



Investigation into TimberSaver Boron Treated Framing Timber

Preliminary Report

August 2005

Executive Summary

1. A number of issues and concerns have been raised via the media about the durability of the timber treatment process using a product called TimberSaver boron. The treatment process involves spraying or dipping framing timber in a boron solution. This creates what is commonly referred to as an envelope. When the timber gets wet, the preservative is diffused into the timber.
2. The concerns raised focus on:
 - the appraisal and accreditation process used to determine the durability and in-service performance of timber treated with the TimberSaver boron product
 - building supply merchants substituting timber treated with TimberSaver boron when H1.2 treated timber had been ordered
 - a lack of information on the conditions of use of timber treated with TimberSaver boron being readily available to builders and designers
 - the lack of a companion treatment product being readily available from building supply merchants.
3. In response to these concerns, the Department of Building and Housing instituted an investigation. The investigation has the following streams.

- A series of interviews with industry stakeholders, including those who raised the concerns.
 - Field investigations to determine whether there is any evidence of in situ failure of timber treated with TimberSaver boron, and if so, to identify the causes of that failure. This work is being undertaken by BRANZ Ltd, and will be completed by the end of October 2005.
 - Identification of organisations or individuals who could peer review, if necessary, the technical aspects of the appraisal and accreditation process. BRANZ Ltd has been engaged to complete this search.
 - A review examining whether the Building Industry Authority (BIA) followed its established procedures. PricewaterhouseCoopers was engaged to undertake this work.
4. This preliminary report is based on the interviews with industry stakeholders only.

Conclusions and Recommendations

5. The investigation to date has not provided evidence that demonstrates that timber treated with TimberSaver boron does not perform. On this basis, there is insufficient evidence to warrant consideration of withdrawing the accreditation of TimberSaver boron as an envelope treatment solution that meets the requirements of Clauses B1 Structure, B2 Durability and F2 Hazardous Building Materials of the New Zealand Building Code. However, issues have been raised with respect to the robustness of the product testing and accreditation process in this case. It would be prudent for these matters to be looked into further.
6. The investigation has provided some evidence to suggest that concerns expressed about the availability of information on how to handle and use timber treated with TimberSaver boron have substance. Included in this are associated concerns about the period of time that the timber is exposed to weathering and how this can

be effectively determined.

7. Given the findings of this part of the investigation, it is recommended that:
 - a peer review of the research findings used to assess the product's performance as part of the accreditation process be undertaken
 - building supply merchants are advised that:
 - TimberSaver treated timber is an accredited product and therefore meets the nominated Clauses of B1 Structure, B2 Durability and F2 Hazardous Building Materials of the New Zealand Building Code, provided it is used in accordance with the conditions specified in the Appraisal Certificate and the manufacturer's recommendations
 - it is important to ensure that builders or users of timber treated with TimberSaver boron are made aware of the conditions of use, and are able to readily acquire the associated products for treating cuts, holes and notches as detailed in the appraisal certificate
 - TimberSaver boron treated timber is not synonymous with treated timber that specifically meets the requirements of NZS 3640
 - the field sampling being undertaken by BRANZ Ltd be completed to determine whether there is any evidence of in situ product failure. If so, the Department should then re-assess the status of TimberSaver boron treatment, depending on the causes that have been identified for that failure.
 - consideration be given to practical means of determining how long timber treated with TimberSaver boron may have been exposed to weathering

- as part of the investigation, the Department has also established through an independent review that the former Building Industry Authority followed its established procedures to accredit TimberSaver.

Purpose

8. This report outlines the Department's preliminary findings with respect to the issues raised about TimberSaver boron treated framing timber, also sold as T1.2.

Background

9. A number of issues have been raised about a treatment process for framing timber known as TimberSaver boron treated timber or sold as T1.2. In brief, the concerns raised focus on:
 - the accreditation process used by the BIA to assess the efficacy of the product, resulting in its accreditation
 - building supply merchants supplying TimberSaver boron treated framing timber to builders where other timber may have been specified (eg, timber that meets the H1.2 conditions that are specified in NZS 3640)
 - the information supplied to merchants and builders describing the requirements for storing, handling and using framing timber that has received envelope boron treatment.
10. As a consequence of these concerns, at least one individual has requested that the Department withdraw the product from the market until full and adequate testing of in-service durability and leaching has been carried out.
11. Timber treated with TimberSaver boron has been accredited to 'Codemark', a scheme established by the BIA for products used in the building and construction sector. Codemark was, under the 1991 Building Act, the only binding certification

scheme for building products. If a product achieved accreditation to Codemark, then the proprietary building item, such as a material, a component or a method of design, met the nominated provisions of the New Zealand Building Code.

Codemark was launched in late February 1999 by the BIA.

A Summary of the Issues of Concern

12. First, the accreditation process used by the BIA has been questioned with respect to its integrity and reliability. Essentially, the concerns suggested are that:
 - the information provided to the BIA on the durability and performance of framing timber using envelope boron treatment was for a product similar to, but not the same as, the product applied to TimberSaver boron treated framing timber
 - the technical assessment process used to generate performance information on durability considered by the BIA was not sufficiently robust to provide reliable data, and did not conform with accepted international practice for timber treatment systems.
13. Consequently, it has been suggested that the BIA made a poorly informed decision to accredit timber treated with TimberSaver boron, as the decision may have been based on unreliable data about the product's durability and in-service performance.
14. Secondly, it has been suggested that building supply merchants have supplied TimberSaver boron treated timber interchangeably with timbers treated and classified as meeting the H1.2 hazard class as defined in New Zealand Standard 3640.
15. Thirdly, it has been suggested that the manufacturer's information and the conditions specified in the appraisal certificate on how to store, handle and use timber treated with TimberSaver boron have not been readily available or accessible to builders. Consequently, builders have not been adequately informed of the conditions of use for TimberSaver boron treated timber, and may not have

used the product inline with the appraisal conditions.

16. Fourthly, the companion product recommended for treating cuts and holes, inline with the conditions specified in the appraisal document, has not been readily available from building supply merchants, although it has been available from the manufacturer, Osmose.

Investigation Process

17. The investigation comprises three elements.
 - Interviews with people within the industry, including those who manufacture the chemical compounds used in timber treatment, researchers who undertook the original evaluation of the product's performance, building officials (eg, building inspectors), merchants, and those who raised concerns through the media. A full list of people interviewed is contained in Appendix 1.
 - Field investigation of buildings where TimberSaver boron framing has been used. This work is being undertaken by BRANZ Ltd, will be completed by the end of October 2005, with a report following at a later date. The purpose of this work is to determine whether there is any evidence that suggests the product is failing in actual use and, if so, to identify the actual or potential causes of that failure.
 - A review examining some aspects of the procedures used in the accreditation process by the BIA. This review only considers whether the BIA followed the steps it had established for accrediting a product. This work has been undertaken by PricewaterhouseCoopers.
18. This report is based on conclusions drawn from the first element — the interviews described above.

19. The interview process comprised discussions that lasted for up to 1 hour. On completion of the interviews, the information was synthesised and evaluated.

20. The people interviewed fell into four groups.

- Those who believe that there is a serious issue related to the accreditation of TimberSaver boron, and its subsequent supply and marketing.
- Those who believe that the testing and accreditation of TimberSaver boron was robust and appropriate.
- Those who sell TimberSaver boron treated framing to builders.
- Those who inspect buildings as they are being constructed.

Specific Issues of Concern

21. Issues raised about TimberSaver boron treated framing timber include suggestions that:

- the accreditation process used by the BIA was flawed with respect to its evaluation of the efficacy of TimberSaver boron treatment of timber.

In particular, this issue focuses on the methodology used by Forest Research (then SCION, now ENSIS) to determine the efficacy of the product. A number of concerns have been raised, including that:

- the treatment solution now used in the manufacture of framing timber is not the same as that tested by Forest Research
- the initial work undertaken by Forest Research was not specifically for the purposes of product accreditation
- the method used does not conform to a specified standard

- highly technical aspects of the testing methodology (eg, fungal seeding) are flawed.
- TimberSaver boron treated timber does not meet the requirements of NZS 3640 with respect to the H1.2 hazard class it defines. Despite this, TimberSaver boron treated timber has been sold as timber that meets the H1.2 hazard class as defined in NZS 3640, and has been substituted for treated timbers that do meet the requirements of the H1.2 hazard class as specified in NZS 3640.
- The conditions placed on the use of the TimberSaver boron treated timber are impractical given the nature of building and construction sites. In turn, this has been related to the original accreditation of the product by suggesting that the accreditation process and evaluation should have considered the practical issues of on-site use and management of framing timber more completely.
- insufficient information has been made available to builders on how to store, handle and use TimberSaver boron treated timber. This has been exacerbated by substitution of timber treated with TimberSaver boron for other types of treated timber that meet the requirements of the H1.2 hazard class defined in NZS 3640. Consequently, builders may not have used the product appropriately.

H1.2 — what does it mean?

22. It is important to understand that H1.2 is a hazard class that has been defined in New Zealand Standard 3640. In the standard, it is noted that:

- the timber must be protected from the weather and be above ground, but could be exposed to moisture
- key biological hazards are borer and fungal decay

- typical use of timber in this class is wall framing.
23. Timber is treated so that it has the performance characteristics to meet the requirements identified in the hazard class. This standard requires full sap wood penetration of the preservative compound to give performance characteristics against the hazard.
 24. Under NZS 3640, there are several types of treated timber that are accepted as being suitable for use in the H1.2 hazard class. These achieve sap wood penetration of the preservative compound, as required in the standard. The compounds are boron-treated timber that is identified by the colour pink, and timber that has been treated with permethrin and one of TBTO, TBTN or IPBC and is coloured blue. This contrasts with the envelope treatment achieved by TimberSaver which, as the term envelope implies, coats the outer layers of a piece of timber with preservative. If the timber gets wet, the preservative is then diffused into the timber (ie, carried into the timber by the wetting agent).
 25. If a builder or designer wishes to use other timbers not specified within NZS 3640 with respect to the New Zealand Building Code, proof of product performance needs to be demonstrated with respect to nominated Clauses of the New Zealand Building Code. With respect to TimberSaver boron treated timber, the Codemark accreditation demonstrates proof of performance for specific Clauses of the Building Code. Those clauses are: B1 Structure, B2 Durability and F2 Hazardous Building Materials. Timber treated with TimberSaver boron is therefore considered to comply with the performance requirements (subject to certain conditions of use) of the nominated Clauses of the New Zealand Building Code.
 26. TimberSaver boron treated timber does not meet the particular specifications defined in NZS 3640 because TimberSaver boron treated timber is manufactured by a different process. The process does not provide for complete sap wood penetration of the preservative compound. It therefore does not meet the technical requirements of NZS 3640. Thus it cannot be said to address the hazard classes defined by NZS 3640, in particular hazard class H1.2. It has, however, been accepted as meeting the performance requirements specified in the New Zealand

Building Code, in particular clauses B1 Structure, B2 Durability and F2 Hazardous Building Materials.

The Accreditation Process

27. The accreditation process used by the BIA is described in Appendix 4. In essence, the process involved an evaluation of information supplied by an appraiser and supporting technical information about the product's performance supplied by the manufacturer. Experts from off-shore (Australia and the UK) were retained to evaluate the information provided. Once the BIA determined that performance data was reasonable, it determined whether the product could be accredited.

28. The result of the BIA's evaluation was accreditation of TimberSaver boron treatment of timber. This is sometimes referred to as Codemark. The accreditation meant that the product could be deemed to comply with the performance requirements of the specified Clauses of the New Zealand Building Code, providing the conditions in the accompanying appraisal documents were adhered to.

Treated Timber

29. A number of timber-and-wood based products are used in building and construction. It is common for timber-and- wood based products to have 'conditions of use' associated with them. For example, for kiln-dried timber there are generally guidelines about keeping the timber dry. For some forms of treated timber, there are guidelines about remedial treatments that need to be used in some circumstances. Conditions of use are common requirements and not unique to timber treated with TimberSaver.

The Accreditation Process — Technical Requirements

30. The applicant retained an appraiser. The appraiser considered the technical information the applicant presented in the context of the accreditation being sought, and wrote an appraisal. This appraisal was then submitted to the BIA for evaluation, along with supporting technical information.
31. The appraiser considered a range of supporting material, including trials undertaken by Forest Research, other international research and information, and the legal status of the preservatives used. From this information, the appraiser provided an assessment about the durability of timber treated with TimberSaver boron, which was submitted as part of the application for accreditation.
32. Comments have been made that the technical assessment of TimberSaver boron has a number of flaws. These relate to the methodology used to assess performance and durability of timber after it had been treated with TimberSaver boron. Amongst the issues raised are:
 - questions as to whether the research undertaken by Forest Research used the same preservative as that now used in the commercial production process for timber treated by TimberSaver boron
 - whether sufficient information was considered in the appraisal process to conclusively demonstrate the durability of timber treated by TimberSaver boron
 - a range of highly technical questions about the methodology employed by Forest Research to determine durability.
33. Discussions with the scientist who undertook a technical evaluation of TimberSaver boron reveals that the name of the preservative product tested was Boracol 200RH. Osmose has stated that this is the same product as TimberSaver boron — that the name of the preservative compound was changed, but that its chemical composition remained essentially unchanged.

34. Furthermore, it has been suggested that Osmose has changed the composition of TimberSaver boron since it entered the market. Osmose has stated that the essential chemical composition of TimberSaver boron has remained unchanged. The changes that have occurred relate to the proportion of boron in the preservative (which has been increased). Another change is being proposed, and that is to move from a dye to create the orange colouring to a pigment which is more fade-resistant.
35. Discussion with the individual who undertook the appraisal of TimberSaver boron treated timber confirmed that the composition of the preservative has changed. However, in the professional opinion of the appraiser, it is unlikely that the change in composition will have had any material impact on the performance of timber treated with TimberSaver boron, as the active ingredients remain the same.
36. Another issue raised relates to the samples used in testing by Forest Research. Osmose has confirmed that the samples provided for testing were hand-painted. They did not come from a commercially operated spray plant, as none existed at the time. In effect, a prototype product was tested.
37. The appraiser observed that the use of prototypes for this kind of testing is not an unusual circumstance. It is often not practical to gear up a plant to commercially produce a product until it has accreditation status. Furthermore, the appraisal considered other information in addition to that generated from the Forest Research experiments with respect to the durability of the product. It was noted, for example, that similar types of envelope timber treatment are acceptable in the UK and Europe, using similar methods and treatment solutions.
38. A concern raised about the tests undertaken by Forest Research is that the test procedure used does not meet a specific standard. The scientist who undertook some of the technical evaluation of TimberSaver boron treated timber acknowledges that the test procedures do not conform to a specific standard. However, it should also be noted that there is no requirement that test procedures meet a particular standard. In response to this concern (about meeting a specific standard), the scientist pointed out that the test procedures have been presented

to a number of international conferences, and generally appear to be accepted as a legitimate methodology, with few criticisms. Those criticisms that have been made have focused on leaving treated samples of timber for 6 months to see whether natural forms of bacterial infection or other things that might decay the preservative are established before an accelerated test regime is started.

39. One particular concern raised with the procedure used in the technical evaluation relates to wetting of timber treated with the preservative. The concern raised is that the technique used to wet the timber (application of pressure), resulted in preservative penetrating the timber in a way that is similar to H1.2 treatments as specified in the relevant New Zealand Standard. Further, it is suggested that the technique used is not reflective of occasional wetting, as may be evidenced in a house that suffers the occasional leak.
40. Information presented during the course of this investigation suggests that there is a significant difference between the pressures and duration used to achieve sap wood penetration of preservatives for H1.2 hazard class timbers, and those the test samples were subjected to. Specifically, the TimberSaver boron samples were subject to 40 kilo pascals for 5 minutes, compared up to 1400 kilo pascals for water-soluble boron treatments for longer time periods to achieve sap-wood penetration. There is a significant difference between these approaches, not least of which is the amount of pressure applied. Forty kilo pascals resulted in the timber having a moisture content of 40 percent, required for the testing regime.
41. A number of concerns have been raised about how decay fungi were 'seeded' on to the samples used to evaluate the efficacy of the treatment. From information presented, it appears the process used conforms to similar approaches used to assess the performance of other timber treatments.
42. A point made by the scientist who undertook the durability and performance testing of TimberSaver boron is that the testing regime is the same as that used to assess the performance and durability of a number of timber treatments. It provides comparability amongst and between treatment types.

43. The key point to note is that the appraisal process did not rely solely on the data and information derived from the work undertaken by Forest Research. It drew on a breadth of available data, quality assurance systems, and other information to assess whether timber treated by TimberSaver boron would exhibit the desired durability characteristics. It is this wider appraisal that was submitted to the BIA for evaluation.

Sale of TimberSaver Treated Timber

44. One of the concerns identified is that TimberSaver boron treated timber has been supplied to builders by building supply merchants, when other types of treated timber may have been specified in an order. It has been suggested that builders lack sufficient knowledge of the product to be aware that they have received something that may be different from their order. Further, it has been suggested that the paint-on solution needed to treat cuts, notches and holes, as specified in the appraisal certificate, has not been readily available.
45. At least one building supply merchant acknowledged that it has supplied TimberSaver boron treated framing timber as a substitute for other types of treated framing timber, irrespective of the order received from a builder, or the requirements that may be specified in the plans lodged with the merchant by the builder. Another has acknowledged 'substituting' the TimberSaver boron for other treated timber products that specifically meet the H1.2 hazard class of NZS 3640.
46. From the information obtained during the interview process, there is substance to the claim that TimberSaver boron treated framing timber has been supplied interchangeably with other treated timbers that meet the specific requirements of H1.2 hazard class of NZS 3640. There is also substance to the claim that builders were not always made aware of the substitution when it occurred by the merchants.
47. At least one building supply merchant has changed its business processes to prevent recurrence of this practice.

48. It is also clear that the product associated with TimberSaver boron that is recommended to treat cuts, holes and notches has not been readily available from building supply merchants. It has been available from Osmose, the manufacturer of TimberSaver boron (the treatment solution). The appraisal document provides contact details for Osmose in an attempt to ensure that product can be acquired. It should be noted that other remedial treatment solutions have been available from building supply merchants.
49. Anecdotally, since 18 July 2005, steps have been taken by some building supply merchants to ensure that the product associated with TimberSaver boron is readily available. This will allow cuts, notches and holes to be treated in a way that is consistent with manufacturer's guidelines and the appraisal certificate.

Provision of Information

50. The appraisal certificates associated with TimberSaver boron treated framing timber precisely describe how the framing should be stored, handled and treated after it has been produced. Conditions of use, such as those TimberSaver boron is subject to, are common for all forms of treated timber.
51. Amongst the issues of concern is that information on how TimberSaver boron should be stored, handled and treated has not been readily available to designers, or more specifically, builders. Consequently, it has been suggested that builders have been poorly informed about the conditions of use associated with TimberSaver boron detailed in the appraisal certificate.
52. Building supply merchants have stated that product information sheets have been available to builders. They have also indicated that the conditions of use for TimberSaver boron are clearer and more precise than equivalent information for other forms of treated timber.
53. The manufacturer of TimberSaver boron treatment products has attempted to ensure that information is readily available to designers and builders, through the provision of information sheets, information on its web site, and so on. However,

while information has filtered through the supply chain (ie, from the producer of the treatment product, to the timber mill, to building supply merchants, to the builder), it is not clear that information has consistently made it all the way through the supply chain to those who are using timber treated with TimberSaver boron.

Observations from Building Officials

54. The Building Officials Institute of New Zealand agreed to poll its members to determine what, if any, concerns building officials have about TimberSaver boron treated timber. Building Officials noted that:

- they have not observed any failure of the TimberSaver boron treated timber where it has been used, although all note that it has not been on the market for sufficient time to show any signs of failure
- they generally have information about the use of TimberSaver boron treated timber and its conditions of use
- it is used more in North Island than South Island, and the Auckland region has the greatest level of use
- there is little knowledge amongst builders about the conditions of use, especially with respect to the treatment and the treatment of cuts, notches and holes
- they have some concern about the practicality of the conditions of use that apply to TimberSaver boron treated timber
- they have some concerns about how to practicably and reliably determine how long the timber has been exposed to weathering
- there are also conditions of use relating to other framing timber products, for example light organic solvent preservatives (LOSP) that are not necessarily

well understood by builders.

55. The observations of building officials reinforce some of the concerns expressed about timber treated with TimberSaver boron.

Preliminary Findings

56. The issues raised can be summarised as follows.

- **TECHNICAL ASSESSMENT OF TimberSaver boron**
According to some, the technical assessment of TimberSaver boron timber treatment is flawed. This is because there are a number of perceived anomalies associated with work conducted on the durability of timber treated with TimberSaver boron and the subsequent evaluation undertaken by the BIA. Accordingly, it has been requested that the accreditation of the product be withdrawn until sufficient information on the product's durability is available.

Comment

These concerns focus on one component of the appraisal — the work undertaken by Forest Research. They do not appear to take into account the other information that was considered as part of the appraisal and subsequent accreditation process.

The Building Act 2004 provides clear guidance on the conditions that permit withdrawal of accreditation or certification of a product. Those conditions include, broadly, false information being provided through the appraisal process, the performance standards against which the product was/is measured changing, such that product can no longer meet those standards, or the Building Code no longer applying to the product.

From the information presented through the interview process, the conditions expressed in the Building Act 2004 have not been shown. In particular, it is not clear that there is an issue with the technical assessment and associated appraisal of the performance of TimberSaver boron. The appraiser has stated

that the trials and tests undertaken by Forest Research were one component of her deliberations in preparing the assessment.

The process used to assess information presented to the BIA, which included the written appraisal, was evaluated by independent experts from Australia and the United Kingdom.

- **PRODUCT SUBSTITUTION BY BUILDING SUPPLY MERCHANTS**

Building supply merchants have substituted or interchangeably supplied TimberSaver boron treated timber for other treated timbers that meet the specific requirements of the H1.2 hazard class, as defined by NZS 3640.

Comment

TimberSaver boron treated timber, sometimes marketed as T1.2, is an approved Acceptable Solution for Clauses B1 Structure, B2 Durability and F2 Hazardous Building Materials of the New Zealand Building Code. To that end it can legitimately be used, given its accreditation, in applications that are consistent with those Clauses of the Building Code, providing it is done so in accordance with the conditions of the appraisal certificate.

TimberSaver boron does not meet the requirements of NZS 3640, and should not be sold as a timber that meets the requirements of that aspect of the standard.

- **PROVISION OF INFORMATION TO BUILDERS**

There is insufficient information available, via the supply chain, for designers and/or builders to know how to correctly use timber treated with TimberSaver.

Comment

It is clear that Osmose has attempted to ensure information is available to designers, builders and merchants about the conditions of use of timber treated with TimberSaver boron. The accreditation required, as documented in the appraisal certificate, information to be readily available on how to use the product. It is also clear that merchants have had access to and have provided some information to their customers. However, the means of communicating this

information has not necessarily guaranteed that designers, and in particular builders, have been aware of the conditions of use. The practice of substituting TimberSaver boron for other treated timbers with little information apparently being supplied to builders has compounded this issue.

- **SUPPLY OF REMEDIAL TREATMENT PRODUCTS**

One aspect of the conditions of use associated with timber treated with TimberSaver boron is the remedial treatment of cuts, holes and notches with a related product. This product has not been readily available through building supply merchants.

Comment

The conditions of use in the appraisal certificate are precise. They clearly state that cuts, holes and notches of particular sizes need remedial treatment in order to maintain the efficacy of the treatment 'envelope'. The product recommended for that remedial treatment has not been readily available from building supply merchants. At least one merchant now includes the associated treatment product on its stock list, following the beginning of this investigation. The associated product specified in the appraisal documents have been directly available from Osmose, the manufacturer of TimberSaver boron preservatives.

The lack of ready availability of the associated treatment product for cuts, holes and notches is an issue. While builders may have used alternative products, it cannot be guaranteed that all the conditions associated with the conditions of use specified in the appraisal documents have been met, given that the associated treatment product has not been readily available from builders' merchants.

Conclusions and Recommendations

57. The investigation to date has not provided evidence that demonstrates that timber treated with TimberSaver boron does not perform. On this basis, there is insufficient evidence to warrant consideration of withdrawing the accreditation of TimberSaver boron as an envelope treatment solution that meets the requirements of Clauses B1 Structure, B2 Durability and F2 Hazardous Building Materials of the

New Zealand Building Code. However, issues have been raised with respect to the robustness of the product testing and accreditation process in this case. It would be prudent for these matters to be looked into further.

58. The investigation has provided some evidence to suggest that concerns expressed about the availability of information on to how handle and use timber treated with TimberSaver boron have substance. Included in this are associated concerns about the period of time that the timber is exposed to weathering and how this can be effectively and practically determined.
59. Given the findings of this part of the investigation, it is recommended that:
 - a peer review of the research findings used to assess the product's performance as part of the accreditation process be undertaken
 - building supply merchants are advised that:
 - TimberSaver treated timber is an accredited product and therefore meets the nominated Clauses of B1 Structure, B2 Durability and F2 Hazardous Building Materials of the New Zealand Building Code, provided it is used in accordance with the conditions specified in the Appraisal Certificate and the manufacturer's recommendations
 - it is important to ensure builders or users of timber treated with TimberSaver boron are made aware of the conditions of use, and are able to readily acquire the associated products for treating cuts, holes and notches as detailed in the appraisal certificate;
 - TimberSaver boron treated timber is not synonymous with treated timber that specifically meets the requirements of NZS 3640
 - the field sampling being undertaken by BRANZ Ltd be completed to determine whether there is any evidence of in situ product failure. If so,

the Department should then re-assess the status of TimberSaver boron treatment, depending on the causes that have been identified for that failure.

- consideration be given to practical means of determining how long timber treated with TimberSaver boron may have been exposed to weathering.
- as part of the investigation, the Department has also established through an independent review that the former BIA followed its established procedures to accredit TimberSaver.

- **Appendix 1: Interviewees**

Person	Organisation	Date of Interview
David Worley	Placemakers	14 July 2005
Greg O'Sullivan	PRENDOS	14 July 2005
Greg O'Sullivan (Teleconference)	PRENDOS Ltd (Building Surveyors)	18 July 2005
Dr Robin Wakeling (Teleconference)	PRIMAXA	18 July 2005
Chris Preston (Teleconference)	Registered Master Builders	18 July 2005
Richard Toner and Len Clapham	Building Officials Institute of New Zealand	18 July 2005
Gary Shuttleworth (Teleconference)	Certified Builders	19 July 2005
Terry Smith (Teleconference)	Osrose	20 July 2005
Bob de Leur (Teleconference)	Auckland City Council	20 July 2005
Mick Hedley (Teleconference)	SCION (formerly Forest Research)	20 July 2005
Grant Crowhurst (Teleconference)	Carters	20 July 2005
Murray Durbin (Teleconference)	Mitre10	20 July 2005
George Skimming (Teleconference)	Wellington City Council	21 July 2005
Jeanette Drysdale (Teleconference)	Independent Consultant (and appraisal writer)	27 July 2005

Notes:

1. Representatives from the New Zealand Institute of Building Surveyors were asked for comment and submitted a written statement.

2. Richard Toner and Len Clapham facilitated a questionnaire to members of BOINZ (senior building officials).

Appendix 2: Questions posed through BOINZ

The email below was circulated by Len Clapham, Chief Executive of BOINZ, to senior building officials belonging to the Institute on 18 July 2005. Six replies were received. None indicated any concern about the performance of TimberSaver treated framing.

Good afternoon Ladies and Gentlemen

IMPORTANT INFORMATION REQUIRED

This morning myself and Richard Toner meet with John Kay to talk about the TimberSaver issue that the Department of Building and Housing is currently investigating. We believe that the polling of our senior members will determine whether building officials are aware of, or have, and specific concerns about framing timber that has been treated with 'spray-on' boron, and is commonly known as T1.2. .

Specifically, the following questions being addressed are:

1. Do building officials have any evidence that indicates or suggests that the product commonly referred to as T1.2 (TimberSaver Boron Treated Framing Timber) is failing, or has been used in such a way that it might be more likely to fail? If the answer to this is yes, could some specific information be provided (by separate cover)?
2. To what extent has the product (T1.2) been used where H1.2 has specified? What actions have building officials taken where they have become aware of this?
3. What awareness do building officials have of the conditions associated with handling and using TimberSaver Boron Treated Framing Timber (aka T1.2)?
4. What awareness do building officials believe builders have of the conditions associated with handling and using the product (T1.2)?
5. Do you have any suggestions that may help DBH or BOINZ with this issue?
6. Equally we wish to find out if the issue is area specific?

As was explained to us, John is required to produce a report by 29 July and consequently, he needs the information quickly. We also appreciate that you may not be able to answer these questions in detail, and you may wish to maintain some anonymity, this is completely understandable.

Please respond to John at, John.kay@dbh.govt.nz or via myself at lenc@boinz.org.nz by the end of this week (preferably), or by no later than 4pm Tuesday 26 July. We would be grateful for your help and thank you all in anticipation of your views and comments.

Regards

John Kay and Len Clapham

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Appendix 3: What is TimberSaver boron?

TimberSaver boron is a formulation of boron that is spray or dip applied to radiata pine timber. It is different from other forms of treatment of framing timber, in that it does not penetrate to sap wood. Rather, it is an envelope application, in that it is sprayed on to the surface of the timber only. It is coloured orange, thus differentiating it from other forms of boron or permetherin (plus) treatments that are pink and blue respectively.

Appendix 4: The BIA's Accreditation Process

- Step 1: An applicant engaged an appraiser, and met with the then BIA.
- Step 2: An application was submitted to the BIA, which included a draft appraisal and supporting documentation, along with an application form and deposit.
- Step 3: The application was accepted or rejected — if accepted, a receipt was issued.
- Step 4: An evaluation process started, which could seek further information from the applicant or the appraiser. This component of the process was iterative.
- Step 5: If the evaluation process was favourable, the product was accredited by the BIA.