

<b>Product name</b>	GL10 Glue—Laminated Products H5 CCA
<b>Product line</b>	New Zealand Radiata Pine Manufactured Glue-Laminated Structural Timber
<b>Product identifier</b>	Glu-Lam GL10 H5 CCA
<b>Product Class</b>	Class 1
<b>Product Sizes</b>	88x88, 112x112,135x135, 140x90, 190x90,240x90, 290x90
<b>Product Treatments</b>	H5 CCA

## Building Product Information Sheet (BPIR)

### Description

#### **GL10 Glue—Laminated Products**

Glulam is a strong, engineered, structural timber product. Glulam has superior strength, stability and stiffness to dimensional timber and can be produced in uniform or varying depths to give strength where it is required. Lengths, dimensions, and shapes can be produced almost without limit, making Glulam unsurpassed in its versatility.

GL10 Glulam Beams combine structural integrity and durability with solid eco-credentials:

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

Glulam is produced by the laminating of three or more kiln-dried, stress-tested, and finger-jointed lumber together to form continuous laminations. These laminations are pressed together using a mechanized, hydraulic press, bonded with weather-resistant adhesives. Pressure treatment is used for exterior applications. Glulam can be customized as straight, curved, arched, and tapered members.

Because GL10 H5CCA is manufactured from selected SG10 grade, kiln-dried material it is more stable than a sawn timber beam of the same section. The tendency of large section sawn timber to twist, split and shrink is greatly minimised in Glue-Laminated Products. A GL beam can reduce the overall section of members up to 40% compared to unseasoned timber, as they are pretensioned.

Glulam is stiff and sturdy and can be bent and shaped. It is able to make longer arches than traditional heavy timber and not require a supporting beam or post. (the NZ Farm Forestry Association Glulam Span Tables should always be consulted.)

## 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

### **GL10 Glue—Laminated Products**

#### *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 manufactured framing programme is accurate. Lumber treated by North Sawn Lumber meets multiple quality assurance standards and is marked with the Assure Quality imprint for preservative purposes. These schemes ensure that our plant, systems, independent testing, and quality control all meet with rigorous New Zealand standards for wood treatment and processing.
- When GL10 Glue Laminated Structural 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.
- GL10 Glue Laminated Structural Timber is required to fulfil the functional requirements of buildings and structures throughout their lives, through strength testing, correct installation, and design.
- There is an exceptionally low probability when used of a structure 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.
- All our GL10 Glue Laminated products are Manufactured in accordance with AS/NZS 1328.1:1998, AS 5068-2006 and certified by the Grade Right Grade Verified Wood Products QA Programme. (valid to 31/03/2025)
- Weight for strength, a Glulam beam is stronger than both steel and concrete. This means that Glulam beams can span very long distances with minimal intermediate support required. Dependent upon specific loading conditions a steel beam may be 20% heavier and a reinforced concrete beam 600% heavier than an equivalent Glulam beam for carrying the same load. The resulting lighter structure can lead to significant economies in foundation construction.
- The process of glue laminating timber eliminates the natural performance variations that characterise solid sawn timber. As Glulam beams are engineered wood products that are manufactured to meet specific performance criteria, the specifier and user can be assured that Glulam products will consistently perform as expected.

(See [https://nzwoodproducts.co.nz/media/products/files/2020/IBuilt-Glulam\\_H5\\_posts\\_design-Guide.pdf](https://nzwoodproducts.co.nz/media/products/files/2020/IBuilt-Glulam_H5_posts_design-Guide.pdf))

## Contributions to Compliance

### **GL10 Glue—Laminated Products**

#### *Clause B2 (Durability)*

North Sawn Lumber has the certificate of the Grade Right timber treatment programme, and all Glue-Laminated products are manufactured and treated in accordance with NZS 3640:2003 the “Standard Operating Procedures (SOP) for Timber Treatment Plants and Treatment Auditors [Grade Right NZ, ND]. 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 H5 requirements of NZS3640. For radiata pine structural timber products used in outdoor framing and Interior construction, the H5 CCA treatment is specified to ensure a long life and trouble-free service under the Building Code. H5 CCA is used where ground contact, or conditions of severe or continuous wetting, where uses are critical and where a higher level of protection than H4 is required, Typical examples are above ground: Veranda Lintels, Rafters, beams. Pergola beams and rafters, decking, entranceways, carports, fencing. Inground use for decking posts, pergola posts, house piles or fencing.(See [https://nzwoodproducts.co.nz/media/products/files/2020/IBuilt-Glulam\\_H5\\_posts\\_design-Guide.pdf](https://nzwoodproducts.co.nz/media/products/files/2020/IBuilt-Glulam_H5_posts_design-Guide.pdf) )

For GL10 products that will be exposed to moisture: All exposed surfaces must be fully coated within 14 days of installation. All exposed surfaces, cut ends and joints must be sealed with a good quality stain or alkyd primer. Allow to dry as per manufacturer/supplier instructions. Durability will be extended with the use of an oil-based primer and paint, or oil-based stain.

The in-ground portion of the GL10 must have a temporary moisture-resistant coating to ensure posts do not absorb moisture prior to the concrete curing.

## Contributions to Compliance

### **GL10 Glue—Laminated Products**

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

North Sawn Timber’s Treatment processes are in accordance with the New Zealand Timber Preservation Council Best Practice Guidelines.

Chromate Copper Arsenate (CCA) is a preservative that has been used extensively around the world for more than 80 years and has stood the test of time.

GL10 H5 CCA KD is NOT considered a hazardous material and is safe to use, especially when simple Health and Safety protocols are in place:

- Take all necessary steps to ensure your safety and the safety of others:
- ensure adequate ventilation or mechanical dust extraction when cutting or drilling.
- ensure the timber is well supported when cutting and nailing.
- use appropriate safety equipment, clothing, and footwear.
- use all tools in accordance with relevant instruction manuals.
- plan and monitor a safe approach for working at height; select and use the right equipment.
- clear the work area of any obstructions before work starts.
- treated wood offcuts should be disposed to landfill Do not dispose of offcuts by burning, use approved landfills only and do not use as 'mulch' for gardens.

## Scope of Use

### **GL10 Glue—Laminated Products**

Glue-Laminated wood is Kiln Dried H5 CCA Treated. CCA is a non-hazardous product that has been used in New Zealand for over 50 years with a proven safety record when used as recommended. This treatment provides effective timber preservative and resistance to fungal decay and insect attack. 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.

GL10 H5 CCA glue laminated timber should be handled in a manner to prevent damage to edges and faces:

- Avoid overstressing the product. This includes dropping, jarring or dragging and unintentional saw cuts.
- Protect when handling with forklifts, or any other means of lifting or transporting.

#### Storage

- GL10 H5 CCA glue laminated posts should not be exposed to rapid changes in moisture or temperature.
- Store the GL10 H5 CCA glue laminated posts flat on evenly spaced bearers that extend across the full width of the posts.
- During construction it is important to keep moisture out. To prevent the GL10 H5 CCA glue laminated posts absorbing water place a layer of plastic underneath the bearers.
- If posts cannot be stored under cover, place timber fillets between the posts and cover with a waterproof cover and allow for good air circulation.

GL10 is a manufactured structural timber. H5 CCA is most commonly used in situations where severe decay hazard risks such as ground contact where conditions of severe or continuous fresh-water wetting may occur.

The benefits of GL10 H5 CCA Glue Laminated Timber

- GL10 H5CCA is manufactured from selected grade, kiln-dried material. It is more stable than a sawn timber beam of the same section. The tendency of large section sawn timber to twist, split and shrink is greatly minimised in Glue-Laminated Timber. A GL10 beam can reduce the overall section of members up to 40% compared to unseasoned timber, as they are pretensioned.
- Easier and lighter to handle and fix.
- Superior Fire Resistance compared to steel- Lower maintenance- Glulam does not rust or corrode.
- Appearance of natural warmth and beauty of timber.
- Will not buckle or distort in response to temperature changes- Direct fixing of plates, joists and other connections is much easier.
- GL10 posts and beams treated to H5 CCA may be used in exterior situations if they are finished with a paint or stain coating. Beams and posts should always be painted with light colours or dark colours with light reflectance value (LRV) of greater than 45%. Colours with an LRV of 45% or less are not recommended, as they can absorb heat which may result in timber distortion and cracking. Because Glue-Laminated timber is chemically inert it is ideal for corrosive atmospheres such as swimming pools, marine structures, fertilisers and scouring plants where steel is subject to rust and corrosion.

## Conditions of Use

### GL10 Glue—Laminated Products

- 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.
- GL10 H5 CCA Timber must be used where the timber will be <200mm off the ground and there is a potential for the timber being continuously wet.
- GL10 does not cause corrosion on galvanised fixings as GL10 is manufactured from material, which is kiln dried after treatment, the treatment salts are thoroughly fixed into the timber. They will therefore not subsequently leach out or affect galvanized fixings. For additional protection it is recommended that any bolts be greased before inserting into GL10 H5CCA treated beams that are exposed to the weather.
- As GL10 is pretreated before laminating, all pieces are fully treated, so any cutting etc. does not need a paint on treatment applied to the cut portion. However, any cuts to be sealed as per sealing specifications.
- Structural GL 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 GL 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 and treated levels 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 GL10 H5 CCA 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.
    - Where subject to a building consent refer to the building consent plans and specifications for the size and location of the H5 glue laminated posts, the depth of the footing, and fixings. Where specific assemblies are not contained in the building consent documentation, refer to:
      - NZS 3604:2011
      - information from all suppliers (structural brackets, coatings, etc.).
- For posts with minimum dimensions of 135x135 mm and that are within the scope of NZS 3604:2011, dimensions of footings and fixings may be specified in accordance with NZS 3604:2011. Where the specifications fall outside NZS 3604:2011, fabricated connections must be in accordance with AS/NZS 1170.2:2000. The in-ground portion of the post must be encased in minimum 17.5 MPa concrete and coated with a suitable protective coating prior to installation.
- (See [https://nzwoodproducts.co.nz/media/products/files/2020/IBuilt-Glulam\\_H5\\_posts\\_design-Guide.pdf](https://nzwoodproducts.co.nz/media/products/files/2020/IBuilt-Glulam_H5_posts_design-Guide.pdf) )

## Contact Details

<b>Manufacture location</b>	New Zealand / Aotearoa
<b>Legal and trading name of manufacturer(s)</b>	North Sawn Lumber Ltd
<b>Manufacturer address for service</b>	458 Marsden Point Road, PO Box 7, Ruakaka
<b>Manufacturer website</b>	<a href="http://www.nslumber.co.nz">www.nslumber.co.nz</a>
<b>Manufacturer email</b>	<a href="mailto:info@nslumber.co.nz">info@nslumber.co.nz</a>
<b>Manufacturer phone number</b>	027574 3394
<b>Manufacturer NZBN</b>	9429035559368

## Documentation

- NZ Timber Preservation Council Inc  
[NZ Timber Preservation Council \(nztpc.co.nz\)](http://nztpc.co.nz)  
*Timber Preservation Information*
- IBUILT GLUE LAMINATED POSTS DESIGN & INSTALL GUIDE  
[IBuilt-Glulam H5 posts design-Guide.pdf](#)  
*Certification Design Maintenance*
- 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:  
<https://www.graderight.co.nz/home/>  
*Certification Installation Test results*
- Grade Right NZ Ltd Grade Verified :  
<https://www.graderight.co.nz/home/>  
*Certification of Engineered Wood Products QA Programme*
- Asure Quality  
[Forestry & Timber Certification – AsureQuality](#)  
*Forestry Timber Certification*
- AS/NZS1328.2.1998 – Guides for AS/NZS 1328 part 1 for the selection, production and installation of glue- laminated structural timber.
- AS/NZS8008 (Int): 2014 Timber – Finger jointed structural timber performance requirements.
- New Zealand Farm Forestry Association  
[4998\\_2016052682355-1464207835 \(nzffa.org.nz\)](http://4998_2016052682355-1464207835.nzffa.org.nz)  
*Glulam Span Tables*