



Reliable | Sustainable | Assured

LASERFRAME®
STRUCTURAL
TIMBER

SG8

LASERFRAME®
STRUCTURAL
TIMBER

SG10

LASERFRAME®
TIMBER

Cavity
BATTEN

LASERFRAME®
TIMBER

Ceiling
BATTEN

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LASERFRAME® PRODUCT GUIDE

NOVEMBER 2015



Information contained within this manual is specific to Laserframe® structural timber and cannot be used with any other timber manufacturers product no matter how similar they may appear.



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LASERFRAME® PRODUCT GUIDE

Contents

1.0 Laserframe®	3
1.1 Laserframe Features	3
2.0 Laserframe Product Range	4
3.0 Laserframe Treatment Range	4
4.0 Determination of Structural Properties	5
4.1 Stress Grading	5
4.2 Grades	5
5.0 Moisture Content	6
5.1 Moisture Meter Readings	6
5.2 Moisture Meter Tips	6
6.0 New Zealand Building Code – Durability	6
7.0 Quality Assurance	6
8.0 Engineering Disclaimer	7
9.0 Storage, Handling and Installation	7
10.0 Lining	7
11.0 Maintenance & Disposal	7
12.0 References and Sources of Information	7

The information contained in this product information sheet is current as at November 2015 and is based on data available to Carter Holt Harvey® Woodproducts as at the time of going to print.

CHH Woodproducts reserves the right to change the information contained in this document without prior notice. It is important that you call 0800 746 399 to confirm that you have the most up to date information available. CHH Woodproducts has used its reasonable endeavours to ensure the accuracy and reliability of the information contained in this document and, to the extent permitted by law, will not be liable for any inaccuracies, omissions or errors in this information nor for any actions taken in reliance on this information.

1.0 LASERFRAME®

Laserframe® is a structural timber manufactured by Carter Holt Harvey® Woodproducts used for residential and commercial building framing. CHH Woodproducts has engineered a full range of building components with grades and properties from NZS 3603:1993 confirmed from testing conducted by CSIRO, The University of Auckland, Scion (Forest Research) and internally by CHH Woodproducts.

1.1 LASERFRAME® FEATURES

- Manufactured from plantation grown New Zealand Radiata Pine
- Kiln dried Radiata Pine – light weight/fast close in
- Machine stress graded for structural assurance
- Excellent nail holding, nail plating, gluing and screwing properties
- Service and technical support from CHH Woodproducts
- Fully supported and compliant with New Zealand Standards
- The truly renewable building material and is available as FSC certified upon request

2.0 LASERFRAME® PRODUCT RANGE

Laserframe® is specified and sold by actual dry size. It is machined in the dry state to the section sizes given in Table 1.

TABLE 1: LASERFRAME® SIZE AND LENGTH AVAILABILITY

Size (mm)	Thickness (mm)	Length (m)
Laserframe® SG8		
70	45	3.6, 4.2, 4.8, 5.4, 6.0
90	45	3.6, 4.2, 4.8, 5.4, 6.0
140	35, 45	3.6, 4.2, 4.8, 5.4, 6.0
190	45	3.6, 4.2, 4.8, 5.4, 6.0
240	45	3.6, 4.2, 4.8, 5.4, 6.0

Size (mm)	Thickness (mm)	Length (m)
Laserframe® SG10		
90	45	3.6, 4.2, 4.8, 5.4, 6.0
140	45	3.6, 4.2, 4.8, 5.4, 6.0

Shorter, cut to length products such as studs are also available only in SG8

3.0 LASERFRAME® TREATMENT RANGE

Laserframe is available in a range of treatment options given in Table 2. The treatment option required is dependent on the in-service application and can be derived from NZS 3602:2003. As modified by NZ Building Code section B2/AS1.

Treatment may be carried out by third party service providers. Some chemical companies provide guarantees in relation to their products which may be available to Laserframe customers.

TABLE 2: LASERFRAME® TREATMENT RANGE

Hazard Class	Preservative	Identification Colour	Biological Hazard
H1.2	Boron	Pink	Borer, decay
H3.2	CCA	Green	Decay, fungi & borer

The table above shows the hazard classes relevant for structural framing used in frames and trusses.

4.0 DETERMINATION OF STRUCTURAL PROPERTIES

The structural properties of Laserframe® are verified according to the requirements of NZS 3622:2004 Verification of Timber Properties.

Table 3 gives the characteristic strength and stiffness values for limit states design.

TABLE 3: CHARACTERISTIC STRESSES FOR MACHINE STRESS GRADED TIMBER

Moisture condition – Dry (M/C = 16%)						
Species	Grade	Bending Strength (MPa)	Compression Strength	Tension Strength	Modulus of Elasticity (GPa)	Lower Bound Modulus of Elasticity (GPa)
Radiata Pine	Laserframe® SG10	20.0	20.0	8.0	10.0	7.5
Radiata Pine	Laserframe SG8	14.0	18.0	6.0	8.0	5.4

4.1 STRESS GRADING

The stiffness and strength of a piece of timber varies along its length. All Laserframe is machine stress graded in accordance with AS/NZS 1748 to test for stiffness. Regular, random samples

are tested “off line” on purpose built test equipment to verify both strength and stiffness in accordance with NZS 3622:2004.

4.2 GRADES

Laserframe SG10
Laserframe SG8

All Laserframe pieces will carry a branded stamp applied to the face of each piece of timber.

1. Brand
2. Grade
3. Size
4. Date of Manufacture at sawmill
5. Machine Stress Grading Standards
6. Kiln dried
7. Sawmill Number

Laserframe¹ SG8²
 90x45³ DD/MM/YY⁴
 AS/NZS1748⁵ KD⁶ 015⁷

5.0 MOISTURE CONTENT

Laserframe® is kiln dried and is verified in the dry state at the sawmill in accordance with AS/NZS 1748 and NZS 3622. Laserframe is dried to a target moisture content of 14%, with approximately 90% of product within the range of 8-21%, except

if the timber is Laserframe Boron H1.2, or CCA H3.2 treated. For these products the moisture content may be approximately 5% higher and will come back to the lower level as the moisture from the preservative treatment dries out.

5.1 MOISTURE METER READINGS

The Boron preservative in Laserframe Boron H1.2 will affect the accuracy of moisture meter readings. For wood that has been

allowed to equilibrate with its surroundings (normally 3 to 4 weeks after treatment), the following corrections apply:

TABLE 4: MOISTURE METER CORRECTION

Meter Reading % MC	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
True Moisture Content % Conductivity Meter* or Resistance Meter*	13	14	15	16	16	17	18	18	19	20	21	21	22	23	23	24

* For meters calibrated against NZS 1080 Pt 1. Appendix E refer E2/AS1

The data contained in the moisture meter correction tables, was obtained by testing of Boron H1.2 Moisture Content using moisture meters and correlating the results to oven dried Moisture Content test results. This work was carried out for

CHH Woodproducts by Osmose Ltd and SCION (formerly NZ Forest Research Institute). CCA treatment also affects the conductivity of a moisture meter and the meter manufacturers correction factors for CCA treatment should be applied.

5.2 MOISTURE METER TIPS

- The only appropriate moisture meter to be used on site is the 'sliding hammer' type which is a resistance meter. To use a capacitance meter or another type will almost certainly give false readings
- Use insulated electrodes only
- The meter must be calibrated annually
- The meter is to be used by inserting the probes to ½ the depth of the timber member (16 mm), in line with the grain of the timber and no less than 500 mm from the end of the timber member

- The meter reading must then be corrected by applying correction figures for both species and treatment. Use the correction figures in the above tables or from 'Measuring the moisture content of wood' by Ian Simpson of SCION (formerly NZ Forest Research Institute)

Note: Laserframe Boron H1.2 is treated with a water-based preservative and experiences a small increase in moisture content as a result of treatment. However, the moisture content will return to normal levels during fabrication or construction.

6.0 NEW ZEALAND BUILDING CODE – DURABILITY

Laserframe is manufactured to meet the requirements of NZS 3602:2003 "Timber and Wood based Products for use in Buildings", as modified by NZ Building Code section B2/AS1. As such, if the product is used in accordance with CHH Woodproducts product literature, it will meet the

durability clauses of the NZ Building Code. The timber requires no special attention after installation other than the building envelope being maintained by the owner and any failures (roof, walls, floor, plumbing) being promptly remedied.

7.0 QUALITY ASSURANCE

CHH Woodproducts has strict quality assurance processes in place to monitor that Laserframe adequately satisfies structural and visual requirements. Bureau Veritas has been contracted to undertake independent, third party auditing of the Machine Stress Grading processes at our structural mill sites. Independent audit

inspections are carried out bi-annually and include:

- Audit of the Machine Stress Grading process and procedures
- Assessing the competence of personnel in relation to skills and knowledge requirements
- Verification of the calibration of testing equipment

8.0 ENGINEERING DISCLAIMER

The characteristic properties and stress grade classifications are attributes of a timber population. All Laserframe® timber comes from a population that meets the characteristic

properties of the designated SG grade. CHH Woodproducts is unable to warrant that any single piece or pack of timber has the characteristic properties of the designated SG grade.

9.0 STORAGE, HANDLING AND INSTALLATION

Refer to the relevant product material safety data sheet (MSDS) available on our website. Store Laserframe at least 100 mm clear of the ground on bearers suited to keeping the timber straight. Lift packets off transport, do not tip.

Laserframe is sent from the sawmill in wrapped packets and it is important to ensure that the integrity of the wrap is maintained during storage. The benefits of Laserframe are optimised by looking after it as dry timber. Note the following:

- Minimise exposure to weather and rain
- Protect pre-cut and pre-nailed frames
- Enclose frames as soon as possible
- Avoid ponding of water on floor and around plates
- Dry out after exposure to moisture
- Cut end protection is **not** required for end sections, holes, rebates, notches, machining etc for H1.2 treated Laserframe identified pink/red

- Cut end protection **is** required for end sections, holes, rebates, notches, matching etc. for H3.2 or higher treated Laserframe identified green
- Exposure to normal weather patterns during ordinary construction will not adversely affect the treatment in the product
- H1.2 treated Laserframe is compatible with virtually all other building materials fasteners and hardware
- H3.2 treated Laserframe may be corrosive to galvanised fasteners, dependant on the levels of moisture present. Refer to NZS 3604:2011 for guidelines on fastener durability when used with copper based preservatives.
- Laserframe is a truly renewable building material and is available as FSC certified upon request (surcharge applies)

10.0 LINING

Lining of buildings should be done at moisture contents that suit the finish requirements of the occupied building and

the recommendations of the lining manufacturer. Sixteen to eighteen percent moisture content is a typical recommendation.

11.0 MAINTENANCE & DISPOSAL

Used as recommended, Laserframe requires no maintenance provided the building envelope is maintained weathertight.

Treated Laserframe residues should be sent for disposal at an approved landfill site.

12.0 REFERENCES AND SOURCES OF INFORMATION

- New Zealand Building Code
- CHH Woodproducts technical notes – downloadable from www.chhwoodproducts.co.nz/document-library
- NZS 3602 - Timber and Wood-based Products for use in Building
- NZS 3603 - Timber Structures Standard
- NZS 3604 - Timber Framed Buildings
- NZS 3622 - Verification of Timber Properties
- NZS 3640 - Chemical Preservation of Round and Sawn Timber

- AS/NZS 1170 - Structural Design Actions
- AS/NZS 1748 - Timber – Stress-graded – Product requirements for mechanically stress-graded timber
- Material Safety Data Sheets
- APA (www.buildabetterhome.org)
- EWPA (www.ewp.asn.au)

Standards can be purchased online at www.standards.co.nz
Building Code Compliance Documents can be downloaded free of charge at www.dbh.govt.nz



The Laserframe machine stress grading process and procedures are audited by Bureau Veritas



The Laserframe timber treatment process and procedures are audited by AsureQuality

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 **CarterHoltHarvey**
Woodproducts New Zealand

Private Bag 92-106
Victoria Street West
Auckland 1142
New Zealand

Freephone: 0800 746 399
Freefax: 0800 746 400

www.chhwoodproducts.co.nz

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