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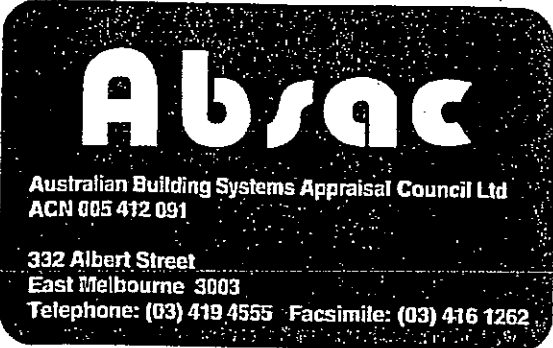
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Request: Copies of any information to do with CSIRO and Termi-Mesh regarding
ABSAC Opinion between the years 1990 through to 1 March 1993

Document: Document 1 – ABSAC – Technical Opinion no 158 - November 1992

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**TECHNICAL OPINION
 NO 158 November 1992**

**Termi-Mesh
 (Anti Termite Mesh Barrier)**

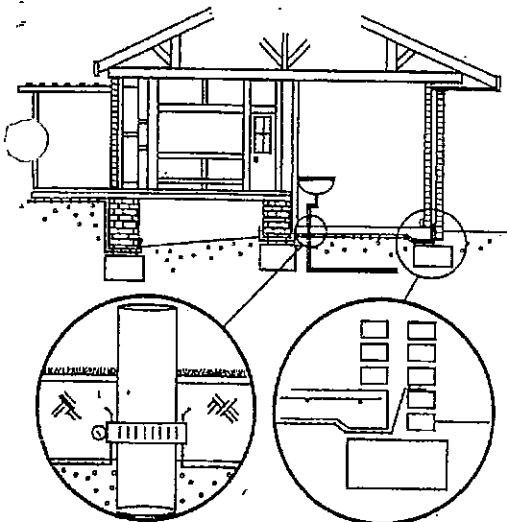
PURPOSE

A physical barrier for buildings and structures against subterranean termite entry

APPLICANT

Termi-Mesh Australia Pty Ltd, 10 Westchester Road, Malaga, Western Australia 6062 (ACN 009 452 475) (Supplier)
 Termi-Mesh patent held by V Toutountzis

Figure 1. TERMI-MESH under concrete slabs on ground for buildings



TERMI-MESH is securely installed around plumbing

TERMI-MESH used in cavity walls will prevent termite entrance via the mortar and weep holes

Figure 2. TERMI-MESH in cavity walls

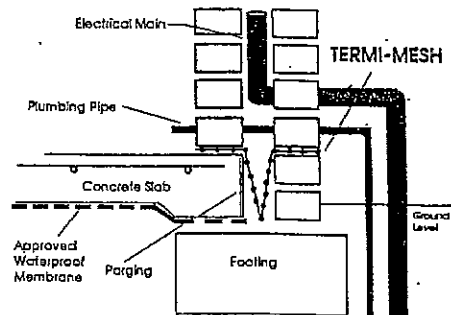
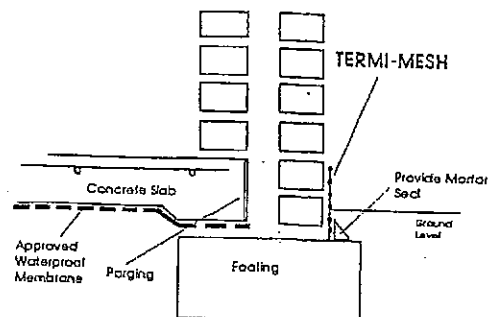


Figure 3. TERMI-MESH for the outside perimeter of cavity walls



TECHNICAL OPINION

In the opinion of ABSAC, Termi-Mesh (Anti Termite Mesh Barrier) is a suitable physical barrier against subterranean termite entry by use of a stainless steel mesh provided that:

1. The Termi-Mesh (Anti Termite Mesh Barrier) is installed by installers trained and approved by Termi-Mesh Australia Pty Ltd as:
 - (a) A continuous barrier for new slab on ground construction,
 - (b) a continuous barrier in cavity wall and around service penetrations in a new construction,
 - (c) a continuous perimeter barrier across weep holes for new and existing constructions,
 - (d) a cold-joint continuous barrier between existing structure and new slab,
 - (e) a barrier around timber posts supporting structures (e.g. a sock) and
 - (f) a continuous physical shield in pier constructed structures.

2. All penetrations through the Termi-Mesh barrier are sealed in accordance with Termi-Mesh Australia specifications.

Note: These specifications are available on request from Termi-Mesh Australia Pty Ltd, 10 Westchester Road, Malaga, Western Australia 6062

3. The barrier is installed to extend above the soil level at the perimeter of the structure and/or into the external leaf of brickwork above the damp proof course.

4. When used in conjunction with other barriers, the perimeter of the structure is treated to comply with the requirements of Australian Standards AS 1694-1974 'Code of practice for physical barriers used in the protection of buildings against subterranean termites (metric units)' or AS 2057-1986 'Protection of buildings from subterranean termites - Chemical treatment of soil for buildings under construction'.

5. When used as a perimeter barrier in new construction for concrete slab or raft floors (Termi-Mesh Specification No 103), Termi-Mesh is used in conjunction with a termite barrier for penetration through the slab or raft.

6. Inspections are made, at least once a year, to check that no bridging or breaching has taken place.

7. Termi-Mesh is not used to protect against the species *Heterotermes vagus*.

Note: This species of termite only currently known to exist in the northern coastal areas of Australia north of latitude 17.5°S.

BUILDING CODE of AUSTRALIA

In the opinion of ABSAC, the system described in this Technical Opinion and installed under the conditions listed herein will satisfy the provisions of Clause B1.1, 'General Requirements' in that it will give equivalent performance to that of Clause B1.3, 'Construction deemed-to-satisfy', Part (j) 'Protection from termites' of the Building Code of Australia (2nd Edition 1990, including Amendments 1, 2, 3 and 4).

Note: The inclusion of this clause with reference to the Building Code of Australia (BCA) is aimed at assisting local government authorities relate the Appraisal to their relevant regulations.

Any changes made to the BCA will be reviewed during the term of validity of this Technical Opinion and, where necessary, any amendment required, will be published in the annual ABSAC Consolidated List of Technical Opinions.

RELATED INFORMATION

VALIDITY OF THE OPINION

Condition:

This Technical Opinion applies only to the use of the Termi-Mesh (Anti Termite Mesh Barrier) as described herein.

Withdrawal:

This Technical Opinion will be withdrawn or amended if ABSAC considers that a change in design or manufacturing quality renders the basis of appraisal invalid, or if reported field experience convinces ABSAC of unsatisfactory quality or performance.

Term of Validity:

This Technical Opinion will lapse three years after the date of issue unless revalidation is requested and granted (see back page).

RELEVANT DOCUMENTS

- Termi-Mesh Australia, 'Termi-Mesh Specification No 101: Full installation for new slab on ground construction' (April 1992)
- Termi-Mesh Australia, 'Termi-Mesh Specification No 102: Cavity wall and service penetration installation in a new construction' (April 1992)
- Termi-Mesh Australia, 'Termi-Mesh Specification No 103: Perimeter barrier across weep holes. Installation in new and existing constructions' (April 1992)
- Termi-Mesh Australia, 'Termi-Mesh Specification No 104: Cold-joint installation for termite protection between existing structure and new slab' (April 1992)
- Termi-Mesh Australia, 'Termi-Mesh Specification No 105: Installation in timber post supported structures - pole homes, pergolas, fences, gate posts, power lines' (April 1992)
- Standards Australia, AS 1694-1974 'Code of practice for physical barriers used in the protection of buildings against subterranean termites (metric units)'
- Standards Australia, AS 2057-1986 'Protection of buildings from subterranean termites - Chemical treatment of soil for buildings under construction'.

APPROVED OPINION EXTRACT

The Termi-Mesh (Anti Termite Mesh Barrier) as installed by Termi-Mesh Australia Pty Ltd, Malaga, Western Australia, (ACN 009 452 475) and installers trained and approved by Termi-Mesh Australia Pty Ltd is suitable for use as a physical barrier against subterranean termite entry when the conditions of ABSAC Technical Opinion No. 158 are fulfilled.

APPRAISAL

DESCRIPTION

The following description is based on information provided by the applicant.

General:

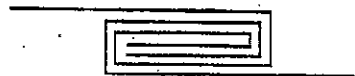
A high grade stainless steel mesh is used as a physical barrier to prevent subterranean termites entering a structure either through the concrete slab or via cavity walls.

Mesh Specification:

Termi-Mesh is made from 304 or 316 grade stainless steel. The mesh is made from 0.18 mm diameter wire with mesh openings of 0.66 x 0.45 mm. Termi-Mesh is made in widths of 1200 mm and approximately 30 m long.

Installation:

Termi-Mesh can be used under slab on ground, in cavity walls, on the outside perimeter of cavity walls, as a cold-joint installation between existing structures and new slabs and can be installed in timber post supported structures. The mesh is joined by a 10 - 15 mm physical lap joint (two and a half times). This join can be strengthened by using a hot-glue gun every 500 - 1000 mm along the join.



Mesh Joint Detail

Sealing penetrations through concrete slabs is achieved by cutting a hole, smaller than the penetration, in the mesh and then stretching the mesh over the penetration to form a collar. This collar is secured by a stainless steel hose clamp.

1. Slab-on-ground:

Termi-Mesh is installed after the footings and plumbing have been completed and before the plastic vapour barrier and steel reinforcing is laid for the concrete slab.

2. Cavity walls:

The mesh can be installed on the slab edge and into the external leaf of the cavity. The mesh will allow moisture to drain through to the weep holes. The mesh can remain hidden within the brick course or be exposed on the external wall.

3. Outside perimeter of cavity walls:

The Termi-Mesh is cemented to the concrete footing and extends approximately 50 mm above the ground level.

4. Cold-joint Installation between existing structure and new slab:

The Termi-Mesh is adhered/cemented onto the existing structure without any gaps and then sandwiched into the concrete being poured for the new structure.

5. Timber post supported structures:

The Termi-Mesh is formed into a continuous 'sock' which is pulled over the end of the post to be set into the ground.

6. Termite cap:

The mesh can be used in place of the typical termite cap on the top of piers.

installers will be trained by Termi-Mesh Australia Pty Ltd in future. Termi-Mesh Australia Pty Ltd intends to guarantee the product and inspect the majority of installations.

DESIGN INFORMATION

General:

Termi-Mesh is a fine gauge stainless steel mesh, with openings too small for termites, except the species *Heterotermes vagus*, to penetrate.

Durability:

The life expectancy of the physical barrier made by Termi-Mesh would be no shorter than that expected from other conventional treatments covered by Australian Standards, either AS 1694-1974 'Code of practice for physical barriers used in the protection of buildings against subterranean termites (metric units)' or AS 2057-1986 'Protection of buildings from subterranean termites - Chemical treatment of soil for buildings under construction.'

BASIS OF APPRAISAL

ABSAC has assessed the following aspects in undertaking this appraisal:

- (a) physical properties of the mesh,
- (b) installation procedures,
- (c) long term durability of the stainless steel mesh and
- (d) relationship to Australian Standards AS 1694-1974 'Code of practice for physical barriers used in the protection of buildings against subterranean termites (metric units)' and AS 2057-1986 'Protection of buildings from subterranean termites - Chemical treatment of soil for buildings under construction'.

The following documents and inspections were used in carrying out the appraisal.

Manufacturer's and Installation Information:

1. Termi-Mesh Australia Pty Ltd, 10 Westchester Road, Malaga, Western Australia 6062. Letter (5 June 1991):
This letter provides specifications of the mesh, and installation details. It is noted that, at present, installation is only by Termi-Mesh Australia Pty Ltd. However, it is envisaged that licensed approved

2. Termi-Mesh Australia Pty Ltd, 10 Westchester Road, Malaga, Western Australia 6062. 'Termi-Mesh Installation Information' (April 1992):
This manual details installation instructions of the mesh for use under slab on ground, in cavity walls, on the outside perimeter of cavity walls, as a cold-joint installation between existing structures and new slabs and in timber post supported structures.

3. Termi-Mesh Australia Pty Ltd, 10 Westchester Road, Malaga, Western Australia 6062. 'Termi-Mesh Installation Information'. Letter (15 April 1992):
Termi-Mesh is now a Trade Mark. Termi-Mesh Australia Pty Ltd has training programs for installers who obtain a Termi-Mesh franchise. The franchise agreement requires that installers be trained by Termi-Mesh Australia Pty Ltd who will also have inspectors checking on the quality of work of installers. A franchise will be terminated where work is not up to the required standard.

4. Termi-Mesh Australia Pty Ltd, 10 Westchester Road, Malaga, Western Australia 6062. Letter 'Response to Subcommittee Regarding Further Information on Corrosion of Termi-Mesh and Application of Termi-Mesh for Termite Shielding and Caps' (3 February 1992):
This correspondence details information about the chemical and galvanic corrosion of stainless steels and corrosion due to building materials. Also, cold-jointing and termite shielding and caps are discussed. Important information for installing Termi-Mesh is also given.

5. Borai Melwire Pty Limited, 522-534 Clayton Road, Clayton South, Victoria 3169. Facsimile (21.7.92):
This facsimile details the quality control methods used in the production of the Termi-Mesh.

6. Ormonold, a subsidiary of Laporte, Level Thin No. 8, Rapid Hardening Cement Based Levelling Compound, Data Sheet:
This adhesive cement is used for levelling uneven concrete. It is composed of Portland Cement with a polycellulose adhesive which polymerises with water. Details of preparation, mixing, application and specifications are provided.

Test Reports:

1. CSIRO Division of Entomology, Canberra ACT 2601 Report 90/11 'The resistance of Termi-Mesh to penetration of subterranean termites in the laboratory' (10 October 1990):

The results were satisfactory in that the termites did not breach the mesh, folded joints or stainless steel seals during a 12 week test period.

2. CSIRO Division of Entomology, Canberra ACT 2601 Report 91/15 'The resistance of Termi-Mesh to penetration of subterranean termites in the field - First Report' (16 August 1991):

The results were satisfactory for termites except the species *Heterotermes vagus*. No termites except the *Heterotermes vagus* breached the mesh, folded joints or seals during a 12 month exposure period.

Note: The mesh is now manufactured with openings of 0.66 x 0.45 mm, which may prevent entry of the *Heterotermes vagus* species. The smaller opening mesh is currently under test against this species.

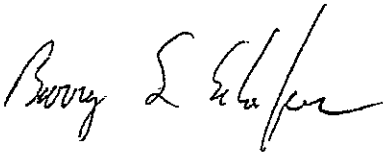
3. Department of Mines Western Australia, Chemistry Centre, 125 Hay Street, East Perth, Western Australia 6004. Accelerated Corrosion Test (25 February, 1991):

This report states that the Termi Mesh showed no observable sign of corrosion when tested alone or with copper pipe and cement mortar.

Slight staining was reported where the mesh was stressed. Corrosion was severe on steel reinforcement in contact with the mesh. Under the systems appraised in this Technical Opinion, direct contact between the Termi Mesh and reinforcing steel is not permitted.

Inspections:

ABSAC representatives have inspected a site prior to concreting and found the level of performance satisfactory. It was noted that a high degree of care and skill, and attention to detail are necessary. Supervision would be necessary to maintain the precision needed.



B. L. Schafer
Appraisal Officer

22/07/1992



K. G. Deacon
Chairman ABSAC

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H. RELATED DOCUMENTS
J. OTHER/OPTIONAL INFORMATION

14. ABSTRACT <i>(ABSAC Approved Opinion Extract)</i> The Termi-Mesh (Anti Termite Mesh Barrier) as installed by Termi-Mesh Australia Pty Ltd, Malaga, Western Australia, (ACN 009 452 475) and installers trained and approved by Termi-Mesh Australia Pty Ltd is suitable for use as a physical barrier against subterranean termite entry when the conditions of ABSAC Technical Opinion No. 158 are fulfilled.
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