

Specification of the  
MINIMUM REQUIREMENTS OF THE  
NZ TIMBER PRESERVATION COUNCIL INC.

Pr AA

AMENDMENT No. 1

April 1993

**EXPLANATORY NOTE – Amendment No. 1 incorporates amendments to formulations recommended by the Timber Preservation Board.**

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To ensure receiving advice of the next amendment to MP 3640:1992 please complete and return the amendment request form.  
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**INSTRUCTIONS FOR AMENDMENT No. 1**

The attached pages are intended to be substituted for existing pages of MP 3640:1992.

Each replacement page is identified as such by a date at the bottom of the page plus a marginal bar showing where text has been changed and a brief statement of the nature of the amendment, or in some cases, that no technical change has been made.

Holders of MP 3640 are strongly advised to insert the new pages into their copy of the Miscellaneous Publication and to discard the replaced pages. The fact that this has been done should then be noted under 'Amendments' on the inside front cover of the publication.

The following is a list of pages replaced by this amendment which, if retained, will provide a reference against which a future check can be made that your copy of MP 3640 has been updated correctly:

**Pages replaced:** 23/24, 29/30, 31/32.  
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## 9 HAZARD CLASS SPECIFICATIONS

### 9.1 Hazard Class H1

#### 9.1.1

Where timber, including plywood, is used out of contact with the ground and in situations which are adequately ventilated and continuously protected from the weather by roofs or external walls. The primary risk to timber in this situation is from attack by wood-boring beetles such as *Anobium* and *Lyctus*.

#### 9.1.2

Exterior cladding and associated trim may be included in Hazard Class H1 provided that it is additionally and continuously protected by a well-maintained three coat paint system.

#### 9.1.3 Group A – Sawn timber

##### 9.1.3.1 *Typical uses*

Framing, interior joinery and finishing, flooring, painted horizontal weatherboards and associated trim.

##### 9.1.4 *Preservatives*

The following preservatives are approved for use in this Hazard Class:

##### 9.1.4.1 *Waterborne preservatives*

Boron compounds

CCA Class I

CCA Class II

##### 9.1.4.2 *Light organic solvent preservatives*

Permethrin

Cypermethrin

Deltamethrin

##### 9.1.5 *Species*

Refer to Timber Preservation Quality Manual, Appendix 3 – "Schedule of timber species which may be treated".

##### 9.1.6 *Penetration*

Complete sapwood penetration is required in not less than 90 % of samples in any set.

NOTE – Because there is no satisfactory spot test for synthetic pyrethroids, compliance with this specification when those preservatives are used, can only be established by chemical analysis of the treated timber.

##### 9.1.7 *Retentions*

##### 9.1.7.1 *Retention zones*

The retention zone is the sapwood in the central ninth of the cross section, based on the nominal sawn dimension.

For dry boron treated timber (i.e. moisture content less than 24 %) the sapwood cross section is an additional retention zone.

##### 9.1.7.2 *Minimum concentration of preservative in the retention zone*

A minimum concentration of specified preservative components, as set out below, is required in 90 % of samples.

Minimum concentration percent mass/mass O.D. wood

CCA Class I and II	As:	0.04
Boron compounds		
Hardwoods core	$H_3BO_3$ :	0.20
Softwoods (wet) core	$H_3BO_3$ :	0.10
(dry) core	$H_3BO_3$ :	0.04
(dry) cross section	$H_3BO_3$ :	0.10
Permethrin:		0.006
Cypermethrin:		0.006
Deltamethrin:		0.0006

9.1.8 Branding

9.1.8.1

Sawn treated timber shall be branded or otherwise identified on one end of each piece or within 150 mm of an end in accordance with section 6 of these specifications.

9.1.8.2

Machined, treated timber shall be branded or otherwise identified either on the end, or on a broad face within 150 mm of an end or repetitively along the length at 600 mm centres in accordance with section 6 of these specifications.

### 9.3 Hazard Class H3

#### 9.3.1

Where timber may be exposed to the weather or used as exterior covering or joinery in buildings, but will not be in contact with the ground. Wherever possible, timber should be treated in its final size, shape and form, particularly that treated with LOSP.

Any wood exposed during subsequent cutting, boring or planing should be treated *in situ* with one of the preservatives recommended in 8.5.1.

#### 9.3.2 Group A – Round, part round, or sawn timber

##### 9.3.2.1 Typical uses

Fascia, radiata pine exterior joinery, verandah decking, gates, unpainted weatherboards, all vertical weatherboards, fence battens, fence palings, roof shingles, glue laminated beams.

The following commodities are not suitable for LOSP treatment:

Roof shingles and verandah decking

Weatherboards to be used unpainted are not suitable for LOSP treatment except with specially approved formulations (see 9.3.3.2).

##### 9.3.3 Preservatives

The following preservatives are approved for use in this Hazard Class:

##### 9.3.3.1 Waterborne preservatives

CCA Class I

CCA Class II

##### 9.3.3.2 Light organic solvent preservatives

TBTO

TBTN

Specially approved formulation; Protim 235 W.R.

##### 9.3.3.3 Oilborne preservatives

Creosote

Creosote/oil mixture

##### 9.3.4 Species

Refer to Timber Preservation Quality Manual, Appendix 3 – "Schedule of timber species which may be treated".

#### 9.3.5 Penetration

##### 9.3.5.1

For timber treated in its final size, shape or profile and joinery that will be primed before leaving the treatment site.

CCA: Complete sapwood penetration in not less than 90 % of samples in a set.

LOSP: For timber up to 50 mm thick – complete sapwood.

For timber greater than 50 mm thick – 25 mm from each sapwood face.

For glue laminated beams – 10 mm.

Not less than 90 % of samples in any set shall comply with these requirements.

CREOSOTE, CREOSOTE/OIL MIXTURE: A minimum of 5 mm from any face plus (for pines) complete sapwood penetration in not less than 90 % of samples in a set.

**9.3.5.2**

For other timbers that will be re-cut or machined after treatment and for timber treated by processes not conforming to requirements of paragraph 9.3.7. The following shall apply:

Complete sapwood penetration.

If the heartwood comprises less than 20 % of the cross section of the piece, does not extend through the piece from one surface to the opposite surface and does not exceed half the dimension of any side in the cross section, no heartwood penetration is required.

Any heartwood in excess of 20 % of the total cross section area in any piece must be penetrated to show:

A continuous and uniform envelope of treated timber to a depth of 8 mm in sawn timber or 5 mm in machined timber.

**9.3.5.3**

Not less than 90 % of samples in any set shall comply with these requirements.

Samples which fail the penetration test will be rejected from the set and will not undergo the analytical test.

NOTE – Because there is no satisfactory spot test for tributyltin preservatives, compliance with this specification can only be established by chemical analysis of the treated timber.

**9.3.6 Retentions****9.3.6.1 Retention zones****9.3.6.1.1 Sapwood**

The outer 25 mm from any face, or the full depth of sapwood where sapwood depth is less than 25 mm. Where there is a fixed sapwood penetration depth requirement of 10 mm (LOSP treatment of glue laminated beams), all material within the 10 mm zone will be analysed.

**9.3.6.1.2**

Heartwood, where heartwood penetration is required

The outer 8 mm from any face in sawn timber and the outer 5 mm from any face in machined timber.

**9.3.6.1.3 Creosote, creosote/oil mixtures**

The outer 25 mm of sapwood with a minimum of 5 mm from any face.

**9.3.6.2 Minimum concentration of preservative in the retention zone****9.3.6.2.1 CCA**

A minimum concentration of total active elements, plus minimum concentrations of individual elements, as set out below, is required in 90 % of samples. Samples which failed the penetration test will be deemed to have failed this requirement.

**Minimum concentration percent mass/mass O.D. wood**

	CCA Class I	CCA Class II
Total:	0.37	0.40
Cu:	0.08	0.08
Cr:	0.16	0.10
As:	0.11	0.12

Full analysis will be required when the percentage of copper is:

CCA Class I	CCA Class II
0.08 – 0.09	0.08 – 0.10

#### 9.3.6.2.2 *LOSP*

A minimum concentration of the specified preservative component, as set out below, is required in 90 % of samples.

#### Minimum concentration percent mass/mass O.D. wood

TBTO	Sn:	0.08
TBTN	Sn:	0.08

#### 9.3.6.2.3 *Creosote, creosote/oil mixture*

A minimum concentration of creosote or creosote/oil mixture of 10 % mass/mass O.D. wood in not less than 90 % of samples. Samples which failed the penetration test will be deemed to have failed this requirement.

#### 9.3.7 *Process requirements*

##### 9.3.7.1

Where there are no heartwood penetration requirements in this Hazard Class, treatment processes used must be able to achieve heartwood penetration equivalent to that achieved by the following:

##### 9.3.7.2 *CCA*

##### 9.3.7.2.1

A treating pressure of 1400 kPa.

##### 9.3.7.2.2

A pressure period that results in a solution absorption, over a ten minute period, which is less than 1 % of the gross absorption.

##### 9.3.7.2.3

Fifteen cycles of APM treatment.

##### 9.3.7.3 *LOSP*

##### 9.3.7.3.1

A pressure differential of 70 kPa applied for 10 minutes.

#### 9.3.8 *Branding*

##### 9.3.8.1

Sawn treated timber shall be branded or otherwise identified on one end of each piece or within 150 mm of an end in accordance with section 6 of these specifications.

##### 9.3.8.2

Machined, treated timber shall be branded or otherwise identified either on the end, or on a broad face within 150 mm of an end or repetitively along the length at 600 mm centres in accordance with section 6 of these specifications.



**9.3.9 Group B – Plywood**

**9.3.9.1 Typical uses – external sheathing, bracing, decking and cladding**

Plywood treated with LOSP is not suitable for decking.

Plywood to be used as unpainted sheathing or cladding should not be treated with LOSP except with specially approved formulations (see 9.3.10.2).

**9.3.10 Preservatives**

The following preservatives are approved for use in this Hazard Class:

**9.3.10.1 Waterborne preservatives**

CCA Class I

CCA Class II

**9.3.10.2 Light organic solvent preservatives**

TBTO

TBTN

Specially approved formulation; Protim 235 W.R.

**9.3.11 Species**

Refer to Timber Preservation Quality Manual, Appendix 3 – "Schedule of timber species which may be treated".

**9.3.12 Penetration**

Face veneers shall be completely penetrated and there shall be evidence of preservative in each veneer in any cross section in not less than 90 % of samples in any set.

**9.3.13 Retentions**

**9.3.13.1 Retention zones**

The retention zone is a full cross section within a 200 mm x 50 mm sample cut parallel with the face grain, equidistant from both ends of the sheet between 150 mm and 200 mm from one edge.

**9.3.13.2**

*Minimum concentration of preservative in the retention zone*

**9.3.13.3 CCA**

A minimum concentration of total active elements plus minimum concentrations of individual elements, as set out below, is required in not less than 90 % of samples. Samples which failed the penetration test will be deemed to have failed this requirement.

**Minimum concentration percent mass/mass O.D. wood**

	<b>CCA Class I</b>	<b>CCA Class II</b>
Total :	0.37 %	0.40 %
Cu :	0.08 %	0.08 %
Cr :	0.16 %	0.10 %
As :	0.11 %	0.12 %

Full analyses will be required when the percentage of copper is:

<b>CCA Class I</b>	<b>CCA Class II</b>
0.08 – 0.09	0.08 – 0.10