ALTERM
NATIONAL PTY LTD
PATENT No. 709314
ABN: 70 111 695 893

75 Lambton Rd
PO Box 247
Broadmeadow NSW 2292
Phone (02) 4969 8055
Fax (02) 4940 8400

TRAINING MANUAL
For
ALTERM NATIONAL PRODUCTS

AS 3660.1:2000

AS 3660.3:2000

Termite Management Part 3

Chemical Free Termite Barrier

November 2007

75 Lambton Road
Broadmeadow NSW 2292
PO Box 247
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ALTERM NATIONAL TRAINING MANUAL

CONTENTS

1. INTRODUCTION TO ALTERM NATIONAL.

Alterm National Pty Ltd would like to thank you for your interest in becoming an accredited Alterm National product installer. To become an accredited installer of Alterm National products certain pre-requisites must be satisfied. In the Alterm National manual contents, many subjects and illustrations have been covered whereby we at Alterm National have had to satisfy standards and requirements before our product was allowed to be marketed and exposed in the market place. We pride ourselves in our setting of high standards for a quality product and its 2 in 1 application as an Approved D.P.C. and an Approved Termite Barrier.

Your role to become an Accredited Installer is no different to the requirements and test that Alterm National had to satisfy – so let's work together as we read on as to what is expected in becoming an accredited and certified installer of Alterm National products.

2. TRAINING.

Alterm National Pty Ltd offers theoretical and practical training as well as providing a Certificate of Compliance, which will allow you to operate as, an Accredited Installer of Alterm National products.

The nominated "Trainer" for Alterm National Pty Ltd is able to provide training. We will conduct training seminars at H.I.A. and M.B.A. meetings or training centres at nominated venues and on building sites for practical training.

3. WHAT ALTERM NATIONAL EXPECTS FROM THE INSTALLER.

It is essential that the installer must be a Certified Pest Controller with current Pest Controller Licence and current Professional Indemnity. Any Certified Installer who decides for whatever reason to terminate their trade/skill in Pest Control after being trained by Alterm National must provide to Alterm National in writing of their intention. Alterm National requires notification of cancellation or non-renewal of professional indemnity. Pest controllers may not install Alterm National without current professional indemnity or public liability.

4. PRACTICAL TESTING.

The Alterm National Trainer is available to show you or your staff the recommended practices for installing the Alterm National Barrier.

If for any given reason you happen to breach or are suspended from your profession, Alterm National Pty Ltd reserves the right to continue or terminate immediately your right to use Alterm National products and to be its Accredited Installer – sub-standard installation work would attract premature cancellation of your Certificate to use Alterm National products. If you are uncertain about any matter on Alterm National products all you have to do is ask, and trained Alterm National staff would be only too please to relieve you of any doubts or misunderstandings. We are only interested in upholding high standards of products and installations of Alterm National products.

5. ALTERM NATIONAL ACCREDITATION CERTIFICATE.

ALTERM NATIONAL PTY LTD

PATENT No. 709314
ABN: 70 111 695 893

ALTERM INSTALLERS ACCREDITATION CERTIFICATE

THIS CERTIFICATE WAS AWARDED TO

_____

of _____

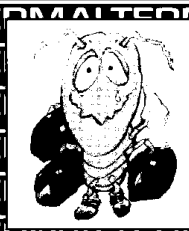
Having satisfied the written and practical test requirements of the ALTERM Training Seminar and the ALTERM BARRIER Installers Course

Certificate No. _____

Expiry Date _____

Date _____

Signed _____



6. WHAT YOU CAN EXPECT FROM ALTERM NATIONAL.

(a) 100% Service/Sales Support as a supplier and a Hotline to trained Alterm National staff. Phone: (02) 4969 8055, Fax: (02) 4940 8400.

(b) Warranted Products – Alterm National products are guaranteed as per manufacturers' specifications.

(c) Continual training and technical up dates as and when data is updated.

(d) Review of training programs and invitation to attend meetings or seminars in your area or in an area whereby training is required to keep abreast of market growth and needs as well as National Advertising.

(e) Alterm National staff will visit Architect / Designer offices and Builders seeking continual specification use in commercial projects and residential applications.

(f) Alterm National literature available on the Internet and in hard copy.

(g) A cost effective product.

(h) A product that meets recognised authority standards as well as Australian Standards

ABSAC Opinion 239

AS3660.1.2000 – TERMITE BARRIER

AS3660.3.2000 – TERMITE BARRIER

AS 2904 1995 – DAMP PROOF COURSE

AS 3700.2001 MASONRY STRUCTURES

(i) Continual field-testing of the Alterm National system by CSIRO Entomology in Darwin.

(7). System Components & product uses as supplied by Alterm National

(A) **Alterm National 5005 Series Marine Grade Sheet Aluminium** with zero temper is supplied in roll lengths of 30 metre and in varying roll widths of;

Width Thickness		
110mm x 0.55mm	Barcode	9330209000060
165mm x 0.55mm	Barcode	9330209000077
190mm x 0.55mm	Barcode	9330209000084
230mm x 0.55mm	Barcode	9330209000091
300mm x 0.55mm	Barcode	9330209000107
350mm x 0.55mm	Barcode	9330209000114
450mm x 0.55mm	Barcode	9330209000121

The rolls are labelled Alterm National and meet the requirements of Standards Australia AS 3660.1 2000, AS 3660.3 2000 and AS 2904 1994

USES

a. A continuous perimeter barrier in new construction for concrete slab where the slab is in accordance with AS2870-1996 'Residential slabs and footings-Construction' or raft floors.
b. A continuous perimeter and internal wall barrier for (bearer and joist) construction and as an ant cap for brick piers.
c. A cold-joint continuous barrier between existing structure and new slab,
d. A continuous barrier in construction joints,
e. As a damp proof course for residential and commercial buildings.

(B) **Alterm National (No More Solder) Termite Resistant Silicone Sealant** meets the requirements of AS 3660.1 2000 and AS 3660.3 2000

Cartridge 300g single unit	Barcode	9330209000268
Cartridge 300g outer carton 20 units	Barcode	9330209000275
Sausage 500g single unit	Barcode	9330209000237
Sausage 500g outer carton 20 units	Barcode	9330209000244

USES

(a) saw cuts

(b) shrinkage cracks

(c) slabs poured separately to the footing

(d) Ant cap joining, Cold joints, Key joints, Control joints

(e) Sealant used to join the Alterm National marine grade aluminium to concrete slabs

(f) Sealant used to join the Alterm National marine grade aluminium collars to PVC plumbing wastes, electrical conduits, gas pipes ect.

(C) Alterm National Cementitious Parge; (also marketed as **Termortar**)

Description

Alterm National Cementitious Parge is a two part system comprising of (Part A – class A construction grout) and (Part B – Liquid) when mixed in varying ratios, forms a Physical Termite Barrier which meets the requirements of Australian Standard AS 3660.1 2000 , AS 3660.3 2000 to work as physical termite barrier against the ingress of subterranean termites and AS 3700-2001 Masonry Structures

Part A 20 kg bag (class A grout)	Barcode	9330209000220
Part B 5 litre bottle	Barcode	9330209000213
Termortar Grey 20 kg bag	Barcode	9330209000206
Termortar Off White 20 kg bag	Barcode	9330209000190
Termortar Primer 5 litre bottle	Barcode	9330209000251

USES

(a) as a termite proof render (above and below ground) for masonry retaining walls

(b) as a termite proof mortar

(c) repairing honeycombing and damage in concrete slabs

(d) as a termite proof parge around pipe penetrations on outer surface of the concrete slabs

(e) termite proofing parge for AAC blocks panels

(f) as a termite proof grout in tilt slab panel construction

(g) as a termite proof parge for composite wall panel systems

(D) Alterm National Collars

Alterm National Collars are manufactured from 5005 series marine grade aluminium at an approximate thickness of 0.55mm. They have been manufactured in six pre pressed sizes

100mm	Barcode	9330209000183
82mm	Barcode	9330209000176
56mm	Barcode	9330209000169
43mm	Barcode	9330209000152
19mm	Barcode	9330209000145
12mm	Barcode	9330209000138

The flange of the collars once affixed to the pipe will extend 50mm from the outside diameter of the pipe and this flange will be cast into the concrete slab, alternatively they may be hand made by the Alterm National installer to suite irregular pipe sizes.

Check to see if Alterm National Collars require installing to all through slab pipe penetrations (plumbing wast pipes, electrical conduits, gas pipes, ect) (before slab has been poured). Alterm National Collars may also be glued with Alterm National (No More Solder termite resistant silicone) onto the top of the concrete slab.

(8) ALTERM NATIONAL COLLARS

(PART (A) Physical Barrier Certificate).
Service penetrations protection from the ingress of subterranean termites
Installation procedures.

In Slab Fixing

1. When installing collars in the slab, firstly determine the correct sized collar required for each pipe penetration and the position on the pipe you require the collar. The desired position for the collar should be at the same level as the steel re-enforcement once it has been stood on the bar chairs and prior to the concrete pour.
2. Slide the Alterm National Collar over and down the pipe to the required position with the recess in the Alterm National Collar able to be filled from the top with Alterm National (No More Solder) Termite resistant Silicone. If extra support of the Alterm National collar is required a plastic electrical cable tie may be fastened around the pipe directly below the Alterm National Collar.
3. Seal the Alterm National Collar to the pipe by filling the formed recess (the recess in the collar is at the junction of the pipe and collar) in the Collar with Alterm National No More Solder Termite Proof Silicone till the Silicone is level with the flange of the Collar.

On Slab Fixing

1. Ensure the surface of the concrete around the pipe is level and that both pipe and concrete are clean and free of dust and laitance, use mineral turps on a clean cloth to remove any dust or slab curing compounds. Wash surface with clean water and allow concrete to dry before positioning collar.
2. Pre fit Alterm National collar to pipe and mark on the concrete the diameter of the flange of the collar, remove the collar from the pipe.
3. Position two concentric circles of No More Solder Silicon (approximately a 10-15mm bead) on the concrete, one at the outer diameter of where the collar will seat on the concrete and one at the junction of the collar and the pipe.
4. Slide the collar over and down the pipe so the recess in the collar will be filled with the No More Solder Silicone which has been positioned on the concrete. Work the collar downwards with you hands so that the No More Solder Silicone extrudes from underneath the collar work this excess No More Solder Silicone so that it covers the outer edge of the flange on the collar and the surrounding concrete, making sure that there is a complete seal of the collar to the concrete.

ALTERM NATIONAL CEMENTITIOUS PARGE (as an alternative termite proof pipe penetration system)

Description of Alterm National Cementitious Parge

Alterm National Cementitious Parge is a two part system comprising of (Part A – class A construction grout) and (Part B – Liquid) when mixed in varying ratios form a Physical Termite Barrier which meets the requirements of Australian Standard AS 3660.1 2000 , AS 3660.3 2000 to act as a physical barrier against the ingress of subterranean termites.

MULTIPLE PIPE PENETRATIONS (CLUSTERS)

1. For multiple pipe clusters the installer is required to co-ordinate with the builder to have a 5-10mm recess in the concrete around the pipe cluster, the recess is to extend a minimum of 50mm out from the pipes.
2. Mix and position Alterm National cementitious parge around and between the pipe cluster filling the recess which is to extend 50mm from the pipes. (Ref to technical data sheet on pages 25-27 for cementitious parge (Part A & Part B) mixing details.

SINGLE PIPE PENETRATION

1. For single pipe penetration ensure the surface of concrete around the pipe has been tapered to allow a 5mm recess below the level of the pipe and extend this recess 50mm out from the pipe. Make sure both the pipe and concrete are clean and free of dust and laitance, use mineral turps on a clean cloth to remove any dust or slab curing compounds. Wash surface with clean water and allow concrete to dry.
2. Mix and position two coats of Alterm National cementitious parge around the pipe and extending 50mm onto the surface of the concrete and achieving a minimum thickness of 5mm. (ref technical data sheets on pages 25-27 for cementitious parge (Part A & Part B) mixing details.

   Ensuring there are no pinholes in the Alterm National cementitious parge to allow subterranean termite entry.

(9) ALTERM NATIONAL PERIMETER BARRIER.(PART (B) Physical Barrier Certificate)

(a) Identify which Alterm National roll widths are required on your job site, (i.e. 110mm, 165mm, 190mm, 230mm, 300mm, 350mm or 450mm). Note you may require a number of different roll widths on a single job site.

(b) Ensure you have all your tools of trade at hand to do the job required.

(c) Ensure the bricklayer has laid the appropriate courses of brickwork before installing the Alterm National perimeter barrier. (for slab on ground the brick courses shall be laid to a height so as to allow the installation of the Alterm National physical termite barrier) The barrier is able to be attached to the concrete slab and extend through the outer perimeter brickwork and the finished ground level will be a minimum of 75mm below the outer edge of the Alterm National barrier. The barrier may be folded and stepped to follow the brickwork at the change of levels in the building. For bearer and joist installation the Alterm National physical barrier should be positioned at the top of the engaged piers and extend through to the outer brickwork, the barrier should protrude 55mm past the inner skin of the brickwork and be folded down at a 45 degree angle.

(d) Measure the straight lengths of barrier you will require and take note of the INTERNAL and EXTERNAL corners as well as any STEP DOWNS in the slab.

(e) Make your specials (refer to internal or external corners which may require specialised cutting, when overlapping and joining of the Alterm National 5005 series marine grade aluminium barrier) first, then the in between will be your straight or normal lengths of the Alterm National barrier.

(f) Place the taped edge of the Alterm National 5005 series marine grade aluminium against the edge of the concrete rebate, with the body of the material laying across the positioned brickwork, then fold the aluminium over the edge of the brickwork to the width of the brick coursing and the cavity. Roll the aluminium over so the untapped folded edge (approximately 40mm) is now against the vertical rebate in the concrete slab, this is the area of the aluminium which is to be nailed to the concrete and made ready for attaching to the slab with Alterm National No More Solder termite proof silicone. Expose 2-3mm of the taped aluminium at the brick edge so it acts as a D.P.C.

(g) Once you have laid out all relevant lengths of the barrier in position with corners and step-downs you are then ready to use the Alterm National termite proof silicone sealant.

(h) Fasten the Alterm National Barrier to the vertical step down in the concrete slab with either Trackfast Nail Gun or mickey pins, the fastening pins should be positioned approximately 20mm down from the top of the vertical edge of the barrier and approximately 400mm apart.

(i) Fold out 10mm of the top edge of Alterm National Barrier to a 45^{o} angle this will form a V between the top of the barrier and the concrete. Once the V has been formed apply the Alterm National No More Solder termite proof silicon sealant in the V formed, ensuring there is a complete seal between the concrete slab and the Alterm National barrier. Remove plastic caps from the Ramset fastening pins and cover all nail heads with Alterm National No More Solder termite proof silicone sealant.

(j) Once all the Alterm National No More Solder termite proof silicone has been applied check for any areas or joins that may require extra attention over and above the normal installation. Always ensure there are never any areas (GAPS) overlooked for possible ingress of termites. Ensure that the Alterm National No More Solder termite proof silicon sealant has sealed off all gaps.

(k) All joins, cuts, folds and overlaps in the Alterm National barrier require a minimum overlap of 30mm and should always be 100% sealed. It should be NOTED that at ALL joins and overlaps that require to be glued together with Alterm National termite proof silicone the polypropylene protective tape MUST be removed from the Alterm National Barrier. To remove the protective tape from the Alterm barrier, you may use a Stanley knife to cut the tape the required distance of the overlap, to help remove the tape it is suggested that either a heat gun or butane torch be used to gently heat the tape, this will soften the glue and allow for easier removal of the tape.

(l) **Never overlook risk areas as it is your reputation and business at stake**.

(m) Depending at what stage the concretor or builder is at with the slab or footings, it is vital that the accredited Alterm National installer confers with those trades, including the Bricklayer. It is also paramount that the Alterm National installer works on a dry site. DO NOT INSTALL IN RAIN. Most other trades do not work in the rain so ensure your role has dry conditions or as dry as possible – use common sense.

(n) Alterm National also recommends that, the barrier is laid on top of the first course of brick coursing which is a minimum 75mm above finished ground level and is able to be attached to the concrete slab. Another important matter is to ensure that the Alterm National barrier is flush with the outside edge of the brick/block courses. This will ensure the barrier is performing its function as a D.P.C. and termite barrier. Once you have laid the barrier on top of the first course of brick coursing you can proceed to cover the cavity and bend the remainder of the Alterm National barrier upwards vertically at its junction with the concrete substrate which is the area whereby it is to be glued and fixed thus sealing off any possible ingress of termites. (Refer to our illustrations for installation procedure). Ensure the barrier is installed a minimum of 75mm above finished ground levels.

(10) EXPANSION / CONSTRUCTION / KEY ,JOINTS / SAW CUTS

(a) Refer to Alterm National drawings on page 42 for recommended installation methods of installing Alterm National marine grade aluminium as barrier where the need to ensure control joints are fully sealed off preventing any risk of Subterranean Termites entering or breaching the slab.

(b) The Alterm National barrier can be installed/integrated within the slab this is achieved by folding the 110mm wide marine grade aluminium in half, one half of the barrier is then fixed to the slab edge which is to have the next concrete pour poured against, the Alterm barrier is attached to the concrete edge by the same method as perimeter fixing of the Alterm National barrier, the barrier should be attached to the concrete edge so that the folded leaf of the barrier is at the same height as the steel re-enforcing.

(c) The Alterm National barrier may also be bonded to the top of the slab by using 110mm wide marine grade aluminium – whichever the case the Alterm National barrier must be installed to prevent ingress of subterranean termites.

(d) The Alterm National (No More Solder) Termite proof silicone may be positioned as a flexible sealant in expansion joints saw cuts, shrinkage cracks, slabs poured separately to the footing, cold joints, key joints and control joints.(see drawings on page 45 for installation or refer to technical data sheets).

(11) RETAINING WALLS (Rendering)

(a) Retaining walls are required to be cleaned and hosed with clean water to remove any loose materials before being coated with Alterm National Cementitious Parge (Termortar).

(b) The parge shall be applied over core filled block work or brickwork as a render or as a brushable parge (when being brushed multiple coats may be applied till a minimum thickness of 3-4mm is achieved), making sure there are no holes in the barrier to allow the ingress of subterranean termites.(refer technical data sheets on page 25-27).

(12) AAC BLOCK / PANEL AND COMPOSITE WALL SYSTEMS

Alterm National Cementitious Parge in conjunction with Alterm National (No More Solder) termite proof silicone may be applied over the lower section of the panel to create a termite proof barrier. (see drawing on page 42)

(13) TILT SLAB PANEL CONSTRUCTION

(a) Alterm National Cementitious Parge (Termortar) may be used as termite proof grout at the exterior junction of the tilt slab panel and the rebate in monolithic concrete slabs, it recommended to first apply a slurry coat to the surfaces and then the grout mix to a thickness of 25-50mm. The grout mix is to be applied to a minimum height of 75mm from finished ground level in the vertical joints in the panels.

(b) For infill slab construction where the panels have been positioned on the footing Alterm National 110mm marine grade aluminium is to be attached to the inside walls of the tilt panels as a construction joint below the finished floor level of the infill concrete pour. The vertical joins in the tilt slab panels are to be filled with a 20mm bead of Alterm National (No More Solder) termite proof silicone, the bead of silicone is to extend from the back of the Alterm National barrier on the inside of the panel to the outside of the panel, to achieve this bead of termite proof silicone a backing rod may be required to be positioned between the panels before applying the Alterm National termite proof silicone.

(14) QUALITY

The Management of Alterm National Pty Ltd may conduct random inspections of installations carried out by the Accredited Installer so it is up to you to fulfil your accredited expectations. Failure to do so will most likely attract premature cancellation of your Alterm National ACCREDITATION CERTIFICATE. If you encounter any concerns or problems with Alterm National materials, you must report it to us immediately.

For any technical advice on installation, please contact the Alterm National office.

NOTE:

- Please remember there are many instances where termite proofing requires lots of thought eg. Wheelchair access ramps, retaining walls, doorways. You must try and think – if I were a termite, how would I get in – then block that avenue.
- Never use twitched wire or steel clamps to hold barrier to pipe whilst Alterm National (No More Solder) termite proof silicone sets – use a plastic cable tie as the preferred holding on method whilst silicone sets. Setting time is normally 24 hours at 22^{o}C.
- If the site is for double brick wall construction (not steel or timber frame) the ALTERM NATIONAL Barrier can be glued to top edge of slab and not to the vertical edge. (NB if this method of fixing is called upon a flashing will be required to be installed above the ALTERM NATIONAL barrier).

(15) EQUIPMENT REQUIRED TO INSTALL, ALTERM NATIONAL BARRIERS.

After qualifying as an Accredited ALTERM NATIONAL Product Installer and receiving your Certificate from ALTERM NATIONAL, the tools of trade are essentially as follows: -

(a) Coarse bristle brush and banister brush to clean off any laitance off the concrete substrate which the Alterm National termite proof silicone is to be attached. All concrete and brick surface to be flat, clean and tidy for gluing.

(b) Tube applicator/silicone gun or sausage gun with trigger to squeeze/push sealant out of the tube. Use a heavy-duty tube applicator.

(c) Two putty knives with a blade say 30-40mm wide.

(d) Electrical cable ties (plastic) for penetrations or square channel sections through concrete slabs (if required).

(e) Tin snips, straight, left and right cutting types to cut 0.55mm thick marine grade aluminium.

(f) Heavy-duty bladed knife or brickies trowel, which will cut through 0.55mm thick marine grade aluminium strips.

(g) 30 metre tape measure and steel rule.

(h) Scoring blade or marker pen (an old screw driver is ideal).

(i) Ball-pane hammer, claw hammer, lump hammer and rubber mallet.

(j) Set of screwdrivers and compass to draw circles up to 300mm diameter. This will enable you to manufacture oversized pipe collars.

(k) Hand towelling or waste rags.

(l) For manual nailing use a claw hammer and 19mm concrete fastening nails or use a Ramset Trackfast gas operated automatic nailing gun with 19mm nails.

(m) Plastic buckets to mix Alterm National cementitious parge (Termortar). 4 litre and 20 litre

(n) Manual and illustration procedures to assist you in understanding the ALTERM NATIONAL product.

(o) You may require hardhat, safety glasses and safety boots to satisfy OH & S requirements.

(p) 4 metre straight edge or timber straight edge to use to make folds in Marine grade aluminium.

(q) Ramset nails (mickey pins) C.430.p type, OR Trackfast 19mm nails.

(r) Water should be available on site – if not, provide your own.

(s) Rubber gloves or equivalent for handling Alterm National termite resistant silicone sealant.

(t) Pop rivet gun and pop rivets ⅛”

(u) Alterm National Meter box stickers.

(v) MSDS sheets on Alterm National products.

(w) ALTERM NATIONAL Warranty to be supplied to client.

(x) Alterm National Installation Certificate Book for verifying the installer’s details, date of installation, the areas on the building that have Alterm National products installed.

(16). REMINDERS.

1. Inspect site to be protected from termite entry, to make sure you have safe access to execute your installation without hindrance from other trades – **Never install during rain or at a wet site**.

2. Ensure you are well equipped to carry out the task of protecting your clients building from possible termite entry and ensure the first course of bricks have been laid before commencing your part of the installation.

3. Work in with other trades and extend your professional courtesy and ability to those you represent. Show enthusiasm at all times and exit your work site in a tidy and clean manner.

4. You have access to Alterm National quality products, CSIRO accredited materials and ALTERM NATIONAL Pty Ltd warrants its products.

5. ALTERM NATIONAL trainers are available for further training and are prepared to attend H.I.A., A.E.P.M.A and M.B.A. meetings/seminars providing motivation and continued growth and product knowledge.

6. ALTERM NATIONAL Pty Ltd and its staff will strive to keep you abreast of improvements to the best of our ability.

7. ALTERM NATIONAL Pty Ltd its staff or its trainers will not be held responsible for any accidental of malicious damage caused by others to the ALTERM NATIONAL BARRIER. It is expected that the Accredited Installer thoroughly check their installation work before exiting the building site. It is required that the Accredited Installer ask for a signature from the builder as the clearance and satisfaction of the work performed by the Accredited Installer.

(17). EXAMPLE OF ALTERM NATIONAL METER BOX STICKER

All Relevant Details Are To Be Filled In At Time of Placement in Meter Box

ALTERM NATIONAL TERMITE BARRIER

Address: 75 Lambton Rd, Broadmeadow NSW 2292 Phone: 02 4969 8055

ALTERM NATIONAL TERMITE PROTECTION NOTICE

PHYSICAL BARRIER 2 IN 1 SYSTEM

IMPORTANT

This building has the Alterm National 2 in 1 Barrier System installed. Alterm National barrier complies with AS 3660.1.2000 AS 3660.3.2000. Termite Barrier. Alterm National P/L warrants the product providing the installation is carried out by an accredited Pest Controller trained by Alterm National P/L

PERIMETER CAVITY TREATED YES/NO

PENETRATIONS TREATED YES/NO

DATE APPLIED/INSTALLED_____

BY WHOM_____

COMPANY NAME_____

CONTACT NUMBERS_____

CAUTION - Disturbance by others after date of installation could render the ALTERM NATIONAL TERMITE BARRIER VOID. If in doubt please contact the ALTERM NATIONAL installer above or contact ALTERM NATIONAL office (02) 4969 8055. Ensure the barrier is 75mm min. Above gardens and paths NOTE-It is the building Owner's responsibility to arrange visual inspection by an expert in pest control management at ANNUAL intervals to check for possible ingress of TERMITES or associated species

ABN-70 111 695 893

EXAMPLE: "BY WHOM" = Installers name
"COMPANY NAME" = Installers company
"CONTACT NUMBER" = Installers contact phone number

(18) EXAMPLE OF ALTERM NATIONALCERTIFICATE OF INSTALLATION

* Installation Report No.: 40001

* Accredited Installers ALTERM NATIONAL Number: _____

* Accredited Pest Controllers Licence Number: _____

* Your Company Name: _____

ALTERM NATIONAL PTY LTD

ALTERM NATIONAL ABN 70 111 695 893
Certificate of Installation
of Termite Barrier
AS 3660.1 2000
Ph: (02) 4969 8055

The original copy of this report is to be submitted to ALTERM NATIONAL PTY LTD within seven (7) days of each job prepared and installed by accredited ALTERM NATIONAL Installers.

1. Accredited Installers Name and Phone Number:
   NAME: _____ PH: _____
2. Date of Installation: _____ / _____ / _____
3. Address of property to be protected from termites: (show postcode if known)

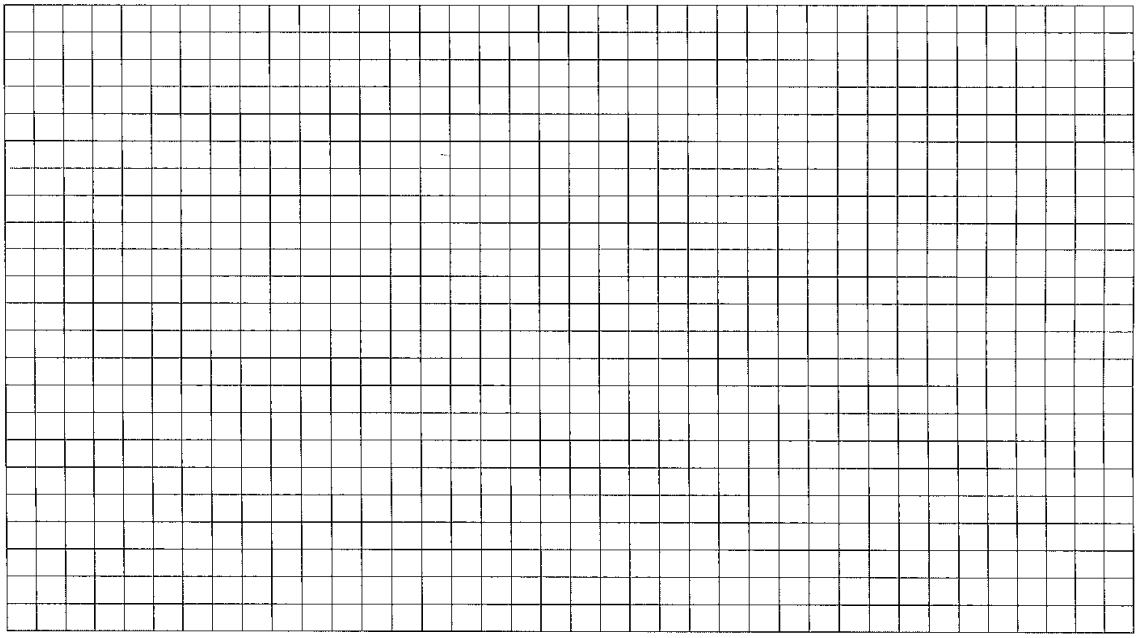
   _____

   _____
4. Builder's Name: _____ 5. Builder's Phone No.: _____
6. Property Owner's Name: _____
7. Property Owner's Contact No.: _____
8. Builder or Property Owner's Contact Address: (if known) _____

   _____
9. Name of Council Area which property is within (eg Newcastle, Wollongong, Penrith)

   _____
10. Installation type used (ie Perimeter/Penetration or Both) _____
11. Meters of Alterm used: _____ m Rolls width used: _____ mm
12. Was the site/job/property to be protected, prepared to ALTERM NATIONAL'S Installation Requirements: _____

    _____
13. Signature of ALTERM NATIONAL Installer: _____ Date: _____ / _____ / _____
14. Signature of Owner or Builder: _____ Date: _____ / _____ / _____
15. Draw plan view of your installation here or attach house plan to this certificate:



(19). Warranty Terms & Conditions

Australian Standard AS 3660.1 2000 states that "the purpose of termite barriers is to impede and discourage subterranean termite entry into a building. Subterranean Termites can build around barriers but their workings or evidence thereof is then in the open where they can be detected more readily during regular inspections." The Alterm National Barrier System when installed is designed to block the entry of subterranean termites and cause them to go around the barrier in their attempts to enter a building. The termites will build a mud tunnel around the termite barrier, thus bridging the barrier and exposing them to visual inspection.

The Australian Standard also indicates that the termite barrier must be installed at least 75mm above finished ground level. Under this standard the Alterm National barrier system around the perimeter of the building has been installed in the first course or above of brickwork, ensuring that it meets the standard.

THE ALTERM NATIONAL SYSTEM

The Alterm National Barrier system is a physical termite barrier system comprising a 5005 series marine grade aluminum sheet barrier which is attached to the concrete slab with Alterm National (No More Solder) Termite Proof Silicon. The system is installed in or above the first course of the perimeter brickwork of the building. Alterm National Cementitious parge may be used in areas below finished ground level as a physical barrier against subterranean termite entry and Alterm National collars are to be attached to all slab penetrations and all other entry points are to be protected.

- The Alterm National Barrier System can only be installed by Alterm National accredited installers.
- The Alterm National Barrier System is not intended to KILL termites.
- The Alterm National Barrier Systems purpose is to stop the undetected entry of subterranean termites into the building.

For subterranean termites to enter a building where the Alterm National Barrier System has been installed by an accredited installer, the subterranean termites would have to go around the barrier and in so doing, would expose themselves to visual inspection.

WARRANTY COVER

Product Warranty

Alterm National Pty Ltd warrants its products to have a minimum life expectancy and against undetected subterranean termite ingress through the product components for a period of 50 years.

The Alterm National warranty covers structural timber members of the building together with timber skirting boards, timber flooring, timber doors and windows and timber weatherboard cladding.

The warranty will only cover damage caused by subterranean termites and is limited to a maximum of $50,000 for a single dwelling or $100,000 for multiple unit dwellings.

The warranty only covers installations by Alterm National qualified installers using only the genuine Alterm National product in the installation.

Installation Warranty

The installer of Alterm National products must have Professional Indemnity Insurance to install our products. .

Should a breach of the Alterm National Barrier occur then a company representative, the installer and the builder, will meet to discuss and determine how the breach occurred and to agree on liability. If agreement cannot be reached the matter will be taken to the Master Builders Association Arbitrator for adjudication before any court proceedings.

It is the responsibility of the owner / occupier to ensure that any subsequent construction on the site incorporates an approved termite barrier system that integrates with the Alterm National Barrier System.

Warranty Terms & Conditions

REQUIREMENTS OF THE OWNER / OCCUPIER OF THE BUILDING

BEWARE

SUBTERANEAN TERMITES WILL LIKE THE TASTE OF YOUR HOUSE & WILL ENTER

UNLESS YOU THE OWNER / OCCUPIER TAKE PRECAUTIONS.

INSPECTIONS

It is the responsibility of the owner/occupier of the building to have regular visual inspections of the building by a qualified Alterm National Installer who is also an expert in pest control management.

The Australian Standard states "Inspections at intervals not exceeding 12 months are highly recommended. Where the termite risk is high or the building type is susceptible to termite attack, more frequent inspections (3-6) months should be undertaken." The warranty will be **voided** if regular twelve-monthly or less, inspections are not carried out.

SUBSEQUENT CONSTRUCTION / REPAIRS

Subsequent additions or alterations to your premises may give rise to damage to or breaches / bridging of the existing termite barrier system.

It is the responsibility of the owner / occupier to ensure that any subsequent construction on the site incorporates an approved termite barrier system that integrates with the Alterm National Barrier System.

The warranty will be **voided** if subsequent construction / repairs have not been protected against subterranean termites or if such construction / repair has caused damage to the existing Alterm National Physical Termite Barrier.

HOUSEKEEPING

Termites love moist dark areas.

The building of gardens or creation of other landscaping effects, the storage of timber, soil or rubbish in close proximity to the termite barrier can:

- Reduce the clearance above ground level of the termite barrier i.e. below the 75mm requirement.
- Create a bridge above the termite barrier for the subterranean termites to travel through.
-

Do not cover weep holes or vents as this will allow undetected entry of subterranean termites in these areas.

It is the responsibility of the owner / occupier to ensure that the Alterm National Termite Barrier is kept clear to allow visual inspection of the barrier to detect any bridging of the barrier.

Warranty Terms & Conditions

Suggestions for the upkeep of your Alterm National Barrier System are: -

- Don't leave materials leaning up against the building.
- Ensure all garden beds and paths are at least 75mm below the level of the Alterm National Barrier System.
- Employ a qualified Alterm National installer who is an expert in pest control management to carry out regular annual inspections.
- The warranty will be **voided** if rubbish or any storage of timber or other materials, or the introduction of gardens or other landscaping causes an infringement of the required 75mm clear area between the Alterm National Termite Barrier and the ground level.

OTHER EXCLUSIONS:

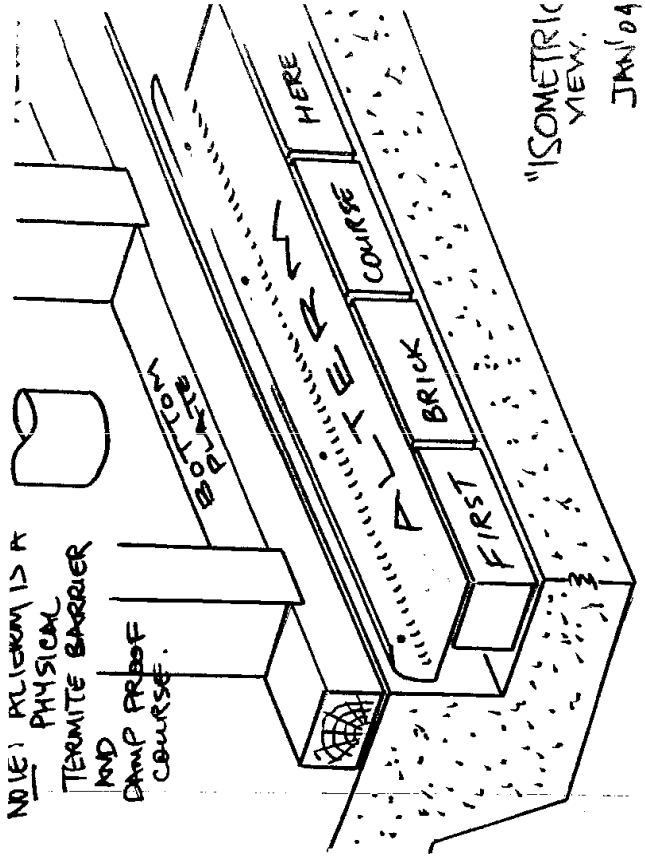
Together with all above occurrences that may cause the voiding of the warranty the Alterm National warranty does not cover: -

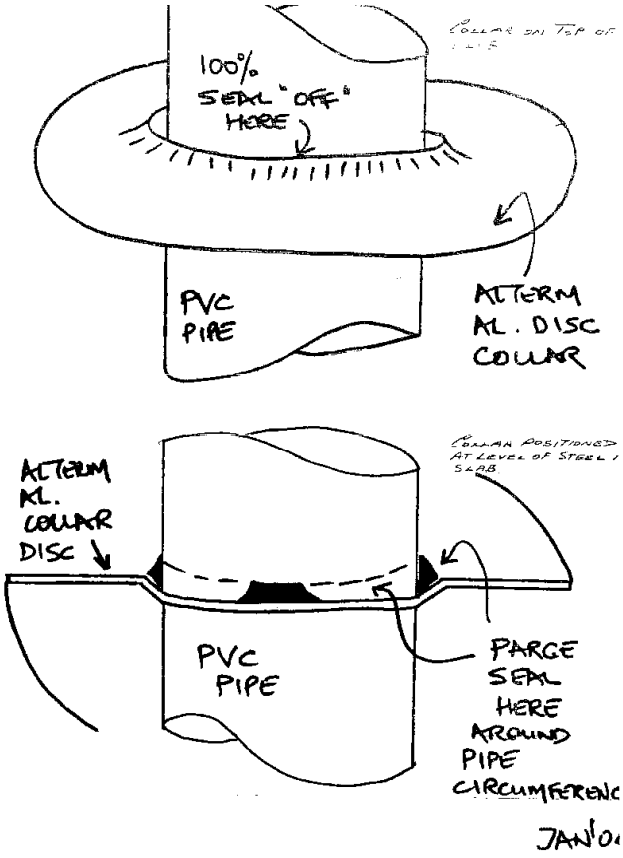
- Damage to the barrier by third parties
- Consequential loss or damage
- Cost of temporary accommodation
- Economic losses
- Termite entry other than through the Alterm Barrier
- Failure by third parties to comply with AS3660.1 2000
- Damage by any non-subterranean termites.
- Damage to furniture, fittings, electrical wiring, clothing

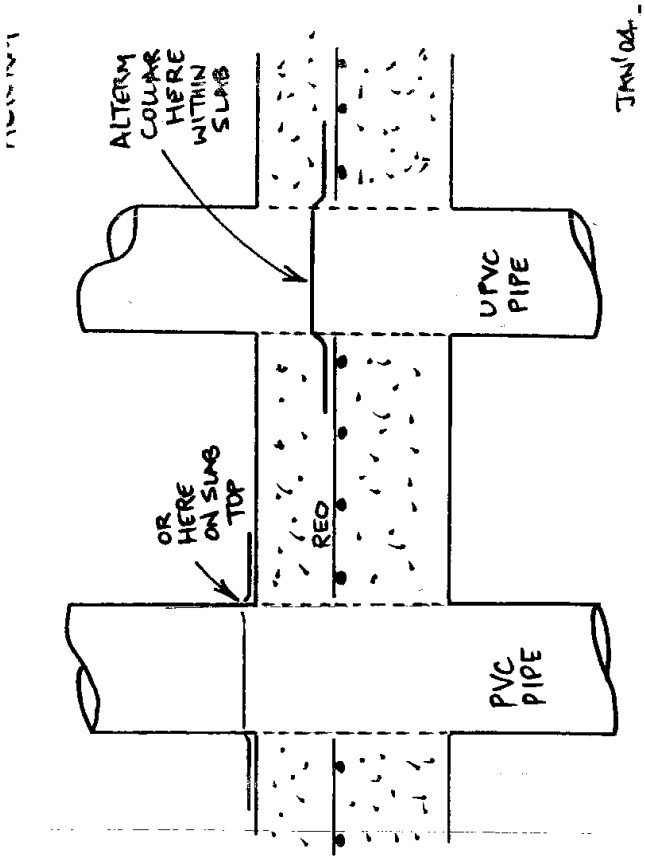
HOW TO MAKE A CLAIM

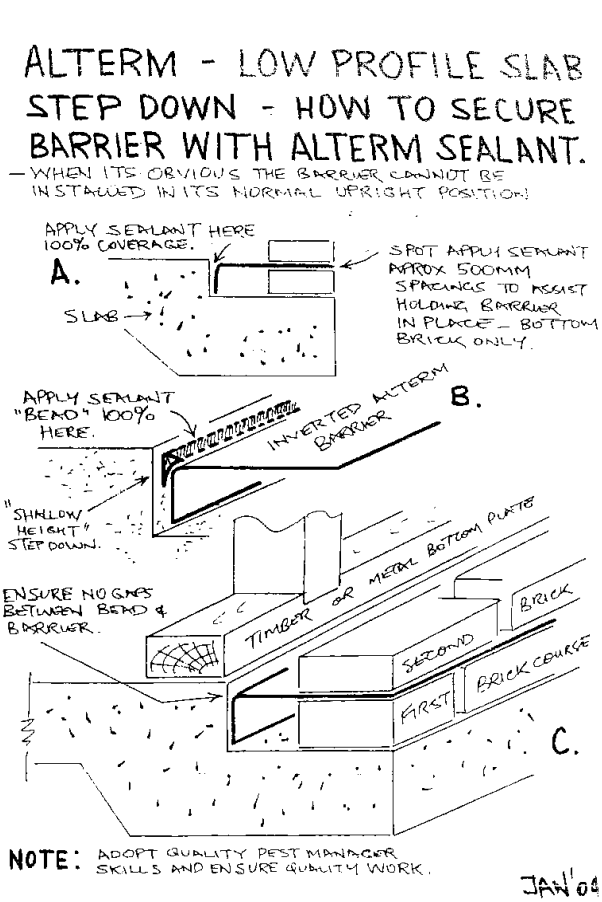
- Do not remove termite tracks or nests.
- **Do not attempt to spray or make repairs yourself.**
- **Contact Alterm National directly as soon as damage or termite activity is noticed 0249 698055**

(20). ILLUSTRATIONS DIAGRAMS

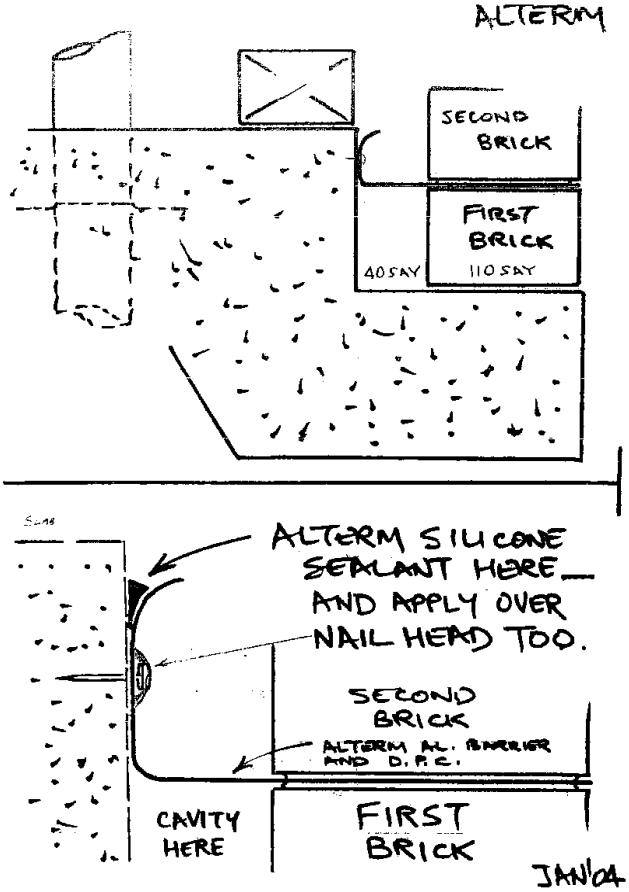








ALTERM



JAN'04

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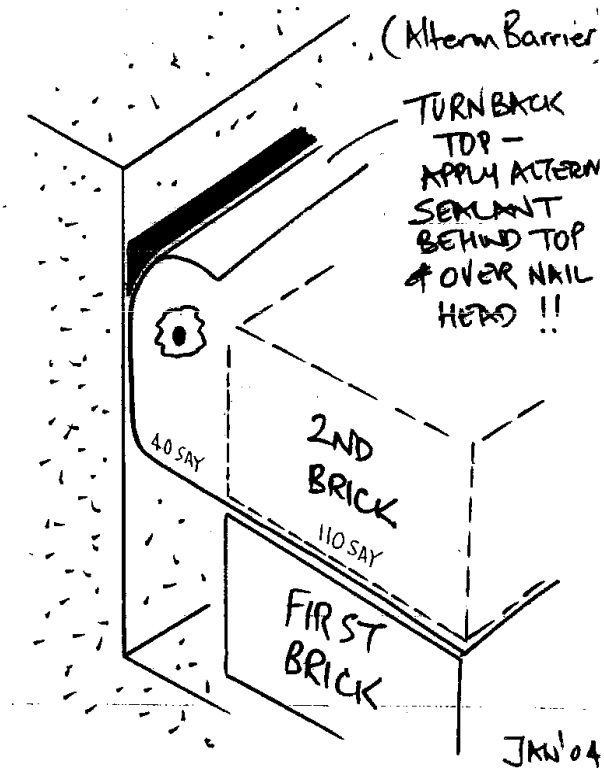

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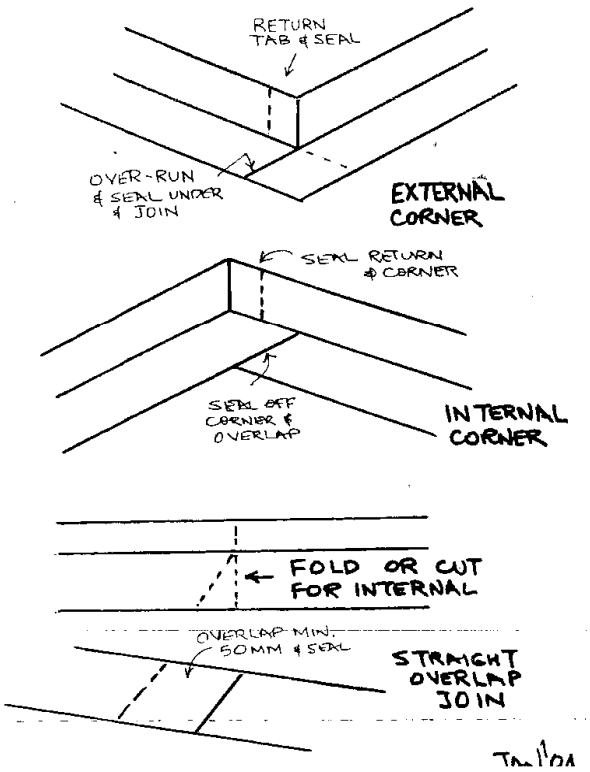
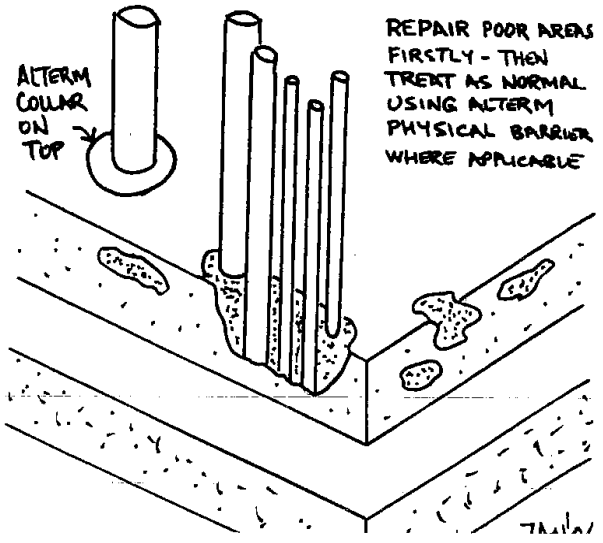
ALTERM CORNERS & FOLDS



ALTERM

PROBLEM AREAS SUCH AS MULTIPLE PIPES OR POOR HONEYCOMBING - SEAL OFF WITH ALTERM SILICONE OR CEMENTITIOUS MIX.



MATERIAL SAFETY DATA SHEET

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request. All information contained in this MSDS is as accurate and up-to –date as possible. No warranty expressed or implied is made as to its accuracy, reliability or completeness.

STATEMENT OF HAZARDOURS NATURE

Hazardous according to criteria of Worksafe Australia

COMPANY DETAILS

Company	:	Alterm National Pty Ltd ABN: 70 111 695 893
Address	:	75 Lambton Road, Broadmeadow, NSW, 2292
Telephone Number	:	(02) 4969 8055
Emergency Telephone Number	:	(02) 4969 8055

IDENTIFICATIONS

Product Name	:	Alterm National Termite Grout
Other Name	:	Construction Grout DP
Manufacturer's Product Code	:	11217
UN Number	:	None Allocated
Dangerous Goods Class	:	None Allocated
Subsidiary Risk	:	None Allocated
EPG Card	:	None Allocated
Shipping Name	:	None Allocated
Hazchem Code	:	None Allocated
Poisons Schedule	:	None Allocated

USE

Major Recommended Uses : Shrinkage compensated, Class A Natural aggregate general purpose grout

PHYSICAL DESCRIPTION/PROPERTIES

Appearance	:	Cement grey powder
Boiling Point (^oC)	:	>200
Melting Point (^oC)	:	not available
Vapour Pressure @ 25^oC (Pa)	:	not available
Specific Gravity	:	2.0 approx.
Flashpoint (^oC)	:	not available
Flammability limits (%)	:	UEL – not applicable LEL – not applicable
Solubility in Water	:	Insoluble

OTHER PROPERTIES

pH (1:1 mixture) >11

INGREDIENTS

Chemical Name	CAS Number	Proportion
Cement, Portland	65997-15-1	30-60%
Quartz filler blend	14808-60-7	30-60%
*Non hazardous ingredients		to 100%

* Non hazardous ingredients are exempted according to NOHSC and SUSDP Standards.

HEALTH HAZARD INFORMATION

HEALTH EFFECTS

Acute	Swallowed:	Swallowing can result in irritation and burns to mouth and stomach.
	Eye:	The dust is abrasive and irritating to the eyes and may be capable of causing corneal scarring.
	Skin:	Slight irritant and may cause dermatitis. In the presence of moisture such as perspiration it can dry skin and cause alkali burns.
	Inhaled:	The dust is harmful and irritating to the upper respiratory tract and lungs. The material presents a hazard from repeated exposures over long periods.
	Chronic:	Overexposure to respirable dust may cause coughing, wheezing, difficulty in breathing and impaired pulmonary function. Chronic exposure may cause silicosis, a disabling form of pneumoconiosis, which leads to fibrosis.

FIRST AID

Swallowed:	Do NOT induce vomiting. Wash mouth with water and seek medical attention.
Eye:	While holding eyes open, gently flood with plenty of fresh water for 15 minutes. If irritation persists or recurs seek medical attention. Removal of contact lenses after and eye injury should only be undertaken by skilled personnel.
Skin:	Wash contacted area thoroughly with soap and plenty of water. Seek medical attention in event of irritation.
Inhaled:	Remove to fresh air. Lay patient down and rest.
First Aid Facilities:	Ensure availability of clean water for eye/skin wash.
Advice to Doctor:	Treat symptomatically.

PRECAUTIONS FOR USE

Exposure Standards - TWA : $0.1mg/m^3$
Engineering Controls : Use in well-ventilated area. Avoid generating and inhaling dusts.

PERSONAL PROTECTION
Respirator Type (AS/NZS 1716) : Class P1 or Dust mask
Glove Type : Nitrile rubber or PVC gauntlet
Eye Protection : Chemical worker's goggles
Clothing : Overalls
Other : Use barrier creams to protect skin from contact with the material. Always wash hands before smoking, eating, drinking or using the toilet and after finishing work. Observe the usual precautions when handling chemicals.

FLAMMABILITY
Fire Hazards : None
Sources of Ignition Advice : None

SAFE HANDLING INFORMATION

STORAGE AND TRANSPORT

Location	:	Alterm National Termite Grout
Temperature Conditions	:	Construction Grout DP
Protection from Weather	:	11217
Storage Incompatibilities	:	None Allocated

SPILLS AND DISPOSAL

Clean Up Spills/Leaks	:	Vacuum or sweep up. Avoid generating dust.
Dispose – Secure Landfill	:	Yes
Dispose – High Temp Incinerator	:	No
State/Territory Authority	:	Observe all Federal, State and Local regulations.
Precautions for Clean Up Crew	:	Nitrile rubber gloves and dust mask.

FIRE/EXPLOSION HAZARD

Hazard of Use/Storage	:	Stable under normal storage and application temperature.
List of Dangerous Decomposition Or Combustion Products	:	Fuses on heating.
Types of Extinguisher	:	Foam, CO_2 and Dry Chemical.
Precautions	:	None
Protective Clothing	:	None
Reactivity	:	None
Hazchem Code	:	None Allocated

OTHER INFORMATION

Ecology	:	Do not discharge into sewers unless connected to a waste water treatment plant
R Phrase(s)	:	None allocated
S Phrase(s)	:	None allocated

CONTACT POINT

Title	:	Development Chemist
Telephone Number	:	(02) 4969 8055 Technical Centre 0413 598607 After Hours

POISONS INFORMATION CENTRE

Telephone Number	:	131 126

STATEMENT OF RESPONSIBILITY	The technical information and application advice given in this Alterm National publication is based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's 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.

ALTERM NATIONAL PTY LTD
ABN: 70 111 695 893
75 Lambton Road
Broadmeadow NSW 2292
Phone: (02) 49698055
Fax: (02) 4940 8400

TECHNICAL DATA SHEET

ALTERM NATIONAL TERMITE GROUT CLASS 'A' CONSTRUCTION GROUT

Natural aggregate, general purpose grout

DESCRIPTION:

Alterm National Termite Grout (Part A) is a ready-to-use pumpable, natural aggregate, general purpose grout which undergoes controlled expansion in the plastic state. It is a Class 'A' grout as defined by SAA MP20 – Part 3, 1977.

RECOMMENDED FOR:

All general purpose grouting operations with clearance of 12-15mm or more including:

- Column bases.
- An in-fill grout for cavity block walls.
- In caulking of joints and pipes.
- Between pre-cast panels and other joints where total load-bearing is not required.
- Underpinning where a grout similar in appearance to concrete is required.

FEATURES AND BENEFITS:

- Ready to use, premixed grout requires only the addition of mixing Alterm National liquid on site.
- Low liquid/cement ratio reduces drying shrinkage and increases durability.
- May be damp packed without slumping.
- Complete void filling resulting from controlled fluid-phase expansion.
- Non staining grout, similar in appearance to plain concrete.
- Economical, relatively low in-place cost due to its ease of use and flowable properties.
- No added chlorides.

PERFORMANCE DATA:

The strength of the grout is often the determining factor in deciding when loads can be put on structural members or machinery that have been grouted. The strength of the grout is dependent on the amount of mixing Alterm National liquid, temperature (ambient and grout), curing and age of the hardened grout.
Typical compressive strength of Alterm National Termite Grout in place at 20oC is:

Compressive Strength (MPa):

Age	Consistency		
	Damp Packed	Plastic	Flowable
1 day	30	22	18
3 days	50	39	36
7 days	55	44	41
28 days	66	55	50

(Tested in accordance with AS 2073-Part 10, 1977 using 50mm cubes, moist cured and restrained during setting).

Flexural Strength (MPa):

Age	Consistency		
	Damp Packed	Plastic	Flowable
7 days	10	7-5	7
28 days	11	9.5	9

Tested as 160mm x 40mm x 40mm prisms.

Setting Times and Bleed:

Temp. @ 23°C	Consistency		
	Damp Packed	Plastic	Flowable
Initial Set (hr:min)	3:30	5:15	6:05
Final Set (hr:min)	4:10	6:45	7:45
Bleed (%)	0	0	0.6

NOTE: The data shown is based on controlled laboratory tests. Reasonable variations from the results can be expected in practice.

APPLICATION DIRECTIONS:

Preparation

The foundations should be clean, well roughened and pre-saturated with water. Eliminate external sources of vibration until the grout hardens.

LIQUID (PART B) DEMAND:

Actual amount of liquid will depend on the desired consistency for the job and temperature (both ambient and grout). For any given consistency more liquid will be required at high temperatures and less at low temperatures. As a guide, 20kg of grout mixed at 20°C requires the following amount of liquid to achieve the consistency indicated:

Consistency	Litres per 20kg bag
Damp Packed	2.4
Plastic	3.75
Flowable	5.0

DO NOT USE ALTERM NATIONAL LIQUID IN AN AMOUNT OR AT A TEMPERATURE THAT WILL CAUSE THE MIXED GROUT TO BLEED EXCESSIVELY OR SEPARATE.

Mixing

For large quantities use a paddle type mortar mixer. For smaller quantities, mix in a 20-25 litre pail using a heavy duty electric drill (e.g. Festo) fitted with a helical paddle (Jiffy). When using a mortar mixer, add appropriately 70% of the required mixing liquid before adding any dry grout. Add only as much liquid as necessary to provide required consistency. Too much liquid may adversely affect expansion characteristics and strength development. Mix until grout appears homogeneous - about 2 minutes. When using a helical mixer, add all the required liquid before adding any dry grout. Mix for 1-2 minutes. Do not use grout from damaged bags.

Placing

Place grout within 30 minutes of mixing. Place grout by hand and ram (damp pack) or rod into place (plastic). Alterm National Termite Grout may be placed at a flowable consistency by pouring from one side only into a formed header box. Avoid entrapping air. To facilitate grout movement, gently strap or rod the grout. A minimum thickness of 25mm is recommended.

LIQUID (PART B) DEMAND:

A 20kg bag of Alterm National Cementitious Parge mixed with 5 litres of Alterm National liquid yields 11.0 litres ($0.011m^3$).

PACKAGING:

Alterm National Termite Grout is packaged in 20kg bags.

SHELF LIFE:

Alterm National Termite Grout has a shelf life of approximately 18 months when stored in a cool dry environment. The expiry date is printed on the bag.

PRECAUTIONS:

The cementitious material in Alterm National Termite Grout may cause irritation, avoid contact with eyes and prolonged contact with skin. In case of contact with eyes, immediately flush with water for at least 15 minutes. Call a physician. Wash skin thoroughly after handling product. Keep product out of reach of children.

Alterm National Termite Grout is not recommended for installations:

- Where precision grouts are required.
- Where a grout containing metallic aggregate for additional fatigue restraint is required.
- Where a bleed free fluid grout is essential.

STATEMENT OF RESPONSIBILITY	The technical information and application advice given in this Alterm National publication is based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's 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.

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MATERIAL SAFETY DATA SHEET

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STATEMENT OF HAZARDOURS NATURE

Not classified as hazardous according to Worksafe Australia criteria.

Alterm National Cementitious Liquid
ChemWatch Material Safety Data Sheet (REVIEW)

COMPANY DETAILS

Company	:	ALTERM NATIONAL PTY LTD
Address	:	75 Lambton Rd Broadmeadow NSW 2292 Australia
Telephone	:	(02) 4969 8055
Fax	:	(02) 4940 8400

IDENTIFICATIONS

Product Name	:	Alterm National Cementitious Liquid (Part B)
CAS RN No(s)	:	None
UN Number	:	None
Packing Group	:	None
Dangerous Goods Class	:	None
Subsidiary Risk	:	None
Hazchem Code	:	None
Poisons Schedule Number	:	None

Product Use	:	Additive for sand and cement mixes and cement based adhesives. Used as a ceramic tile adhesive for fixing of ceramic wall and floor tiles.

CHEMWATCH HAZARD RATINGS

Flammability	:	0
Toxicity	:	0
Body Contact	:	1
Reactivity	:	0
Chronic	:	1
Scale	:	Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

PERSONAL PROTECTIVE EQUIPMENT FOR INDUSTRIAL/COMMERCIAL ENVIRONMENTS

Short Gloves
Safety Glasses
Dust Mask

PHYSICAL DESCRIPTION/PROPERTIES

Appearance	:	Milky white liquid with a slight odor; disperses in water.
Boiling Point (deg C)	:	100
Melting Point (deg C)	:	Not available
Vapor Pressure (kappa)	:	2.33 @ 20 deg C
Specific Gravity	:	0.99-1.012
Flash Point (deg C)	:	Not applicable
Lower Explosive Limit (%)	:	Not applicable
Upper Explosive Limit (%)	:	Not applicable
Solubility in water (g/L)	:	Immiscible

INGREDIENTS

Chemical Name	CAS Number	Proportion
Styrene/ Butadiene Copolymer	9003-55-8	10-60
Cellulose Thickener		1-10
Bactericide		0-1
Water	7732-18-5	>60

INGREDIENT DATA

Styrene/ Butadiene Copolymer:

TLV TWA	:	10 mg/m³ (Value for particulate matter containing no asbestos and <1% Crystalline silica, Inhalable fraction) [ACGIH]
TLV TWA	:	3 mg/m³ (Value for particulate matter containing no asbestos and <1% Crystalline silica, Respirable fraction) [ACGIH]

No exposure limits set by NOHSC or ACGIH

Dusts not otherwise classified,
As inspirable dust; ES TWA : 10 mg/m³

Water:
No exposure limits set by NOHSC or ACGIH

HEALTH HAZARD INFORMATION

HEALTH EFFECTS

Acute	Swallowed:	The liquid is discomforting to the gastro-intestinal tract. Ingestion may result in nausea, abdominal irritation, pain and vomiting. Ingestion of large quantities may coagulate and block the gastrointestinal tract [ABA] Considered an unlikely route of entry in comm. /indust. environments.
	Eye:	The liquid may produce eye discomfort causing pain and redness. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
	Skin:	The liquid is discomforting to the skin and is capable of causing skin reactions which may lead to dermatitis
	Inhaled:	The vapour/mist is discomforting to the upper respiratory tract. Inhalation hazard is increased at higher temperatures. Inhalation of uncured styrene/butadiene fume at high concentrations may cause headache, nausea, confusion, unconsciousness and death.
	Chronic:	Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially a higher temperatures. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

FIRST AID

Swallowed	If conscious, give water (or milk) to drink. INDUCE vomiting with IPECAC SYRUP, or fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. NOTE: Wear a protective glove when inducing vomiting by mechanical means. REFER FOR MEDICAL ATTENTION WITHOUT DELAY. In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist. If medical attention is not available on the worksite or surroundings, send the patient to a hospital together with a copy of the MSDS.
Eye	If this product comes in contact with the eyes: 1: Immediately hold the eyes open and wash with fresh running water. 2: Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. 3: If pain persists or recurs seek medical attention. 4: Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin	If product comes in contact with the skin, immediately remove all contaminated clothing, including footwear. Wash affected areas thoroughly with water (and soap if available). Seek medical attention in event of irritation.
Inhaled	If fumes or combustion products are inhaled, remove to fresh air. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed where possible, prior to initiating first aid procedures. If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor.
First Aid Facilities:	Ensure availability of clean water for eye/skin wash.
Advice to Doctor	All treatments should be based on observed signs and symptoms of distress of the patient. Treat symptomatically. No specific antidote available. Consult Poisons Information Centre.

PRECAUTIONS FOR USE

Exposure Limits : None assigned for mixture or identified for ingredient(s).

EXPOSURE STANDARDS FOR MIXTURE
"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:
Composite Exposure Standard for Mixture (TWA) (mg/m³): mg/m³.
Operations which produce a spray/ mist or fume/ dust, introduce particulates to the breathing zone.
If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be over overexposed.
Breathing Zone Mixture

Component	ppm	mg/m³	Conc: (%)
Styrene/ butadiene copolymer		10.0000	60.0

Engineering Controls : General exhaust is adequate under normal operating conditions. If inhalation risk of overexposure exists, wear SAA approved Organic-vapour respirator.

Personal Protection
Eye Protection : Safety glasses with side shields; or as required, chemical goggles. Contact Lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.
Glove Type : Wear chemical protective gloves, e.g. PVC.
Footwear : Wear safety footwear.
Clothing : Overalls.

Respirator	:	Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important. Breathing Zone Maximum Half-face Full-Face

Level ppm (volume) Protection Factor Respirator

1000 10 -AUS P -
1000 50 - -AUS P
5000 50 Airline * -
5000 100 - -2 P
10000 100 - -3 P
100+ - Airline **
* - Continuous Flow ** - Continuous-flow or positive pressure demand. The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

SAFE HANDLING INFORMATION

STORAGE AND TRANSPORT

Suitable Container	:	Polyethylene or polypropylene container. Check all containers are clearly labeled and free from leaks. DO NOT use aluminium or galvanised containers
Storage Incompatibility	:	Avoid storage with oxidisers
Storage Requirements	:	Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storing and handling recommendations.
Transportation	:	No restrictions.

SPILLS AND DISPOSAL

Minor Spills	:	Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable labeled container for waste disposal.
Major Spills	:	Minor hazard. Clear area of personnel. Alert Fire Brigade and advise location and nature of hazard. Control personal contact by using protective equipment as required. Prevent spillage from entering drains or water ways. Contain spill with sand, earth or vermiculite. Collect recoverable product into labeled containers for recycling. Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal. Wash area and prevent runoff into drains or waterways. If contamination of drains or waterways occurs, advise emergency services.
Disposal	:	Consult manufacturer for recycling options and recycle where possible. Consult State Land Waste Management Authority for disposal. Incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorised landfill.

FIRE/EXPLOSION HAZARD
The material is not readily combustible under normal conditions. However, it will breakdown under fire conditions and the organic component may burn. Not considered to be a significant fire risk. Heat may cause expansion or decomposition with violent rupture of containers. Decomposes on heating and may produce toxic fumes of carbon monoxide (CO). May emit acrid smoke.

CONTACT POINT

Company Contact : (02) 9851 9100

POISONS INFORMATION CENTRE
Telephone Number : 131 126
Police/Fire/Ambulance : 000

STATEMENT OF RESPONSIBILITY	The technical information and application advice given in this Alterm National publication is based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's 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.

ALTERM NATIONAL PTY LTD
ABN: 70 111 695 893
75 Lambton Road
Broadmeadow NSW 2292
Phone: (02) 49698055
Fax: (02) 4940 8400

Product Information

Alterm National Pty Ltd
ABN 70 111 695 893
NO MORE SOLDER
TERMITE PROOF SILICONE
TECHNICAL DATA SHEET

FEATURES

- Contains fungicide
- Neutral cure system
- 100% silicone rubber
- Room temperature cure
- Excellent resistance to termites, weathering, ultra violet radiation, vibration, moisture, ozone, temperature extremes, airborne pollutants, many cleaning detergents, and many solvents.
- Long useable life: 18 months from date of production
- Non-slumping
- Colour: Grey

BENEFITS

- Resists the growth of mould and mildew
- Ease of use, no mixing required
- Superior adhesion to a wide range of building materials including concrete and brickwork
- Long life reliability and low maintenance at temperatures from -50^{0}C (-58^{0}F) to +150^{0}C (+302^{0}F)
- Can be packed and applied in any season
- Flexibility with storage time and stock usage
- Can be applied in vertical and overhead joints

The basic composition of this product is 100% oxime silicone sealant, silica filler system and contains fungicide

APPLICATIONS

NO MORE SOLDER Termite Proof Silicone is a high performance neutral cure silicone sealant and adhesive specifically formulated for indoor/outdoor or confined space applications. Designed for sealing applications on Zincalume, galvanized iron, anodized aluminium, coated steel products, concrete, brick veneer, aerated concrete (AAC) & rigid PVC.
Suitable for sanitary type of applications due to presence of mould inhibitor.

TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact Alterm National office prior to writing specifications on this product.

Parameter	Unit	Value
As supplied - tested at 25^{0}C (77^{0}F), 50% relative humidity		
Flow, sag or slump	mm	Nil
Working time	minutes	10
Surface cure time	minutes	25
Specific	g/ml	1.03
As cured - tested at 25^{0}C (77^{0}F), 50% relative humidity		
Hardness, shore A	Points	20
Ultimate tensile strength	MPA	>1.1
Ultimate elongation	%	>300
Modulus at 100%	MPA	0.5
Movement capability	%	)25

HOW TO USE

Repackaging
Repackaging equipment is required. Please contact the equipment manufacturer for detailed operating and product handling instructions.

Application

1. Correct joint design reduces stress on the sealant, enables optimum movement capability, assists sealant application, and reduces the potential for sealant splitting and voiding.

Guidelines are: Minimum joint width of 6mm. Minimum joint depth of 6mm. For larger joints, the width of the joint should be greater than the sealant depth. Avoid 3-sided adhesion; Apply backer rod or bond breaker tape in the base of the joint to ensure the sealant is only bonded to the sides of the joint.

2. Clean all joint surfaces. Surfaces must be clean, dry, and sound. Remove loose debris and/or old sealant.

General Recommendations are:

a) For non-porous surfaces: Solvent wipe the joint surfaces using a non-oily solvent such as methyl ethyl ketone, white spirits or mineral turpentine on a clean white lint-free cloth to remove any oils and contaminants. Immediately wipe with a second dry cloth to remove any traces of solvent and contamination.

b) For porous surfaces: Wire brush or abrade the surfaces to remove loose debris, old paint and other contaminants. Remove dust with an oil-free compressed air blast and/or high-pressure water blast. Allow to dry before sealing. If necessary solvent wash and allow to dry.

c) Priming: A primer may be needed for optimum adhesion to some substrates based on testing conducted by the end user.

3. Install backing material. Backer rod (e.g. closed cell polyethylene type or open cell polyurethane foam) or similar material (e.g. Low tack polyethylene tape for shallow joints) can be used in the base of the joint to control sealant depth and avoid 3-sided adhesion by preventing adhesion to the base of the joint.

4. Mask adjacent surface with masking tape. This will ensure a clean, neat appearance and reduce clean up by protecting surrounding areas from excess sealant.

5. Apply sealant. Dispensing equipment is required. Please contact the equipment manufacturer for detailed operating and product handling instructions. Apply sealant into the base of the joint so that it completely fills the joint, wetting both sides.

6. Tool joint/remove masking tape. Tool the surface of the joint before the sealant forms a skin to provide a smooth even finish and to ensure the sealant adheres to the sides of the joint. Do not use soap or water as tooling aids. Remove masking tape immediately after tooling and before the sealant skins. After a skin has formed, do not disturb the joint for 24 hours. Avoid contact with cleaning agents and solvents (e.g. bleach) whilst sealant is curing. Uncured sealant can best be cleaned from tools using commercial solvents such as xylene, toluene, methyl ethyl ketone, or mineral turpentine.

Observe proper precautions when using flammable solvents. On porous surfaces, allow sealant to cure before removing by abrasion. Cured sealant is not soluble and must be trimmed with a blade. Avoid undercutting the seal.

HANDLING PRECAUTIONS

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The Material Safety Data Sheet is available on the ALTERM website at www.alterm.com.au. You can also obtain a copy from your state Alterm National sales representative or Distributor.

USEABLE LIFE AND STORAGE

When stored at or below 30^0C (86^0F) in the original unopened containers, this product has a useable life of 18 months from the date of production.

PACKAGING INFORMATION

NO MORE SOLDER is supplied in a 300-gram cartridge tube and 500-gram sausage (foil).

LIMITATIONS

- Do not use for structural glazing
- Not recommended for continuous water immersion applications
- Not recommended for use on polycarbonate plastic sheeting
- Do not use in the sealing or construction or aquariums
- Paint will not adhere well to the sealant. Paint before applying sealant and ensure paint is thoroughly dry (particularly enamel or solvent based paints)
- Do not apply in contact with materials that bleed plasticisers, solvents or release by-products that may inhibit cure, affect adhesion or discolour the sealant(e.g. bituminous adhesives and coatings)
- Do not clean or treat the sealant with materials, solvents, or cleaning agents that may affect or discolour the sealant, particularly during sealant cure.
- Do not use when substrate surface temperature exceeds 50^0C (122^0F)
- Do not use as a penetration fire stop sealing system
- Do not apply to surfaces in direct contact with food or drinking water. This sealant has not been tested to determine status under U.S. food and drug administration regulations
- Do not use in direct contact on the reflective coatings on mirrors
- Not for medical or pharmaceutical use
- When used for repackaging, care should be taken to avoid contamination on the repackaging equipment from sealants of different colour and different cure chemistry. Contamination between different cure systems may affect the sealant cure and physical properties.
- Sealant cures by contact with moisture vapour in the air. Not recommended for use in closed confined areas where sealant cure may be inhibited by lack of air

LIMITED WARRANTY INFORMATION - PLEASE READ CAREFULLY
The information contained herein is offered in good faith and is believed to be accurate. However, because condition and methods of use of our products are beyond our control, this information should not be used in substitution for customer's test to ensure that the product is safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

NO MORE SOLDER'S sole warranty is that the product will meet the NO MORE SOLDER'S sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

ALTERM NATIONAL SPECIFICALLY DISCLAIMES ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILTY.

ALTERM NATIONAL DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES

CONTACT
Alterm National Pty Ltd
ABN 70 111 695 893
75 Lambton Road
Broadmeadow NSW 2292
Phone 02 49698055
Fax 02 49408400

NO MORE SOLDER TERMITE PROOF SILICONE

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Details

Product Name:	NO MORE SOLDER TERMITE PROOF SILICONE
Other Product:	Silicone Sealant (Termite Proof)
Company Product Name:	03306283
Proper Shipping Name:	Not applicable
Recommended Use:	Sealant and adhesive
	Building materials, indoor/outdoor or confined space applications.
	A one-part silicone sealant designed for sealing applications on Zincalume, galvanised iron, anodised aluminium, coated steel products, concrete, brick veneer, aerated concrete(AAC) & rigid PVC. Suitable for sanitary type of applications due to presence of mould inhibitor.

1.2 Company Details

Manufacturer/Supplier:	Dow Corning Australia Pty Ltd/Alterm National Pty Ltd
Address:	3 Innovation Rd North Ryde NSW 2113 Australia
Telephone Number:	1300 360 732
Emergency Telephone Number:	1300 360 732

2. HAZARD IDENTIFICATION

2.1	Hazard Classification:	Hazardous Substance. Non-Dangerous Goods.
2.2	Risk Phrase(s)	May cause sensitisation by skin contact.
2.3	Safety Phrase(s)	Avoid contact with eyes. Wear suitable protective clothing and gloves. Use only in well-ventilated areas.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Proportion %
Hydro treated middle petroleum distillates	64742-46-7	<10
Methyl tri(ethylmethylketoxime) silane	22984-54-9	<10
Methylethylketoxime	96-29-7	<10
Di(ethylmethylketoxime) methoxymethyl silane	83817-72-5	<10
Ingredients determined not to be hazardous to 100%		

4. FIRST AID MEASURES

4.1 First Aid Measures:

Ingestion:	Get medical attention.
Eye:	Immediately flush with water for 15 minutes.
Skin:	Remove from skin and immediately flush with water for 15 minutes. Get medical attention if irritation or ill effects develop or persist.
Inhalation:	Remove to fresh air. Get medical attention if ill effects persist.

NO MORE SOLDER TERMITE PROOF SILICONE

4. FIRST AID MEASURES - cont'd

4.2	Medical Attention and Special Treatment Needed:	
	First Aid Facilities:	None should be required.
	Comments:	Treat according to person's condition and specifics of exposure.
	Note to Physicians:	Treat symptomatically. For further information, the medical practitioner should contact Dow Corning Australia Pty Ltd.

5. FIRE FIGHTING MEASURES

5.1	Suitable Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO^2), dry chemical or water spray. Water can be used to cool fire-exposed containers.
5.2	Hazards From Combustion Products:	Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Nitrogen oxides. Formaldehyde. Metal oxides.
5.3	Precautions For Fire Fighters and Special Protective Equipment:	Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool. Self contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals.
5.4	Hazchem Code:	Not applicable.

6. ACCIDENTAL RELEASE MEASURES

6.1	Emergency Procedures:	Not applicable
6.2	Methods and Materials for Containment and Clean Up Procedures:	Observe all personal protective equipment recommendations described in this MSDS. If liked, material can be pumped, store recovered material in appropriate container. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents, or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. Laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the clean up of releases. You will need to determine which laws and regulations are applicable.

7. HANDLING AND STORAGE

7.1	Precautions for Safe Handling:	Use with adequate ventilation. Product evolves methyl ethyl ketoxime (MEKO) when exposed to water or humid air. Provide ventilation during use to control MEKO within exposure guidelines or use respiratory protection. Product evolves flammable methyl alcohol when exposed to water or humid air. Provide ventilation during use to control methyl alcohol exposures within exposure guidelines or use air supplied or self-contained breathing apparatus. Avoid skin and eye contact. Avoid breathing vapour. Keep container closed. Do not take internally. Remove contaminated clothing immediately. Exercise good industrial hygiene practice. Wash after handling, especially before eating drinking or smoking.
7.2	Conditions for Safe Storage:	Use reasonable care and store away from oxidising materials. Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Standards:

Ingredients	Exposure Limits
Hydro treated middle petroleum distillates	Observe oil mist limits. OSHA PEL (final rule) and ACGIH TLV: TWA 5mg/m^3; ACGIH STEL 10mg/m^3 No biological limit allocated.
Methyl tri(ethylmethylketoxime) silane	See ethyl methyl ketoxime comments. No biological limit allocated.
Methylethylketoxime	Vendor Guide: TWA 3 ppm, STEL 10 ppm. AIHA WEEL: TWA 10 ppm. No biological limit allocated
Di(ethylmethylketoxime) methoxymethyl silane	See methyl alcohol and ethyl methyl ketoxime comments. No biological limit allocated

Ethyl methyl ketoxime is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within the following exposure guidelines: Vendor Guide: TWA 3 ppm, STEL 10 ppm. AIHA WEEL: TWA 10 ppm. Methyl alcohol forms on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of Work safe Australia: TWA 200 ppm, STEL, 250 ppm, skin absorption; OSHA PEL: TWA 200 ppm and ACGIH TLV-skin: TWA 200 ppm, STEL 250 ppm.

8.2 Engineering Controls:

Local Ventilation:	Recommended.
General Ventilation:	Recommended.

8.3 Personal Protective Equipment:

Respiratory:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Organic Vapour Type.
Hand:	Butyl Rubber. Natural Rubber. Neoprene Rubber (R). Nitrile Rubber.
Eye:	Use proper protection - safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1	Physical Form:	Paste
9.2	Colour:	Grey
9.3	Odor:	Some odor
9.4	pH:	Not determined
9.5	Vapour Pressure @ 25^0C:	Not determined
9.6	Vapour Density (air=1):	Not determined
9.7	Boiling Point:	Not determined
9.8	Melting Point:	Not determined
9.9	Solubility in Water:	Not determined
9.10	Specific Gravity @ 25^0C:	0.985

NO MORE SOLDER TERMITE PROOF SILICONE

9. PHYSICAL AND CHEMICAL PROPERTIES - cont'd

9.11	Flash Point	Not applicable
9.12	Upper Flammability Limit:	Not determined
9.13	Lower Flammability Limit:	Not determined
9.14	Auto ignition Temperature:	Not determined
9.15	Viscosity:	Not determined

The above information is not intended for use in preparing product specifications. Contact Alterm National before writing

10. STABILITY AND REACTIVITY

10.1	Chemical Stability:	Stable.
10.2	Conditions to avoid:	None.
10.3	Incompatible Materials:	Can react with strong oxidising agents. Water, moisture, or humid air can cause hazardous vapours to form.
10.4	Hazardous Decomposition Products:	Carbon dioxides and traces of incompletely burned carbon compounds. Silicon dioxide. Nitrogen oxides. Formaldehyde. Metal oxides.
10.5	Hazardous Reactions:	Hazardous polymerization will not occur

11. TOXICOLOGICAL INFORMATION

11.1	Possible Routes of Exposure	Inhalation	[X] Skin Contact	[X] Skin Contact

11.2 Possible Health Effects:

Acute

Ingestions	Low ingestion hazard in normal use.
Eye:	Direct contact may cause mild irritation.
Skin:	May cause moderate irritation.
Inhalation:	Irritates respiratory passages very slightly. Vapour overexposure may cause drowsiness.

Chronic

Ingestion:	Repeated ingestion or swallowing large amounts may injure internally.
Skin:	Repeated skin contact may cause allergic skin reaction. Repeated or prolonged contact may cause de-fatting and drying of skin, which may result in skin irritation and dermatitis.
Inhalation:	Overexposure by inhalation may injure the following organs(s): Blood. Liver.
Other Health Hazard Information:	Contains Methyl Ethyl Ketoxime (MEKO). Male rodents exposed to MEKO vapour throughout their lifetime developed liver cancer. Additional testing is planned by the MEKO supplier to determine any relevance to humans. Until more data is known, exposure levels should be maintained as low as achievable.

The above listed potential effects of overexposure are based on actual data, the results of studies performed upon similar compositions, component data, and/or export review of the products.

NO MORE SOLDER TERMITE PROOF SILICONE

12. ECOLOGICAL INFORMATION

12.1	Environmental Fate and Distribution:	Solid material, insoluble in water. No adverse effects are predicted.
12.2	Ecotoxicity:	No adverse effects on aquatic organisms are predicted.
	Bioaccumulation:	No bioaccumulation potential.
12.3	Fate and Effects in Waste Water Treatment Plants:	No adverse effects on bacteria are predicted.

13. DISPOSAL CONSIDERATIONS

13.1	Disposal Method:	Disposal of in accordance with local regulations.
13.2	Special Precautions for Landfill or Incineration:	None known.

14. TRANSPORT INFORMATION

14.1	UN No.	Not applicable
14.2	Proper Shipping Name:	Not applicable
14.3	Class:	Not applicable
14.4	Packing Group:	Not applicable
14.5	Hazchem Code:	Not applicable
14.6	Sea Transport (IMDG)	Not subject to IMDG code
14.7	Air Transport (IATA-DGR)	Not subject to IATA regulations

15. REGULATORY INFORMATION

15.1	SUSDP Poisons Schedule Number:	None allocated.
15.2	Prohibition/Licensing Requirements:	There are no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation.
15.3	Industrial Chemicals (Notification and Assessment) Act 1989:	All ingredients listed or exempt.
15.4	Chemical Inventories	
	IECSC:	All ingredients listed or exempt.
	KECL:	All ingredients listed, exempt, or notified.
	PICCS:	All ingredients listed or exempt.
	EINECS:	Not determined
	TSCA:	Not determined
	MITI:	Not determined
	DSL:	Not determined

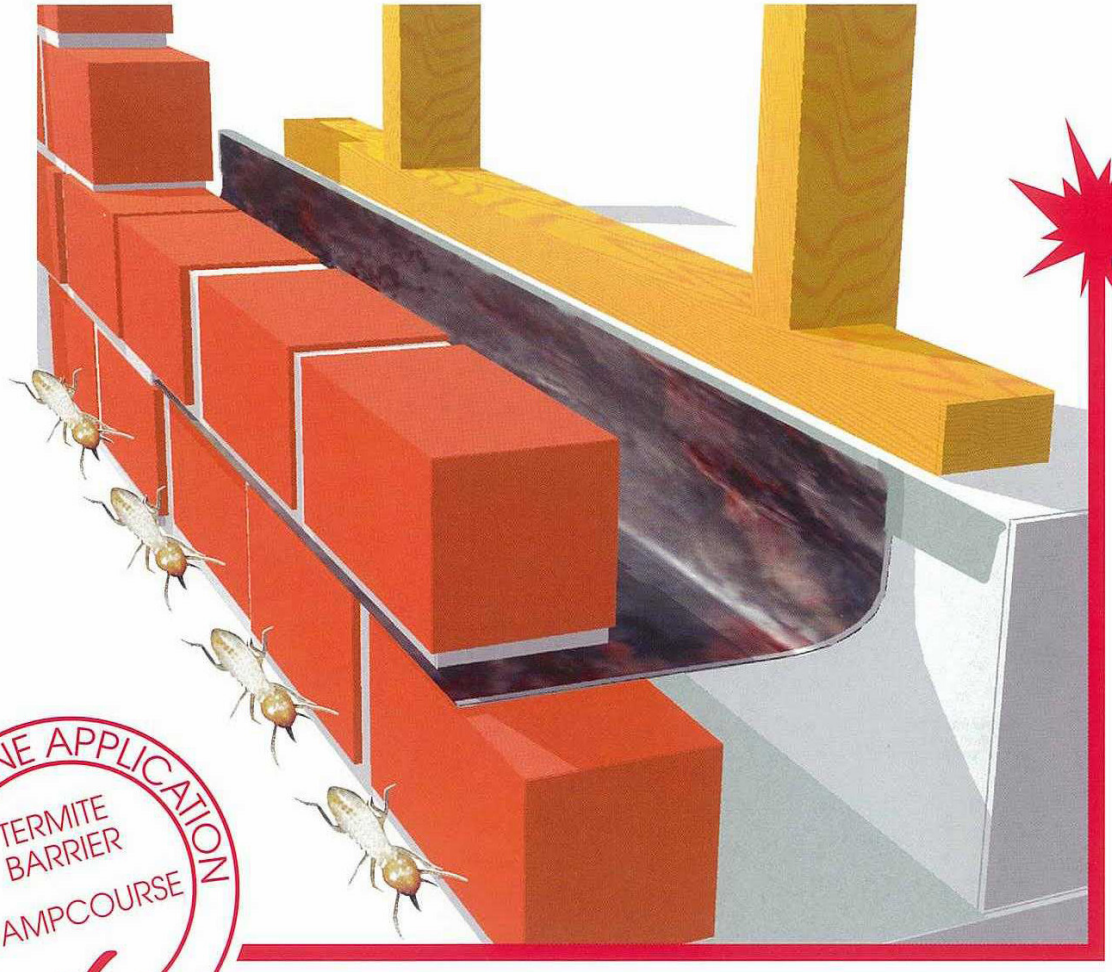
16. OTHER INFORMATION

Contact Point:	Product Safety Manager 1300 360 732
Prepared by:	Dow Corning Australia Pty Ltd

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this Company. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.

ALTERM
NATIONAL PTY LTD

Chemical-Free Termite Barrier



TWO IN ONE APPLICATION
*TERMITE BARRIER
DAMPCOURSE
2 IN 1

" The Proven Barrier on the block "

Attention all Architects, Builders and Owner Builders!
The Alterm system is both multi purpose and cost effective.

What is Alterm?
Alterm is a 0.5mm marine grade Aluminium product which has two approved applications, to Australian standards making it both multi-purpose and very cost effective.

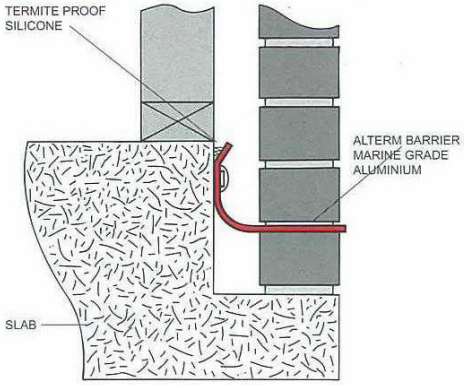
The Alterm Advantage
It can accommodate the creative designs of architects without compromising effectiveness. Alterm system is readily visible for inspection during the building construction.

The Builder
Offers 2 in 1 application: Termite barrier, Damp proof course. Approval Ant shield in AS 3660.1.2000 for bearers & joist application. Minimal distribution during the building program.

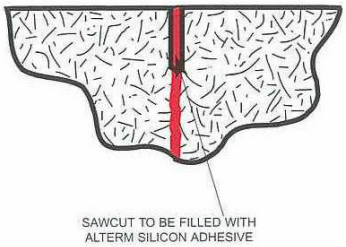
The Home Owner
- Alterm is chemical free.
- Consumer warranty is provided.
- Independently tested and proven effectiveness.
- Peace of mind against Termite attack

ALTERM
PRE-CONSTRUCTION TERMITE BARRIER

PERIMETER INSTALLATION



SAW CUT IN CONCRETE



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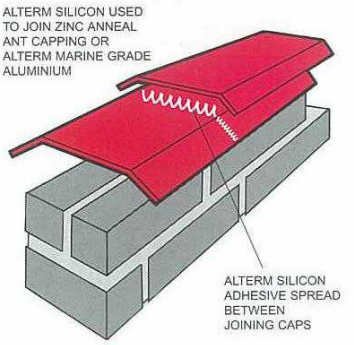
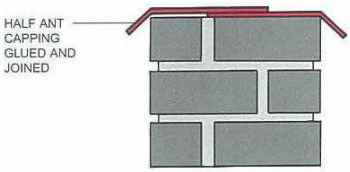


ALTERM PARGING ADHESIVE is CSIRO TESTED AND CERTIFIED BY ABSAC OPINION 239



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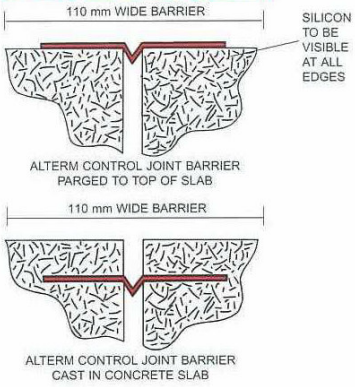
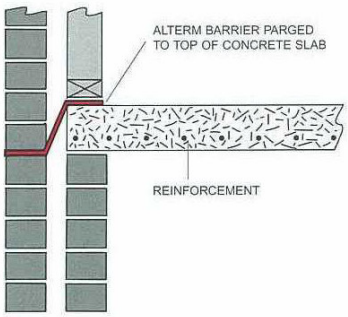
CONTROL JOINT

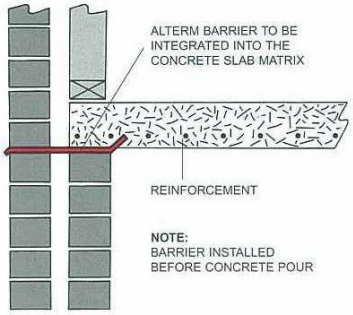


INFILL SLAB FIXING

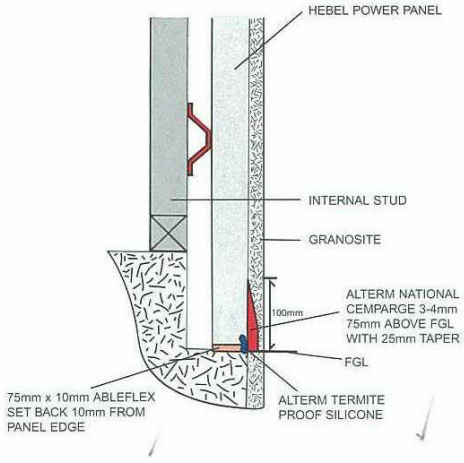
ON SLAB METHOD 1.



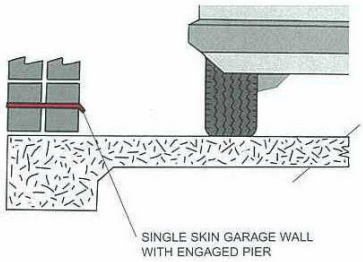
CAST-IN METHOD 1.

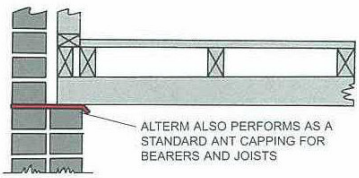


CSR HEBEL Power Panel & Block



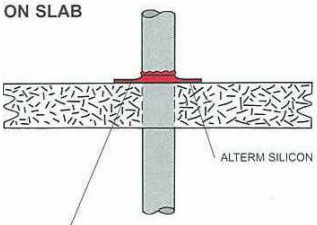
VARIOUS ALTERM FIXING DETAILS





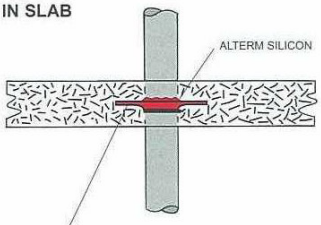
PENETRATION COLLARS

ON SLAB



PARGE PENETRATION BARRIER TO TOP OF CONCRETE SLAB.

IN SLAB



PARGE PENETRATION COLLAR TO PIPE AND FIX IN POSITION WITH PLASTIC CABLE TIE.

ALTERM NATIONAL PTY LTD
PATENT No. 709314 ABN 70 111 695 893

75 Lambton Road,
Boadmeadow, NSW 2292

Phone: (02) 4969 8055 Fax: (02) 4940 8400
QLD: 0403 199 989 WA: (08) 9256 1177
VIC: (03) 9555 5922

sales@alterm.com.au
www.alterm.com.au

Alterm National Pty Ltd

"No More Solder" Termite Proof Silicone

Termite Proofing Construction Joints

Introduction

The successful performance of a building exterior is frequently defined by its ability to keep termites and the elements outside, away from the building's occupants. One of the critical links to ensuring a termite proof building is the joint sealant. Building joints can be sealed effectively by following a few simple guidelines for design in workable joints, selecting the correct termite proof sealant, performing appropriate surface preparation, and performing quality checks to ensure proper performance. This section of the guide addresses design, sealant selection, surface preparation.

Joint Movement

Regardless of the size and height of structures, joint movement inevitably occurs by various factors such as changes in temperature, seismic movement, elastic frame shortening, creep, live loads, concrete shrinkage, moisture induced movements and design errors. Therefore, each joint should be designed to absorb these movements, using the correct sealant.
When movement is caused by temperature change, the degree of joint movement for each material should be considered since all materials have their own coefficient of linear thermal expansion (CTE). Joint movement caused by thermal expansion can be calculated by the following equation:

Movement (Mt) = CTE x Temp. Change x Length of Material

Examples are below

Max Temp (Deg F)	Min Temp (Deg F)	Material Length (inch)	Material	Thermal Coefficient In/in/F	Movement (inch)
160	-20	96	Glass	0.0000051	0.088
100	50	180	Aluminium	0.0000132	0.119

Max Temp (Deg C)	Min Temp (Deg C)	Material Length (mm)	Material	Thermal Coefficient Mm/mm/C	Movement (mm)
60	-20	4000	Glass	0.0000090	2.880
70	-20	3500	Aluminium	0.0000238	7.497

Average Coefficients of Linear Thermal Expansion for Building Materials - Reference ASTM C-1193

Material	mm/mm/°C x 10-6	in/in/°F x 10-6
Glass	9.0	5.0
Aluminum	23.2-23.8	12.9-13.2
Granite	5.0-11.0	2.8-6.1
Marble	6.7-22.1	3.7-12.3
Concrete	9.0-12.6	5.0-6.0
Stainless Steel	10.4-17.3	5.8-9.6
Acrylic	74.0	41.0
Polycarbonate	68.4	38.0

Note: The coefficient of expansion for natural materials (brick, stone, wood, etc.) or fabrications of natural materials can be highly variable. If a specific material is contemplated then the coefficient for that material should be established and used rather than an average value. Moisture induced movement of brick masonry will cause the brick to swell and reduce joint sizes over the life of the project.

Joint Types

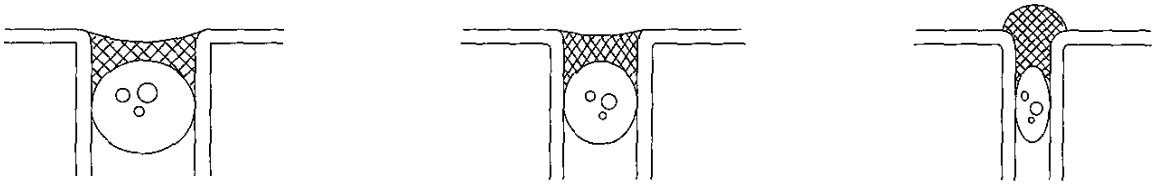
From a functional point of view, joints for construction can be put into two classes depending on the degree of movement.

Working Joint

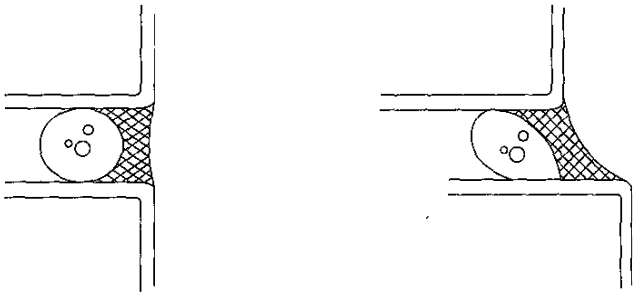
Working joint are joints in which the shape and size of the sealant joint changes dramatically when movement occurs. Usually, a working joint occurs on the building envelope when different materials abut each other or joints are designed to allow thermal expansion of materials. Typical examples or working joints include:

* Control Joint
* Expansion Joint
* Lap Joint
* Butt Joint
* Stack Joint

WORKING JOINT



EXTENSION ORIGINAL COMPRESSIO N



ORIGINAL SHEAR

Fixed Joint

Joints which are mechanically fixed to prohibit movement. Movements are generally less than 10% of joint width. These joints are typically designed as air and/or water seals in curtain walls.

Joint Design

Alterm National (No More Solder) Termite Proof Silicone has been designed to perform when installed in compliance with accepted termite sealing procedures. Some good examples are included in the reference section of this document.
Alterm National has found that a few underlying principles are critical to consider in virtually all joint designs using termite proof silicone sealants. This section is intended as a review of these underlying design principles. When considering the design of termite-proof joints, the following basic points must be addressed:

* In all cases, a minimum depth of 6mm (1/4") sealant/ substrate bond is necessary to ensure adequate adhesion.

* In most cases, a minimum width of 6mm (1/4") opening is necessary to ensure that sealant applied from a caulking gun will flow into the sealant joints. Note: In some cases where the sealant is used simply as a non-moving bedding compound and is applied to one substrate before both substrates are pressed together, thinner joint dimensions are acceptable.
* One-part silicone sealants require atmospheric moisture to fully cure. Therefore, the sealant joint must be designed to ensure that the sealant is not isolated from air.

Moving Joint Considerations.

When designing moving joints, the following points also need consideration:

* A minimum 6 mm (1/4") joint width is recommended. Wider joints accommodate more movement than narrow joints.
* Three-sided adhesion limits the amount of movement that a joint can accept without inducing a tear. Three-sided adhesion can be eliminated by the addition of a bond breaker tape or backer rod. With three-sided adhesion, no more than +/-15 percent movement can be accommodated.
* A thin sealant joint (6 mm +/- 3 mm) will accommodate more movement than a thick joint. Alterm National Sealants are designed to deliver optimum performance when the joints are shaped like an hourglass.
* As a practical matter, as the sealant joint width becomes larger than 25 mm (1"), the depth should be held at approximately 9 to 12 mm (3/8 to ½"). There is no need for greater sealant depth with a silicone sealant.

Minimum Joint Width = 100/X (Mt+Ml)+T

X = Sealant Movement Capacity (%)
Mt = Movement due to thermal expansion
M1 = Movement due to Live loading
T = Construction Tolerance

For example:
A horizontal joint between an aluminum curtain wall and a concrete panel with a thermal movement of 8 mm (5/16"), a live load movement of 6 mm (1/4"), a construction tolerance of 6 mm (1/4") and 25 % movement capacity sealant would be

Width = 100/25*(8+6)+6
Width = 62mm

Width = 100/25*(5/16 + ¼) + ¼
Width = 2.5inches

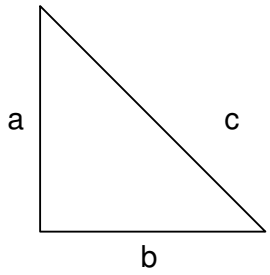
Joint movement in Shear

When joints move in shear, greater joint movement can be accommodated since actual movement on the sealant is less. The joint width required (a) for joint movement (b), as calculated below, or the allowable movement (b) for a particular joint width dimension (a), can be calculated using Pythagoras' Theorem. The new joint width after movement (c) is limited by the movement capability of the sealant in shear in a termite proof joint configuration. The calculation is as follows:

$a^2 + b^2 = c^2$ where a = original joint width

b = joint movement

c = new joint width after joint movement



Original Joint Width (inch)	Sealant Movement Capability Expansion	Max. Shear Joint Movement (inch)
0.25	50	.280

Original Joint Width (mm)	Sealant Movement Capability Expansion	Max. Shear Joint Movement (mm)
10	50	11.18

Movement During Cure

Dow Coming's one-part sealants cure by reacting with atmospheric moisture. Joint movement during cure can cause unsightly aesthetics due to joint deformation e.g. wrinkling. Premature adhesion loss can also occur because the adhesive characteristics of the sealant are obtained after the sealant has cured. Adhesion loss due to movement during cure can be minimized by the use of a primer. Primers can decrease the adhesion cure time lag. Wrinkling can be minimized following these suggestions:

* Use open cell polyurethane backer rod
* Seal when the joint surface is cool and will experience minimum temperature changes, typically in the late afternoon or early evening.
* Place no more than 6 mm (1/4") of sealant over the backer rod at the center.

These suggestions should help minimize wrinkling, but may not eliminate it, as all sealants are prone to this aesthetic issue.

Backer Materials

A backer rod is the typical backer material for most termite proof joints. The role of a backer rod is to allow a sealant to be installed and tooled to a proper joint profile. Once the sealant cures, the backer material must not restrict the movement of the sealant or cause “3-sided adhesion.” To provide sufficient backpressure during sealant installation, the backer rod should be sized -25 % larger than the joint opening. Sizing differs among backer rod types; refer to manufacturer’s recommendations. Generally, three common backer rod types can be used with Alterm National (No More Solder) Sealants:

* Open cell polyurethane
* Closed cell polyethylene
* Non-gassing polyolefin

Each backer rod type has demonstrated successful performance with Alterm National® Sealants. When selecting a backer rod, consider the following:

* Open cell polyurethane backer rod allows the sealant to cure through the backer rod, which is beneficial when fast sealant cure is desired. Open cell polyurethane backer rod can absorb water, which may have a detrimental effect in certain joint types.
* Closed cell polyethylene backer rod may outgas if punctured during installation, requiring it to be left for 20 minutes before application of the sealant.
* Other back-up materials such as expanding foam tapes or glazing gaskets should be reviewed or tested for compatibility prior to use.
* When a backer rod cannot be positioned in a joint opening, Teflon or polyethylene tape should be -used to prevent 3-sided adhesion.

Alterm National makes the following exceptions when selecting backer rod types:

* For double termite proof joints, open-cell polyurethane backer rod must be used unless the interior seal is allowed 7 days cure before installing the exterior seal.
* Open cell polyurethane backer rod is recommended for use with Alterm National (No More Solder) Termite Proof Silicone Building Sealant against painted or metal surfaces to promote cure from both sides of the joint.
* Because EIFS manufacturers do not permit the use of open-cell polyurethane backer rod with their systems, use either Alterm National (No More Solder) Silicone Sealant or Alterm National (No More Solder) Silicone Sealant when EIFS is adjacent to non-porous or metal surfaces. Open cell polyurethane backer rod should not be used adjacent to EIFS.
* In some horizontal joints where water can collect, open cell polyurethane backer rod should not be used.

EIFS Consideration

Exterior Insulation and Finish Systems (EIFS) is a new and growing segment of the exterior cladding market. EIFS offers unique challenges due to its composition. Alterm National (No More Solder) silicone sealants have a demonstrated history of success when used with Exterior Insulation and Finish Systems. Silicone sealants offer unique benefits over organic sealants when used with EIFS.
Consider the following benefits offered by Alterm National (No more Solder) Sealants:

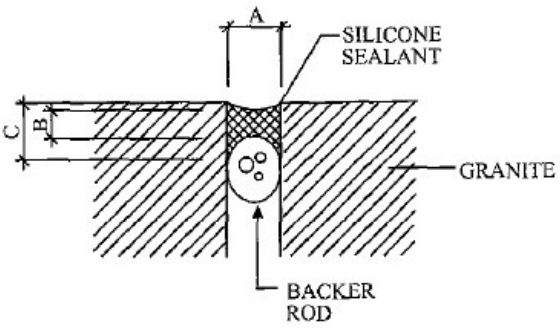
- Alterm National (No More Solder) One-component silicone sealants do not require special mixing.
- Alterm National (No More Solder) silicone sealants are UV stable and are virtually unaffected by outdoor weathering. Silicone sealants have a life expectancy of greater than 50 years.
- Alterm National (No More Solder) Sealant, the preferred sealant for EIFS expansion joints, has unparalleled ultra-low modulus properties, movement capability of+100/-50% and a proven 50+ year performance on buildings.
- An inorganic silicone sealant maintains its low modulus when cold whereas an organic polyurethane sealant can get 2 to 3 times stiffer in cold temperatures. Low modulus silicone sealants put less stress on softer EIFS coatings when a joint opens up during cold temperatures. Alterm National sealants are tested and approved for use by the major EIFS manufacturers. Refer to the Building Sealant Recommendation and Surface Preparation Guide for current recommendations.

Termite proof Design Examples

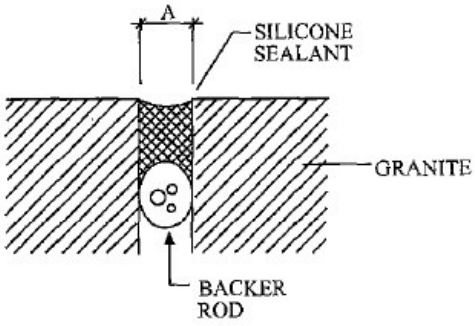
Examples of a variety of termite proof joints follow with a review of joint type for key points and concerns.

Conventional Moving Termite Seal

GOOD JOINT DESIGN



POOR JOINT DESIGN



Good Joint Design

Key Points:

1. Dimension A must be at least 6 mm (1/4”)
2. Dimension B must be at least 3 mm (1/8”)
3. Dimension C must be at least 6 mm (1/4”)
4. Ratio of A:B should be 2:1 minimum.
5. Joint surface tooled
6. Dimension B suggested Maximum = 12 mm (1/2”)
7. Dimension A Maximum = 100 mm (4”). Joints wider than 50 mm (1/2”) may slump slightly; therefore double application techniques of the sealant may be required.

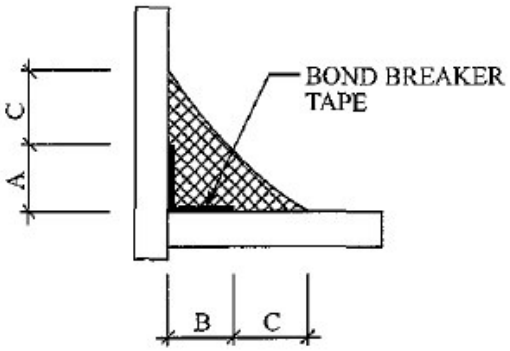
Poor Joint Design

Concerns:

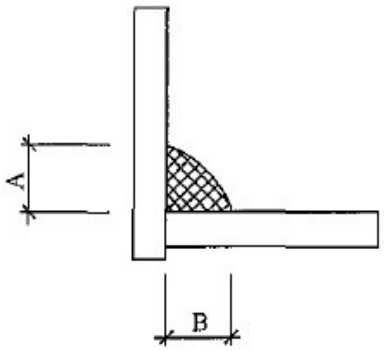
1. A deep sealant joint will not have the same movement capability as a properly designed joint
2. Slow cure due to excessive sealant depth

Moving Corner Joints

GOOD JOINT DESIGN



POOR JOINT DESIGN



Good Joint Design

Key Points:

1. Dimension A and B must be at least 6mm (1/4”).
2. A bond breaker tape or backer rod must be present if joint movement is anticipated
3. Joint must be tooled flat or slightly concave.
4. Dimension C must be at least 6 mm (1/4”).

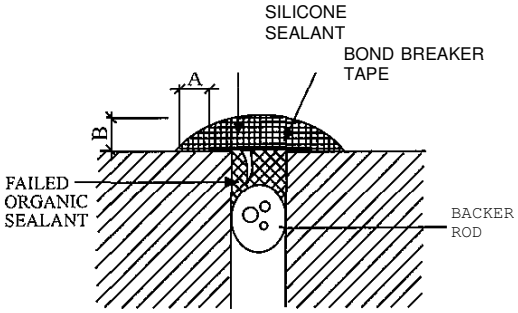
Poor Joint Design

Concerns:

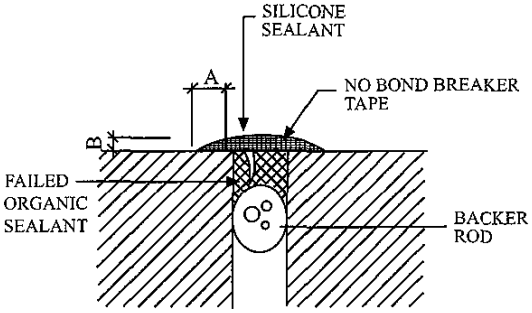
1. Dimension A or B less than 6 mm (1/4”)
2. Joint not properly tooled
3. No bond breaker material; therefore the joint will not accept movement

Remedial Joints

GOOD JOINT DESIGN



POOR JOINT DESIGN



Good Joint Design

Key Points:

1. Dimension A must be at least 6mm (1/4")
2. Dimension B must be at least 3 mm (1/8")
3. Bond breaker tape must be used to isolate fresh sealant from failed organic weatherseal and to allow joint movement.

Poor Joint Design

Concerns:

1. Dimension A less than 6 mm (1/4") increases difficulty in obtaining adhesion and increases the likelihood for voids.
2. Dimension B less than 3 mm (1/8") increases the likelihood of pinholes or voids in tooling; poor cohesive integrity.
3. No bond breaker material; therefore the joint will not accept movement.

Alterm National Pty Ltd
ABN 70 111 695 893
75 Lambton Road
Broadmeadow NSW 2292
Ph 02 49698055
Fax 02 49408400
Email sales@alterm.com.au