



## USING THE ALTIS RETICULATION SYSTEM

It is a patented Reticulation System designed to effectively treat the area under concrete slabs, for protection against infestation by subterranean termites and around the external perimeter of structures to prevent termites entering from the outside of a building.

New and existing buildings can be protected from termites with the unique method of applying and replenishing a termite management system safely and reliably to all types of construction.

This treatment is easily applied during construction and after construction to protect the residence from a wide range of simple installation methods that are fully approved, Altis can protect all common building designs. Altis offers a long life treatment, where contact with the termite management agent is eliminated such as spray drift and concrete workers breaking/ and or removing barriers.

## WHEN IT IS INSTALLED

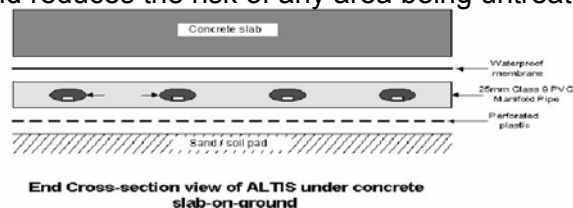
Altis is installed prior to laying of the concrete slab for the internal system and after external work has been completed for the external system but prior to any concreting, paving etc.

## WHAT IS DIFFERENT ABOUT ALTIS

Unlike any other system which uses pipes which have been perforated, the Altis system uses flexible unperforated pipes, which have emitters fabricated into the pipe. These emitters distribute chemical at a measured rate, and is of particular advantage in difficult areas such as clay sites, uneven sand pads, and step-downs. The termiticide is induced at low pressure, which combined with controlled rate emitters maintains an even distribution at all points along a pipe. Because of this “even flow” it is not necessary to balance each line in the system against other lines. Lines do not need to be of similar length. A requirement of other systems. A further benefit is that each line can be run for up to 50 metres, making it possible to treat the entire circumference of most residences from one pump up point.

The use of emitters ensures no grit, roots from vegetation, or other form of intrusion will clog the pipe and render it ineffective.

Another unique, patented difference in the Altis system is that the pipes are laid over a perforated plastic membrane, beneath the builder’s membrane. In this way chemical is distributed evenly and reduces the risk of any area being untreated.



From the above illustration we see that under the slab a builder’s membrane is required to prevent moisture from rising and affect the concrete slab.

Under this our pipe goes using emitters spaced 175mm apart – the emitter faces down. The spacings are closer than needed but are part of our plan to make a better system.

Altis pre perforated plastic membrane is different from the builder's membrane in that holes 65mm apart are provided for an even chemical dispersion. The chemical leaves the pipe emitter, spreads across the plastic and drops through the Altis membrane. Note the holes are cone shaped to act like a funnel.

## THE HEART OF THE ALTIS RETICULATION SYSTEM

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The Altis system uses pipes, which are of particular advantage in difficult areas such as clay sites, and uses emitters to distribute chemical at a measured rate. The termiticide is induced at low pressure, which maintains an even distribution at all points along a pipe.

Use of emitters ensures no grit, roots from vegetation, or other form of intrusion is possible to clog the pipe and render it ineffective. The unique, patented difference in the Altis system is that the pipes are laid over perforated plastic membrane, beneath the builder's membrane. In this way chemical is distributed evenly and does not risk an untreated area which may allow opportunities for termites to enter.

## RETICULATION

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Why is Reticulation the best Termite Management System?

- Chemicals kill termites.
- Reticulation (particularly ALTIS) ensures that accurately designed rates of chemical are applied evenly. Traditional hand spraying achieves haphazard results and is not permitted by some local and/ or some states.
- Reticulation greatly decreases exposure to chemicals being pumped after construction is complete.
- Reticulation allows for the treatment to be replaced/ recharged with no disruption and no unsightly excavation or drilling.
- The cost benefit over time is considerable as recharge costs are significantly lower than a drill and trench retreatment.
- ALTIS is the ONLY system which can treat 50 lineal metres from one pump –up point. By use of a multiple manifold system, additional 50 metre runs or shorter can be installed. The only limitations being the capacity of the delivery pump. As most residences have less than 100 lineal metres circumference the ALTIS system can be recharged from one pump-up point. Making for ease of recharging and also making the system less obtrusive.
- Multiple Altis lines do not need to be balanced. This means that you can run different lengths of lines from one manifold, simplifying calculations and making the system close to foolproof.

It is the only system which:

- Can be run 50 metres from any one take off point
- Does not need to have individual lines balanced
- Has scientifically designed and regulated delivery points (emitters) which ensure the correct amount of chemical is delivered to all areas being treated.
- ALTIS achieves remarkable accuracy in delivery of chemicals
- Can be used on sites where there is a 5 metre height difference between pump up point and other sections of the site.
- Has a favourable engineers report confirming that ALTIS operates effectively in CLAY even if clay subsidence occurs. This is a problem for many systems using semi rigid pipes.
- Brightly coloured purple pipe distinguishes the system from the other materials on site. The colour is now trademarked.
- Installation can be checked by “Mathematics” to ensure the system is operating as designed.

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## FREQUENTLY ASKED QUESTIONS

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### Why don't our pipes crush under the weight of concrete?

The pipes are designed as irrigation pipes which often operate under the weight of 300 to 600 mm of sand, and are designed not to block or break. The pipe is initially flat and so photographic evidence during testing shows concrete folding over the pipe with only a slight depression to the concrete. Under pressure as in the process of pumping water and chemical, the pipe opens up and allows easy passage of emulsion, then flattens again afterward. We do not simply have holes punched or drilled in pipe. Science gave us the emitter to allow measured discharge, with no return of grit. Nor are these emitters on the side of the pipe. They are on the underside where they are most protected and are further protected by builder's membrane between the emitters and the concrete. Koukourou engineers reported that the pipes would not break even if soil under the building fell away which made Altis very suited to clay conditions.

The Altis system is based on current science. There are patents dating back to 1901 for holes drilled in pipe, which is still a current method with some manufacturers. The best protection for you as client or advisor is to recommend the technologically advanced Altis system.

Above – photo taken during testing showing how concrete folds over the pipes.



## SAFETY

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The revolutionary Altis system is an environmentally friendly and safe way to apply chemicals beneath your building. Chemicals are applied following the pouring and curing of the slab. Advantages include:

- No spray drift which may endanger workers, occupants or pets.
- The injection process allows for re-application of termiticide at any time in the future. As new improved chemicals become available, retreating can take advantage of the latest advances.

## **LIFE OF CHEMICALS**

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It is an Australian Pesticides & Veterinary Medicines Authority (APVMA) requirement of registration for the new generation termiticides that the product label show the inservice life of the particular material.

Generally these safer chemicals require more frequent replenishment and this is made possible by the Altis System resulting in minimal disruption to the property being protected. This makes it an extremely cost effective and efficient process to manage termites.

## **RETREATMENTS**

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An Altis system avoids the cost of expensive retreatment caused by hand spraying methods when the limit of the chemical life is reached, a process that may be repeated many times over the life of a building. This adds up to a substantial nett saving in the long term and makes Altis a true investment, not a cost.

Re-treatment of properties, which were originally treated by the hand spray method usually involve drilling the internal floor area, external trenches may also be needed and paving bricks lifted. This may cause costly damage to floor coverings and inconvenience to tenants or homeowner. A preinstalled ALTIS system means that this intrusion would be unnecessary. A substantial saving in costs and no intrusion by drilling or trenching.

## **RELIABLE**

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The Altis system has been protecting homes, extensions, and commercial buildings such as offices and hospitals since 1990. Should a breach occur, recharging the system would retreat the affected area and eradicate the problem.

Altis systems are installed by Altis trained and accredited persons. The Pest Control company that is licensed to install Altis is responsible for their installation and the chemicals being used according to the chemical manufacturer's label.

## **APPLICATIONS**

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Altis is used under slabs and surrounding new constructions using flexible pipes that can follow splits in construction, can be used in vertical applications such as retaining walls, and can be used to protect cables in trenches, of particular advantage in the mining industry.

Tests showed that all material components of the Altis Irrigation System would last for more than 50 years. DowElanco has subjected all the components of the ALTIS Irrigation system to acceleration tests in their New Zealand Laboratory.

## COMPLIANCE

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Our low-pressure system with flexible pipes, controlled rate emitters and plastic membrane uses the most recent technology which is far superior to other reticulation systems. Altis materials are made in Australia. We do not import cheap overseas imitations, which mean that the materials Altis test are the materials Altis use.

Altis complies with the requirements of the Australian Standard 3660.1-2000 and the requirements of the building code of Australia. Laboratory work, field trials, engineering reports and computer simulations support these opinions. Altis are constantly re-appraising their system, CSIRO opinions are updated frequently and the Altis system has National accreditation.

Altis Pty Ltd has engaged the services of SAI Global to assess the Altis Anti-Termite Irrigation Systems as compliant Codemark. SAI Global has been assessed, by the Joint Accreditation Scheme of Australian and New Zealand (JAS-ANZ), as competent to assess products for Codemark. JAS-ANZ is the organization appointed by the Australian Building codes Board to verify the competence and impartiality of Codemark certification bodies.

## CLAY SOIL

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Recent engineer reports show that the flexible pipes bend and will not break if subjected to soil movement, which is a common problem in clay soils. Plastic membrane will prevent excess addition of water to clay, and the Altis system can use one fifth of the normal water used to deliver chemicals. Water simply adds to clay movement). The emitters do not allow foreign materials in or out of the pipes. Where a clay site has only a minimum sand bed due to supply constraints, Altis will still deliver chemicals evenly and effectively.

## CHEMICAL APPLICATION

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Chemical application rates are in accordance with the label approved by the Australian Pesticides and Veterinary Medicines Authority. Any chemicals approved by APVMA can be applied via the Altis system. Examples of approved chemicals include DowElanco Dursban Micro-Lo, David Grays Micro-Lo and Biflex, Termidor, Isophthor Aqua, Premise all applied as an emulsion.

Emulsion is the chemical and water mix as required by the manufacturer's instructions (label). In heavy clay conditions the water content can be reduced to allow for the moisture content of clay.

The chemical injection point is secured in a childproof box located at a convenient position outside the building external perimeter. The lid or top of the box may be positioned flush with natural ground level or top of paving. A non-return valve is used when injecting chemical into the irrigation system.

A complete record of chemical type and application rates, date of treatment and inspection are maintained by the licensed installer.

# WARRANTY PROTECTION

Altis will warrant the components parts of the system as per the APVMA registered label of the chemical chosen by the client, which could range between 2 years + 10 years depending on brand and type of chemical used. The warranty is subject to an annual inspection and maintenance as recommended by AS 36601 - 2000, this also must be carried out by an Altis accredited and trained installer. An Altis perimeter system must be installed to be eligible for warranty. Long-term termite protection will be a comfort for new owners at resale times.

Builders are seen to be exercising their duty of care when offering a system with long-term advantages that Altis provide, and can offer a sales benefit to new buyers!

Of course the warranty is subject to an annual inspection and maintenance as recommended and carried out by an Altis accredited and trained installer.

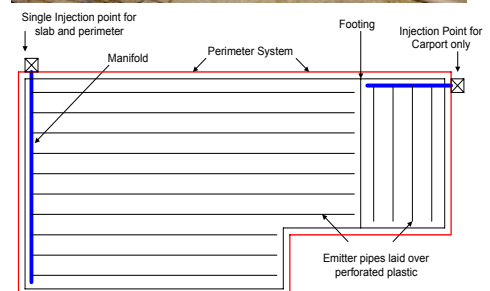
# ANNUAL INSPECTIONS

A condition of the ALTIS warranty is annual inspection with retreatment if required. The Australian standard 3660.1-2000 recommends that maintenance be carried out within 3 months of completion of the building and then not less than every twelve months thereafter. The primary purpose of the yearly inspection is to ensure breaches of the chemical barrier have not occurred. Altis systems are installed by Altis trained and accredited persons. The Pest Management company that is licensed to install Altis is responsible for installation and to use the chemicals injected according to the chemical manufacturer's label. As part of the yearly maintenance ALTIS licensees can offer the retreatment of the external system on a more regular basis to ensure peace of mind. The service will be less expensive and less intrusive than a drill and inject treatment.

# SYSTEMS AVAILABLE

## ALTIS FULL UNDER SLAB

With a premium full under slab system and an external perimeter system every corner is protected. Even a slab built to Australian Standard 2870 can crack enough to produce a 1.3mm opening. This is sufficient for subterranean termites to enter and disperse undetected. There is a misconception that most attacks start on the outside of a construction. In fact many attacks are under the slab, and full protection is the best insurance. Spread over the 50 year life of a system the cost is less than \$2.00 per week for a typical home. An Altis system is the most cost effective insurance. Pipes are spread 30mm or 450mm apart on perforated plastic sheet over the entire area of the slab. The Altis Premium system incorporates an Altis External perimeter treatment to provide the best possible protection. No other system contains this huge safety margin.



Plans of ALTIS Premium System under concrete-on-ground of new House and Carport - Plan View

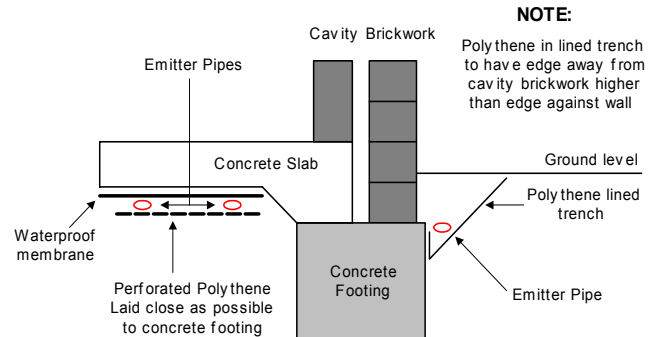
# SYSTEMS AVAILABLE

## ALTIS INTERNAL PERIMETER SYSTEM

The Altis Internal Perimeter System covers both the internal perimeters of the building as well as service penetrations through the concrete slab. This system can only be used when the slab is constructed in accordance with Australian Standard 2870. It consists of a 600mm wide perforated sheet with 2 dripper lines. Any slab penetrations must also be linked to the system.

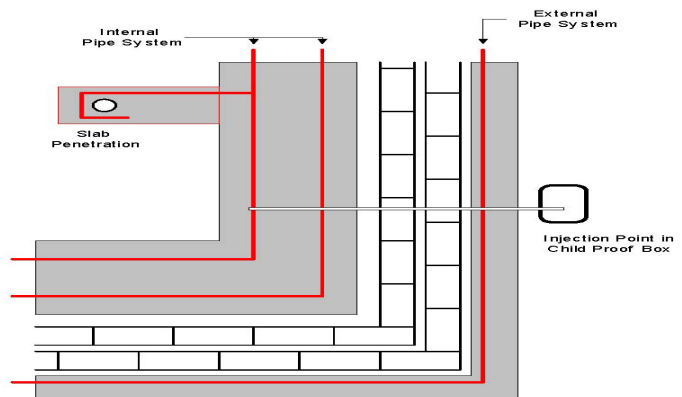


ALTIS PERIMETER



## ALTIS EXTERNAL PERIMETER SYSTEM

Perimeter systems will vary according to soil type and construction method, the Altis systems can be adapted to requirements. There are two products which can be used to meet the requirements to provide a complete external barrier, very easy. The two products are the 150mm wide perforated sheet with 1 dripper line and the 300mm unperforated sheet also with one dripper line. These two products can be used singularly or in combination. Your accredited Altis installer can advise you on what best suits your situation.



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a\_ 12/547 Kessels Rd, Macgregor QLD 4109  
p\_ (07) 3349 9274  
f\_ (07) 3849 7980  
e\_ [info@pssst.com.au](mailto:info@pssst.com.au)  
w\_ [www.altis.net.au](http://www.altis.net.au)  
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