY AND REACTIVITY

Stable under normal room temperature storage conditions. Bags will set solid if continually soaked with water.

(10) TOXICOLOGICAL INFORMATION

Eye Contact:

Cement constituent is severe eye irritant. Mild exposures can cause soreness. Gross exposures or untreated mild-exposures can lead to chemical burning and ulceration of the eye.

Skin Contact:

The powder or product/water mixture may cause irritation, contact dermatitis or allergic dermatitis and/or burns.

Inhalation:

Inhalation of the powder may cause inflammation of mucous membranes.

Ingestion:

The swallowing of small amounts of product or product / water mixtures is unlikely to cause any significant reaction. Larger doses may result in irritation to the gastro intestinal tract.

(11) ECOLOGICAL INFORMATION

Aquatic Toxicity Rating:

LC50 aquatic toxicity rating has not been determined. The addition of any cement based product to water may, however, cause the pH to rise and therefore may be toxic to aquatic life in some circumstances. No other specific information available.

(12) DISPOSAL

Dispose of empty bags or surplus product to a place authorised to accept builders' waste. Keep out of reach of children. Small numbers of bags can be disposed of as normal household wastes.

(13) TRANSPORT INFORMATION

Classification for Transport not required.

(14) REGULATORY INFORMATION

Symbols: Xi Irritant.

Risk Phases

R36/37/38: Irritating to eyes, respiratory systems and skin.

Safety Phases

S22: Do not breathe dust.

S28: After contact with skin, wash immediately with plenty of soap and water.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical attention.

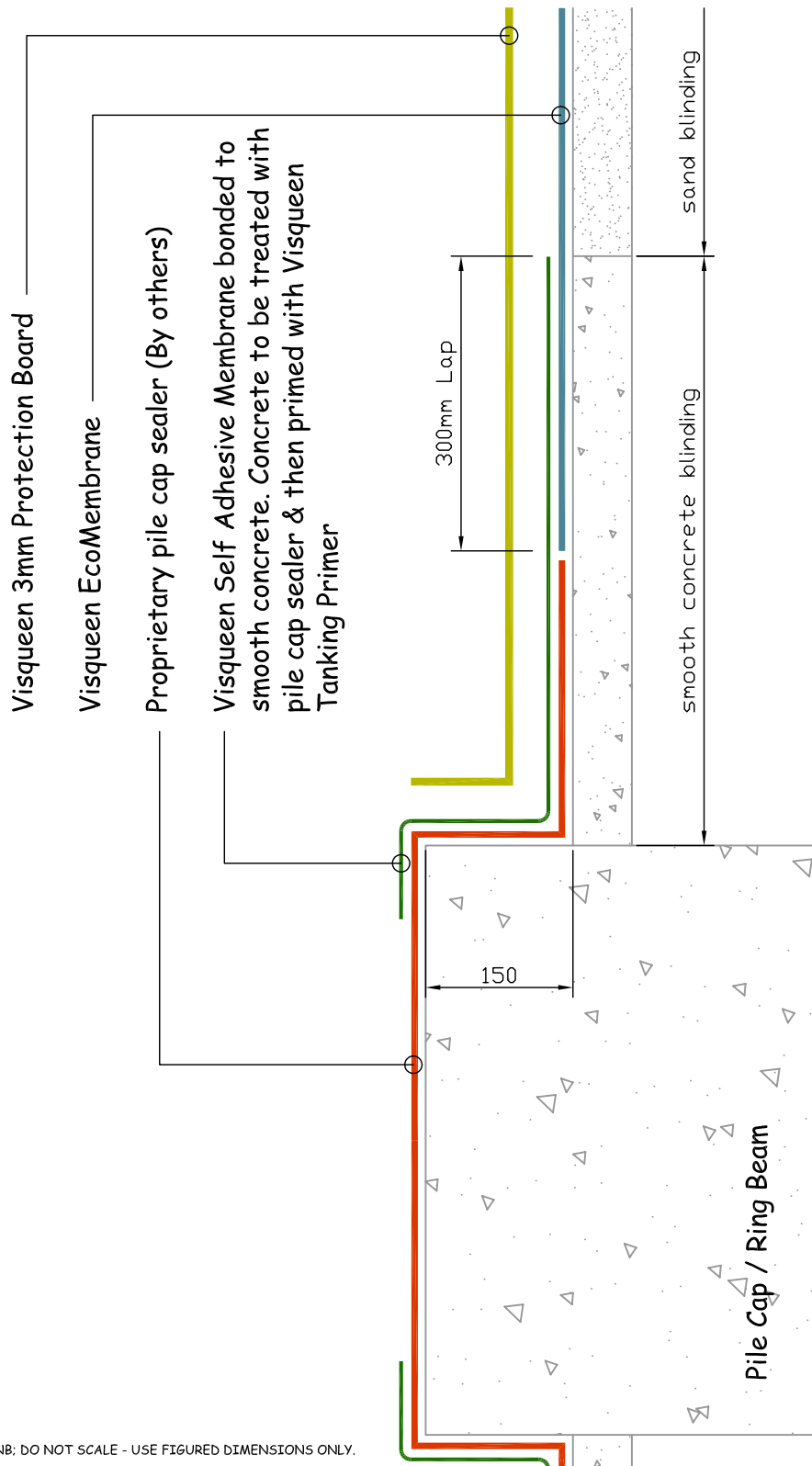
S24/25: Avoid contact with skin and eyes.

S37/39: Wear suitable gloves and eye/face protection. Keep out of reach of children.

(15) OTHER INFORMATION

Date: 22ND June 2007

This revision supersedes all previous



IMPORTANT NOTE :-

If the DPM is not continuous, a Risk Assessment should be carried out by the Architect / Designer prior to works commencing on site

NB: DO NOT SCALE - USE FIGURED DIMENSIONS ONLY.

The design of a Sub-floor Ventilation Layer should be considered to dilute & disperse ground gases

Detail Issued For Guidance Only,
Designer's Approval Required

VISQUEEN

STRUCTURAL WATERPROOFING

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Project: Standard Detail : Typical Pile Cap Detail.

Drawing No.- SW-01.

Date.- 03/08.

Scale.- NTS.

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