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| <b>Product name</b>       | 100x50 (90x45) H1.2 KD MG SG12 Pine Structural Timber |
| <b>Product line</b>       | New Zealand Radiata Pine Structural Timber            |
| <b>Product identifier</b> | 100x50 (90x45) H1.2 KD MG SG12 Pine Structural Timber |
| <b>Product Class</b>      | Class 1   |

## Building Product Information Sheet (BPIR)

### Description

Structural (SG12) H1.2 Radiata timber framing or wood is pink in colour (as a result of the treatment process) and can only be used where it is protected from the weather (i.e., enclosed timber framing). Structural timbers are commonly referred to as studs, bottom and top plates, joists, bearers, rafters, purlins, beams and lintels according to their application and use in a building.

Manufactured from plantation grown New Zealand Radiata Pine. • Kiln dried Radiata Pine. • Machine stress graded for structural assurance. • Compliant with New Zealand Standards

This timber is Kiln dried, smooth (machine gauged) and may be used for a selection of the following applications where timber dimension, grade and treatment are specified by an Engineer or Designer and where the application meets the New Zealand Building Code/ NZS3604

- Floor framing,
- Roof framing and trusses,
- Wall framing,
- Mid-floor framing,
- Interior flooring,
- Purlins,
- Rafters,
- Valley boards,
- Internal walls,
- Joists,
- Enclosed balcony handrails
- Subfloor framing.

Mechanically stress graded SG timber intended for interior structural construction and will have the grade and treatment identification at 1200mm centres along the board.

## Relevant Building Code Clauses

- B1 Structure — B1.1, B1.2, B1.3.1, B1.3.2, B1.3.3 and B1.3.4.
- B2 Durability — B2.3.1 (a, b, c)
- F2 Hazardous building materials — F2.3.1

## Contributions to Compliance

### 100x50 (90x45) H1.2 KD MG SG12 Pine Structural Timber

#### *Clause B1 (Structure)*

- Strict internal standards are maintained for quality control of all Structural Timber. In addition to these standards Grade Right Ltd performs audits to ensure the verified framing programme is accurate. Sonic Testing and human visual grading are used to ensure the standards for our products. Timber quality is constant.
- When SG10 H1.2 Timber is used correctly as it is engineered and designed to, it is designed to safeguard people from injury and loss of amenity and protection of other property.
- SG10 H1.2 structural timber is required to fulfil the functional requirements of buildings throughout their lives, through strength testing, correct installation, and design. There is an exceptionally low probability when used of a building rupturing, becoming unstable, losing equilibrium or collapsing during their intended duration when the correct product is used for its intended use. This is reinforced by our strict quality control of all Grade Standards.
- SG10 H1.2 Timber strength, suitability, treatment and design when used in accordance with NZS3604 standards, means that a Timber framed building or structure using this product, causing a loss of amenity through undue deformation, response to vibration, degradation or other physical characteristics throughout their lives when the building is in use is prevented to the best possible level. This is provided that the product is used correctly following the conditions set out by the producer and designer and installed following these conditions by the builder.

## Contributions to Compliance

### 100x50 (90x45) H1.2 KD MG SG12 Pine Structural Timber

#### *Clause B2 (Durability)*

SG10 H1.2 treated timber is guaranteed for 15 years\* (see Koppers warranty) used in a ventilated cavity construction system, or 5 years when no cavity exists. The treated wood is guaranteed to withstand insect attack and fungal decay and remain structurally fit for purpose for these periods when installed correctly. This is conditional on the timber having been treated to reach or exceed the Hazard Level H1.2 requirements of NZS3640. For radiata pine structural timber products used in framing and Interior construction, the H1.2 treatment is specified to ensure a long life and trouble-free service under the Building Code. Typical examples are framing and truss timbers and subfloor support.

H1.2 treated timber meets the New Zealand Building Code B2 Durability requirements when treated in accordance with the requirements of NZS3640, and used in accordance with NZS3602 to ensure that in-service moisture content remains at 20% or below, i.e., the building is not leaking, and there is maintenance of the external envelope of the building so that the maximum in-service moisture content continues to be met. (See the Warranty for Koppers Performance Chemicals: Treated Wood Product Warranty)

## Contributions to Compliance

### 100x50 (90x45) H1.2 KD MG SG12 Pine Structural Timber

#### *Clause F2.3.1 (Hazardous building materials)*

Boron has been a traditional preservative for the protection of interior structural building timber for over half a century. It has a proven record of safety and performance and gives structural timber its distinctive pink colour

Radiata H1.2 KD MG SG12 is NOT a hazardous material and is safe to use, especially when simple Health and Safety protocols are in place:

- Eyes: Wear non-fogging goggles, full face shield, or safety glasses with side shields when cutting this product.
- Hands and Skin: Wear protective clothing such as overalls and shirt with sleeves, also closed in footwear. Wear puncture-resistant gloves (e.g. Leather) when handling dry wood.
- Respiratory: Use in well-ventilated area or outside. Wear a class P1 or P2 replaceable filter or a disposable face piece respirator should be worn if wood dust is generated.
- General: Wash hands before eating, drinking, smoking, using the toilet and at the end of the shift.
- Do not dispose of offcuts by burning, use approved landfills only and do not use as 'mulch' for gardens.

## Contact Details

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| <b>Manufacture location</b>                      | New Zealand / Aotearoa   |
| <b>Legal and trading name of manufacturer(s)</b> | Max Birt Sawmills Ltd  |
| <b>Manufacturer address for service</b>          | 155 State Highway 2, Pokeno,<br>Waikato 2471                           |
| <b>Manufacturer website</b>                      | <a href="http://www.maxbirtawmills.co.nz">www.maxbirtawmills.co.nz</a> |
| <b>Manufacturer email</b>                        | <a href="mailto:sales@maxbirt.co.nz">sales@maxbirt.co.nz</a>           |
| <b>Manufacturer phone number</b>                 | 092947800  |
| <b>Manufacturer NZBN</b>                         | 9429040393711  |

## Scope of Use

### **100x50 (90x45) H1.2 KD MG SG12 Pine Structural Timber**

Radiata SG12 is Kiln Dried Machine Gauge 100x50 (90x45) H1.2 Treated. H1.2 means it is treated with Boron in a water-base. This treatment provides effective timber preservative and resistance to fungal decay and insect attack. Boron treated SG wood is recognised by its pink colour. The preservative formulation is applied to dry timber using a controlled vacuum pressure process in an industrial timber treatment plant that ensures deep penetration without compromising the integrity of the wood.

SG12 is a structural timber that is an engineering grade where design requires higher strength and/or stiffness. SG12 is machine gauged to ensure that the wood is straight, and the dimensions are accurate so that it can be effectively used for residential and commercial building of frames & trusses, joists, bearers, roof beams & lintels as recommended in designs.

The benefits of H1.2 KD MG SG12 Pine Structural Timber are optimised by looking after it as dry timber during construction:

- Limit exposure to weather and rain as much as possible as it is intended for interior use only. Maximum exposure time to weather during construction should not exceed 3 months. Store at least 100mm off the ground and cover to protect from water and allow for ventilation.
- Protect pre-cut and pre-nailed frames.
- Enclose frames as soon as possible.
- Avoid ponding of water on floors
- Dry out after exposure to moisture.
- For H1.2 treated wood. cut end protection is not required for end sections, holes, rebates, notches, machining etc.

H1.2 treated SG12 wood is compatible with virtually all other building materials, fasteners, and hardware. However, for some situations such as building near the sea galvanised steel is recommended. Details on the correct type of fasteners is given in NZS3604.

All Structural timber complies with the design requirements of NZS3604:2011 Timber Framed Buildings. The engineering properties are contained in NZS3603:1993 A4 and are verified by the process specified in NZS3622:2004 A1.

SG12 is tested as a joist on edge by bending the piece to measure stiffness and then a bending strength load of about 345kg applied to measure bending strength. This testing gives consumers confidence that the Grade Verified timber will perform in the service intended by the designer or architect.

Following the 2022/2023 changes to the building code in relation to insulation, New Zealand has been divided into 6 Climate Zones with differing 'R' values for each of the six areas. (See Northpine Span Tables SG8/SG12) This impact on the R-values, i.e., the climate zones further north require less R-Value for some elements of the building than the climate zones further south. Differing R (Thermal Resistance) levels mean that in some areas the depth of a wall for example and the amount of insulation will be increased. While SG8-designed walls result in double studs at 600mm centres, the same wall in SG12 only requires a single stud at 600mm centres, there is no need for the insulation installer to trim standard insulation products to make them fit correctly. Better construction R-value, easier to install and half the studs required for an equivalent wall. SG12 can optimise the stud centre requirements, halve the volume requirement, and increase spans by up to 30%. It can also adjust the number of foundation piles required Designers specifying SG12 rafters instead of SG8, may increase the rafter centres which will help them achieve the R6.6 requirements in all buildings under 300 square meters. (See Northpine Span Tables SG8/SG12)

## Conditions of Use

### 100x50 (90x45) H1.2 KD MG SG12 Pine Structural Timber

- Must be installed by a licensed building practitioner (even where restricted building work does not apply) It must be installed in accordance with the specifications and installation details described in NZS 3604 or as detailed by the Chartered Professional Engineer, and good building practice.
- H1.2 SG12 Timber must not be in situations where it will be in direct contact with the ground.
- Boron H1.2 treated pine is treated with a water-based, preservative and can as a result show a higher moisture content because of treatment. However, the moisture content will return to normal levels during fabrication or construction. H1.2 treated SG12 wood is compatible with virtually all other building materials fasteners and hardware such as bright steel. For some situations such as building near the sea galvanised steel is recommended.
- Treated structural timber should be used in its final shape and form as supplied. Cutting, notching and drill holes required for fitting and installation do not require re-sealing. IN NO CIRCUMSTANCES should H1.2 treated timber be rip sawn or re-manufactured from the original dimensions.
- Structural timber treated to H1.2 should not be used where it will be exposed to the outdoor environment. During construction if the wood should become wet it should be allowed to dry before being covered or enclosed.
- Structural timber should not be used where it will be subject to loadings that are above design limits as specified in NZS3604.2011 Timber Framed Buildings or NZ/AS1720 Part 1.2022 Timber Structures.
- Structural Timber must be installed in accordance with good building practice, sound design principles, and in accordance with the specifications and installation details provided by the engineer and/or other qualified design professional.
  - It is the responsibility of the builder to purchase the correct grades from the supplier and install them according to the consented design/plan. In the case of prefabricated buildings, the responsibility rests with the frame and truss manufacturer. Where grades which are not available have been specified, builders should ask the designer to redesign in available grades and amend the consent.
- Design responsibility lies with the building owner and the professionals that they engage. The specifier for the project must ensure that the details in the specification for their individual projects are appropriate for the intended application. The specifier must also ensure that additional detailing is provided for specific design or any areas that fall outside the scope and specifications of normal SG12 H1.2 KD MG Pine Structural Timber.
  - Designers should be aware there are now three sets of design tables within NZS3604, and they need to ensure plans and specifications are clear and include grade, size of timber, spacing etc. as this information is critical at consent and build stages.

## Documentation

- Verified Timber

<https://www.verifiedtimber.co.nz/>

*Structural Timber Information*

- Southpine Information Sheet H1.2 Boron Treated Framing Timber

<https://southpine.co.nz>

*Design Installation*

- NorthPine

[5f7bc2bde9411ffd7b436a02\\_ST\\_SG8\\_SG10\\_-\\_2020.pdf \(website-files.com\)](#)

*Span Tables SG8/SG10*

- Koppers FramePro Brochure

<https://www.kopperspc.co.nz/pdfs/Fram...>

<https://www.kopperspc.co.nz/resources/sds.html>

[https://www.kopperspc.co.nz/pdfs/Koppers\\_NZ\\_Warranty.pdf](https://www.kopperspc.co.nz/pdfs/Koppers_NZ_Warranty.pdf)

*Maintenance Test results/resources/warranty*

- Grade Right NZ Ltd Grade Verified Information Sheet: What is SG timber?

<https://www.graderight.co.nz/home/>

*Certification Installation Test results*

- NorthBean Solid Timber Beams Posts and Joints

[986.pdf \(d39d3mj7qio96p.cloudfront.net\)](#)

Branz Appraised Appraisal Number 986(2017)

- Arcline Architecture

[Architectural Designers & Consulting | Arcline Architecture](#)

*New NZ Installation Rules 2023*