NORTHBEAM

Stronger beams and posts

NORTHPINE 25 YEARS

Growing stronger

34 Cove Road, Waipu, Northland, NZ | **P:** +64 9 432 1155 | office@northpine.co.nz | www.northpine.co.nz

WHO WE ARE / WHAT WE DO

NORTHPINE 25 YEARS
Growing stronger

Northpine Ltd is an award-winning, privately-owned timber manufacturer based at Waipu, Northland, New Zealand.

Established in 1999 by Keith Reay, Richard Wilson and Bruce Larsen from the rundown assets of the Waipu Timber Company, Northpine has steadily built an enviable reputation for wood processing excellence and efficiency, reliability, environmental responsibility and outstanding customer service. Although a relatively small 'boutique' sawmill, Northpine produces about 30,000m^3 annually with strong emphasis on specialist products for niche markets.

Northpine timber products come only from sustainably managed, high-density Radiata forests in the northernmost region of New Zealand – because reliable academic research shows that pine grown in the north is denser, stronger and stiffer.

Employing 60-70 people, Northpine supplies high quality structural pine to the construction industry via merchants nationwide, and to wholesalers in Australia and South Pacific islands. At the Waipu sawmill Radiata logs are sawn, kiln dried, gauged, stress tested and verified, treated, strapped, wrapped and dispatched to timber and building supply merchants.

Northpine specialises in producing large dimension (SG8/SG10) and non-standard treated timber beams and square posts suitable for use in civil, commercial and residential construction. These products are sold under the brand name **Northbeam**.

NORTHBEAM
Stronger beams and posts

"Northpine is a sawmill based on technical ability and strong core values."

– Keith Reay, founder of Northpine

Key points

- **25 years in business achieved (Aug 2024)**
- **Efficient and reliable 'boutique' sawmill based in Northland, NZ**
- **Leading manufacturer of high-quality dense Radiata pine from northern NZ forests**
- **Specialising in SG8/SG10/SG12 treated timber beams and square posts - Northbeam**
- **Product range ideal for many civil, commercial and residential construction projects**

WHAT THE **SCIENCE SAYS**

"Northland radiata pine is stronger and denser than pine grown in other parts of the country because the cell walls are thicker. This is partly due to the good growing conditions in autumn and winter. It means our pine forms the basis of a top quality structural product for construction."

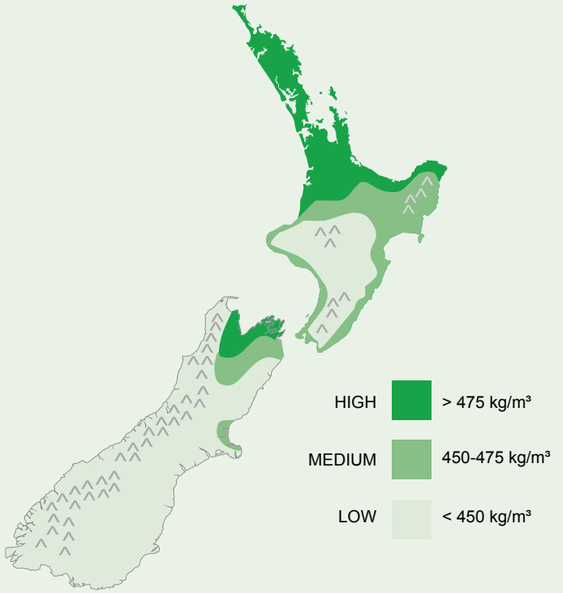
– Keith Reay, founder of Northpine

Northland pine is stronger

A 1991 study conducted by the Forest Research Institute (FRI, now Scion) demonstrated, in essence, that the further north in New Zealand the timber comes from, the denser and stronger it is.

A further study by FRI in 1997 then showed conclusively that visual grading (ie using the NZ grading rules No1 Framing), gave different performance characteristics depending on which region the timber came from.

The result showed that out of the six regions tested, only two met the actual requirements that the visual grading was designed to achieve. One of these regions is Northland.

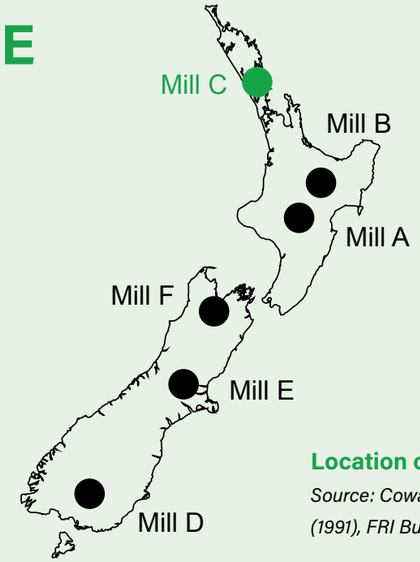


Radiata pine density zones

Density is closely related to timber stiffness and strength. Northland wood is in the highest density zone.

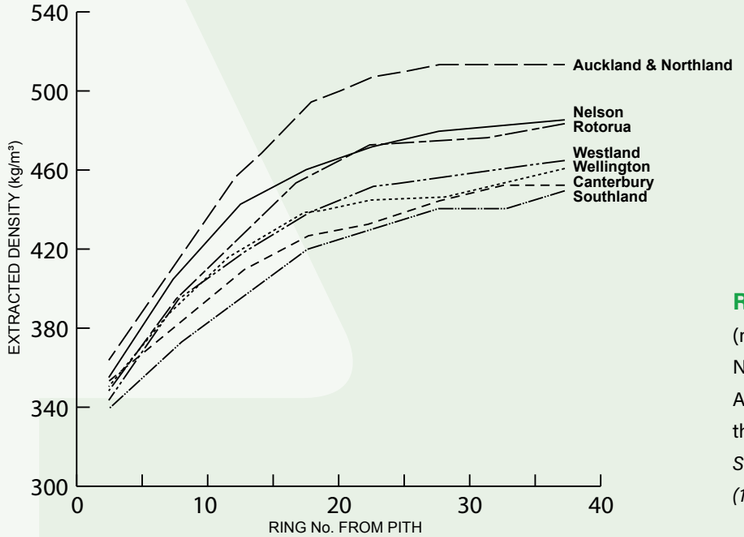
Source: Cowan, McConchie and Young (1991), FRI Bulletin 50.

RADIATA PINE GROWTH PATTERNS



Location of study timber

Source: Cowan, McConchie and Young (1991), FRI Bulletin 50.



Regional and ring density trends

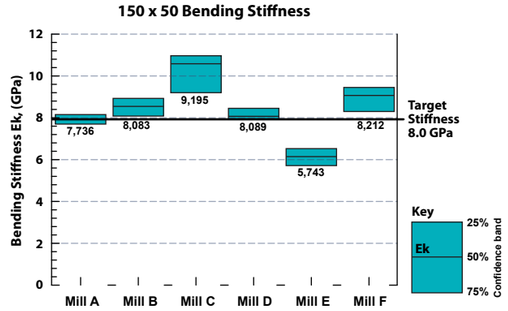
(mean density at 1.3m above ground). Northland wood is included in the Auckland area, and is significantly higher than other areas.

Source: Cowan, McConchie and Young (1991), FRI Bulletin 50.

Timber grading

One study undertaken by the Forest Research Institute in 1997 took correctly graded No1 Framing timber from six mills around NZ (see map, previous page) and, in conjunction with the bending strength and stiffness data, determined the **characteristic bending strength and stiffness values**.

No.1 Framing Bending Stiffness

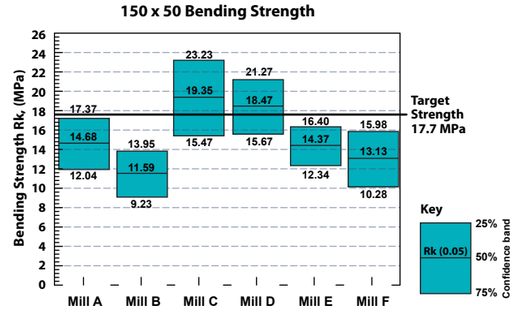


Stiffness and strength

The two images on the right show characteristic bending strength and stiffness for this sample of 150x50 timber. **Mill C (located in Northland) is consistently the highest rated producer**.

In terms of bending stiffness there was a 4GPa difference across the country with 5 of the 6 mills achieving the No1 Framing grade value of 8GPa. In terms of bending strength only two mills achieved the No1 Framing grade target value of 17.7GPa. **Mill C (in Northland) is the highest rated producer**.

No.1 Framing Bending Strength



"This trend of wide variations in bending stiffness within a single visual grade confirms the view that you cannot determine timber strength or stiffness just by looking at it. That's why Northpine has a rigorous machine stress testing regime that is independently verified by Grade Right."

– Bruce Larsen, General Manager, Northpine

Stress testing – "Beam under load"

STRONGER ON QUALITY

Commitment to quality

Northpine has a commitment to quality performance that underpins every aspect of its operation – from production to dispatch, workplace health and safety, staff training and customer service.

The quality of all pine processed at Northpine is rigorously tested, with structural timber acoustically graded in process and samples placed under stress to ensure each batch of timber meets New Zealand Standard requirements.

This testing regime is also independently verified by third party accreditor **Grade Right** to ensure compliance with NZS 3622:2004.

Treatment processes are compliant with **Treat Right** requirements. **Treat Right** licensees participate in an independent national quality assurance programme for timber treatment.

Independent Verification Services (IVS) undertake independent auditing of timber export procedures to ensure compliance with Biosecurity New Zealand Phytosanitary Export Certification Standards.

BRANZ Appraised. A BRANZ Appraisal is an independent, comprehensive assessment of a building product or system's compliance with the relevant clauses of the New Zealand Building Code (NZBC). BRANZ can also assess for compliance with the National Construction Code of Australia (NCC). All Northbeam products are BRANZ Appraised.

"Good wood, good people, good systems and outstanding service - create sustainable high quality timber products which serve and support our communities."

– Northpine Vision Statement

Competenz Your industry training partner

gvade VERIFIED

TR

IVS Independent Verification Services

BRANZ Appraised
Appraisal No.986 [2017]

PROJECT:
Auckland Zoo Redevelopment

Northbeam timber beams were chosen for the aviary rebuild. Completed in November 2016 and led by Hawkins Construction, it is part of the Aussie Walkabout upgrade within Auckland Zoo's multi-million dollar redevelopment.

NORTHBEAM

Stronger beams and posts

At its Waipu sawmill Northpine produces its specialist range of extremely strong and stiff structural beams and square posts, branded Northbeam. The range includes high-spec (SG8/SG10) and large-dimension beams, up to 7.2 metres in length and treated onsite up to H6 standard. These high value products are generally preferred for use in exposed areas where the natural warmth and beauty of solid wood provides visual impact and unique character to a structure.

With Northbeam products, framing can be turned into a truly distinctive feature, with exposed timber beams, posts and joists. The range also provides flexibility and the opportunity to create eye-catching designs for outdoor features such as decks, gazebos, pergolas and entranceways.

Strength is another key characteristic. The Northbeam range is processed from kiln-dried timber carefully selected to ensure it is structurally strong and dimensionally stable. The result is high quality Radiata with structural performance competitive with steel or engineered wood products.

In addition to these large-dimension or unusual sized products, Northpine will also consider making one-off (bespoke) production runs for clients at its Waipu sawmill.

The Northbeam range is increasingly popular because it can be effectively used in civil infrastructure, commercial and residential construction. Northbeam is sold primarily to building supply merchants nationwide throughout New Zealand, to selected wholesalers in Australia, and to clients in the South Pacific islands.

PROJECT: Mangawhai Shared Path - Phase 2, Kaipara District, Northland

The impressive new 420m boardwalk parallel to the bridge at Molesworth Drive across the estuary was opened to the public in late August 2023.

It is the second part of a five-phase plan by Kaipara District Council to better connect the coastal communities of Mangawhai Village and Mangawhai Heads.

It completed a very challenging mission for contractor Fulton Hogan through 'the summer that never was' – characterised by extreme rainfall events that culminated in the devastating Cyclone Gabrielle in February 2023.

There were daily logistical challenges of working above water in and around a swampy mangrove bed that is ecologically fragile and home to many native birds, plants and marine life; and dealing with traffic management, especially during the summer holiday season.

Northpine supplied all the treated Radiata for the boardwalk's bearers, joists, decking, balustrades and handrails.

"Dealing with the Northpine team was actually quite refreshing, how they engaged with me and their willingness to assist. Any time I reached out they were quick to respond. The rates were good and so was the quality and gauging of their Northbeam timber. When I needed timber urgently they went 'above and beyond' to ensure we had it on site when needed."

– Brett Vermeulen, Project Engineer, Fulton Hogan

PROJECT: Waiheke Marina, Kennedy Pt, Pukiti Bay, Waiheke Island

Opened in October 2023 after several years in planning, Waiheke Marina is described as New Zealand's first island destination marina. Located in the centre of the stunning Hauraki Gulf on Waiheke Island, only 40 minutes by ferry from Auckland central, Waiheke Marina now provides safe, modern and serviced berthage for approximately 180 boats, as well as facilities for visiting boats.

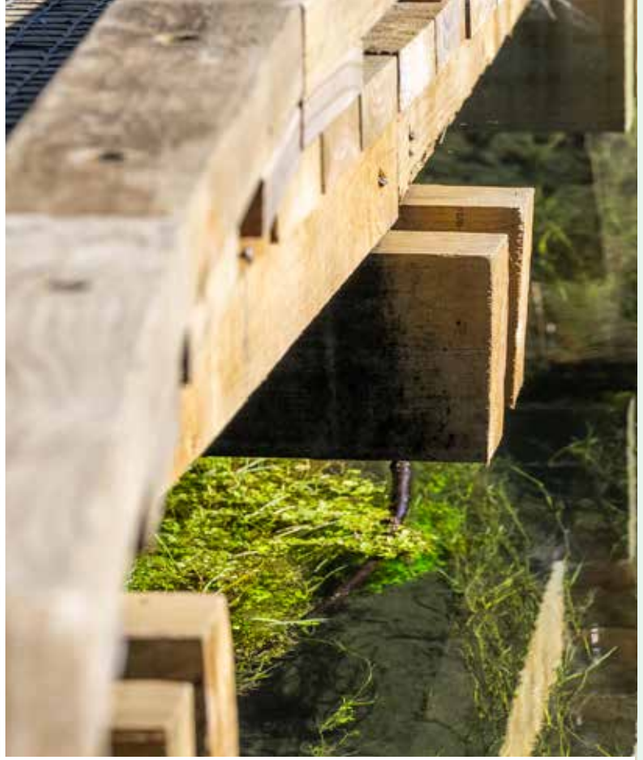
Auckland-based Total Marine Services - specialists in marine design, construction and maintenance - were responsible for construction of the berths. It was a long, complex and challenging assignment. Operations manager Brent Shipman explains that initially TMS had great difficulty finding a reliable timber supplier:

"The timber walers are the connection between each concrete pontoon. Because the marina is made up of hundreds of floating pontoons they have to be connected somehow. When the pontoons are moving up and down in the water, the walers take the strain of that movement, so they've got to be SG8, H5 or H6 to handle all that strain.

These walers are a non-standard size and specification - 200x75 SG8 H5, rougher-head profile. Northpine stepped up to the plate and did what they said they were going to do, when they said they were going to do it."

"The quality of the timber was very, very good. We were very pleased. It was a great relief for us to start dealing with a timber supplier that was true to their word."

– Brent Shipman,
Total Marine Services



PROJECT: Te Waihou Walkway/Blue Spring Whites Road, Putaruru, South Waikato

This 4.7km walk across rural farmland to the crystal-clear waters of the Blue Spring follows the Waihou River. Flowing at 700 litres per second, the Blue Spring produces some of the purest water in the world, taking between 50 and 100 years to reach the Blue Spring from its source.

The walkway was badly damaged by severe storms in 2023 that forced a year-long closure for safety reasons. Full restoration, including a new viewing platform, new boardwalks, stairs, steps and track improvements, was achieved by Cambridge-based contractors Keir Projects in June 2025.

The upgrades balance accessibility with environmental preservation. By widening paths, installing durable infrastructure and guiding visitors along designated walkways the upgrade protects the spring's fragile surroundings while making the experience more enjoyable.

All structural replacements along the route - from demolition to precision rebuilds - were completed by hand. Timber boardwalks and stairs were reconstructed using long-lasting materials, including Northpine SG8 H5 200x50 and 150x100 beams.

The upgrades balance accessibility with environmental preservation. By widening paths, installing durable infrastructure and guiding visitors along designated walkways the upgrade protects the spring's fragile surroundings while making the experience more enjoyable.

PROJECT: Quan Am Buddhist Temple Gateway, Bombay, Auckland

Robert Watson of SD Watson Ltd was Project Manager at the Quan Am Buddhist Temple in Auckland's Bombay area for more than a decade.

When it came time for the monastery's main entrance at Beaver Road East to be created, it involved a rather interesting brief.

"The owners wanted something strong and powerful, imposing but not in a scary way; a triple gateway that would represent strength, health and prosperity."

Robert had a "pretty good idea" in his head of how to deliver on the brief. He went to local merchant Tuakau ITM; having started off with the idea of 500x500 squares Robert took their advice to go with 400x400 large dimension timber posts from Northbeam.

Once on site, there was a lot of intricate and time-consuming work to be done – in the vicinity of 1,000 hours over four months.

"The four 6-metre pine posts came to us tanalised and, as well as all the finishing work, the posts were given a dark Wattyl Redwood stain, mostly for the colour contrast. We '45-ed' and picture-framed the posts, and drilled through on angles so the lighting wires weren't exposed or visible to the public," says Robert.
All four posts were topped with copper hats.

"The gate actually travels through three of the posts and the 'wings' either side of the main posts are tongue-and-groove pine, also supplied by Tuakau ITM," says Robert.

"It has worked out really, really well."

"The people at Northpine are awesome to deal with.
They are an ethically strong, reliable firm. Always friendly on the phone.
Nothing is too much trouble, they go out of their way to help.
It is very rare for us to have to wait for product to be delivered."

– Glenn 'Podge' Graham, Tuakau ITM

PROJECT: Avondale Bridge, Christchurch

Three new pedestrian and cycle bridges have helped re-establish connections severed during the Christchurch earthquakes. The original Snell and Medway bridges were badly damaged during the 2011 quakes. They were replaced by new structures; Avondale Bridge is entirely new.

All three bridges are in the Christchurch Residential Red Zone, 602ha on both sides of the river that were cleared of homes after the earthquakes. With spans of 30 and 40 metres, each bridge consists of a steel superstructure set on concrete piles and integrated with the river stopbank.

The structural Northbeam products used included 200x200 vertical posts anchored to the ground (dressed four sides), and Northbeam 300x75 and 300x50 SG8 H5 for landings and accessways.

The timber structure approaches were designed to support flood management or rain/surface water mitigation. Timber also contributes to the bridges' high level of seismic resilience.

After drawing up the designs in-house, Christchurch City Council engaged head contractor HEB through a tender process. Timber procurement was subcontracted by HEB to local firm CMT Group; the Northbeam timber for all three projects was supplied by merchant Carters Hornby.

"Northpine was contacted because it could supply virtually all the structural timber the project needed and at longer than normal lengths," say Northpine GM Bruce Larsen. "Our team worked with Carters Hornby to create and plan the order, as the timber required for three bridges is a massive undertaking. Happening during the pandemic in 2021 – when everyone was short staffed and dealing with a protracted supply imbalance – required extra support and attention from our team."

"Most mills manufacture up to 6 metres in length. Our customers can access high-spec treated Radiata up to H6 standard and in lengths of up to 7.2 metres. Carters Hornby were thrilled with our friendly and proactive response. It was great to connect our northern mill with such an important Christchurch project."

– Bruce Larsen, Northpine

PROJECT: Poolhouse, Whangarei, Northland

Whangarei architectural draftsman Corry Clayton created this fabulous look for a Poolhouse structure, constructed by Whangarei firm Matt Brown Builders at a semi-rural location near the city. The result is a stunning indoor/outdoor entertainment area connecting a character home with its swimming pool.

"There was an existing large-gauge timber pergola structure built many years ago that the clients wanted to match into," says Corry.

"There had been a landscape design previously carried out around the pergola and how it would sit in relationship to the pool and the remaining landscape. I was then approached by the clients and once I'd heard their proposal was more than happy to assist.

"I like to use oversized natural materials, which I find always creates that raw WOW! factor. Along with a somewhat floating low-pitch glazed roof, 'less is more' on a structure like this, so large gauge timber had to be used."

"Northpine's Northbeam was an excellent solution -big 200 x 200 beams and posts, 200 x 75 Rafters and 200 x 75 Vertical Angled Screening".

– Corry Clayton,
Clayton Architecture Ltd

PROJECT: Mangonui Waterfront, Bay of Islands, Northland

A new 350m boardwalk, jetty, swim steps and pontoon were key components of the $10M+ redevelopment of Mangonui Waterfront, completed in autumn 2022.

A sturdy and stable walkway designed for minimal-to-no vibration was the brief to create a cost-effective boardwalk that would unify the town's popular waterfront, improve safety and stand up to heavy use.

"Deflection limits were set to avoid the vibration issues associated with people walking, cycling and running on public boardwalks," says designer Rob Brown of Shorewise Engineering. "We specified an SG8 pine size we knew would meet the requirements of the project for strength, cost and deflection limits."

United Civil Construction won the tender for construction and chose Northpine to supply the structural timber. During the region's long Covid lockdown Northpine pulled out all the stops to provide the product needed.

The timber was high-spec, very dense, and everything was to be bolted and screwed in. Structural engineers had specified 350mm-deep joists as part of the design, which creates a very solid structure.

"It was a big job, and we were flexible enough to get it there on time and to spec. Some of the large dimensions, like 350 x 150, are as big as you can go and still meet the standards for structural compliance."

– Bruce Larsen,
General Manager, Northpine

"We specified an SG8 pine size we knew would meet the requirements of the project for strength, cost and deflection limits."

– Rob Brown,
Shorewise Engineering

HOW NORTHPINE SG10 CAN HELP DESIGNERS AND SPECIFIERS

CONSIDER SG10

- Use our unique SG8/SG10 Span Tables to calculate what works best for your project www.northpine.co.nz/span-tables
- 3.6m to 7.2m lengths, treated up to H5
- Specify Northbeam on plans
- Bespoke orders via merchants nationwide
- Available within reasonable timeframes

LESS TIMBER VOLUME

- Saves time and labour
- Environmental benefits
- Cost-effective choice

LESS THERMAL BRIDGING

- Achieved by increasing joist stud, and rafter centres
- Insulation is easier to install
- Up to 50% fewer studs required

BETTER CONSTRUCTION R-VALUES

- At least 10%

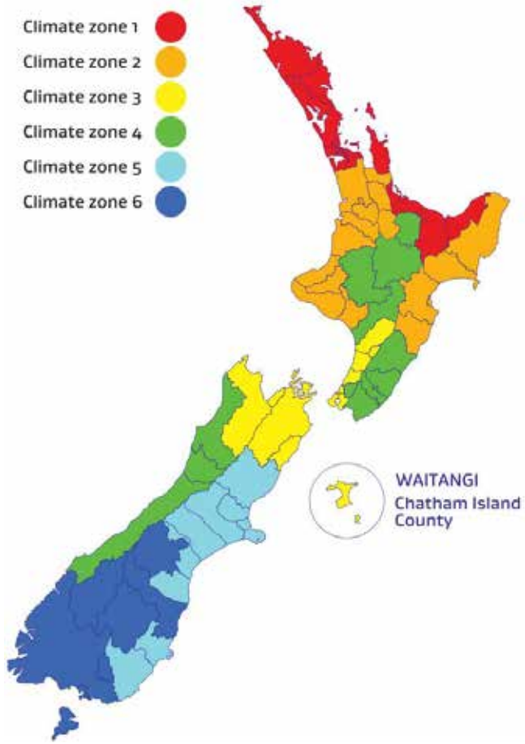
MEETING H1 CODE REQUIREMENTS

ENERGY EFFICIENCY FOR LARGE BUILDINGS (OVER 300M²) EXCLUDING INDUSTRIAL

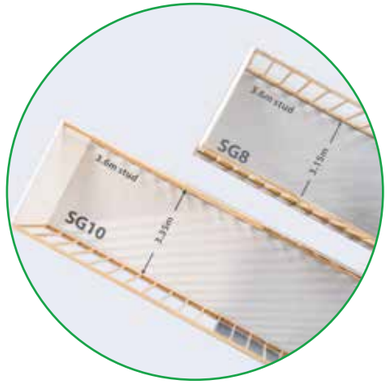
Building element	Climate zone					
	1	2	3	4	5	6
Roof	R3.5	R4.0	R5.0	R5.4	R6.0	R7.0
Windows	R0.33		R0.37		R0.40	
Wall	R2.2	R2.4	R2.7	R3.0		R3.2
Underfloor	R2.2			R2.4	R2.5	R2.6

ENERGY EFFICIENCY FOR SMALL BUILDINGS (UNDER 300M²)

Building element	Climate zone					
	1	2	3	4	5	6
Roof	R6.6					
Windows	R0.46				R0.50	
Wall	R2.0					
Slab-on-ground floors	R1.5				R1.6	R1.7
Other floors	R2.5			R2.8	R3.0	



3D SCALE MODEL



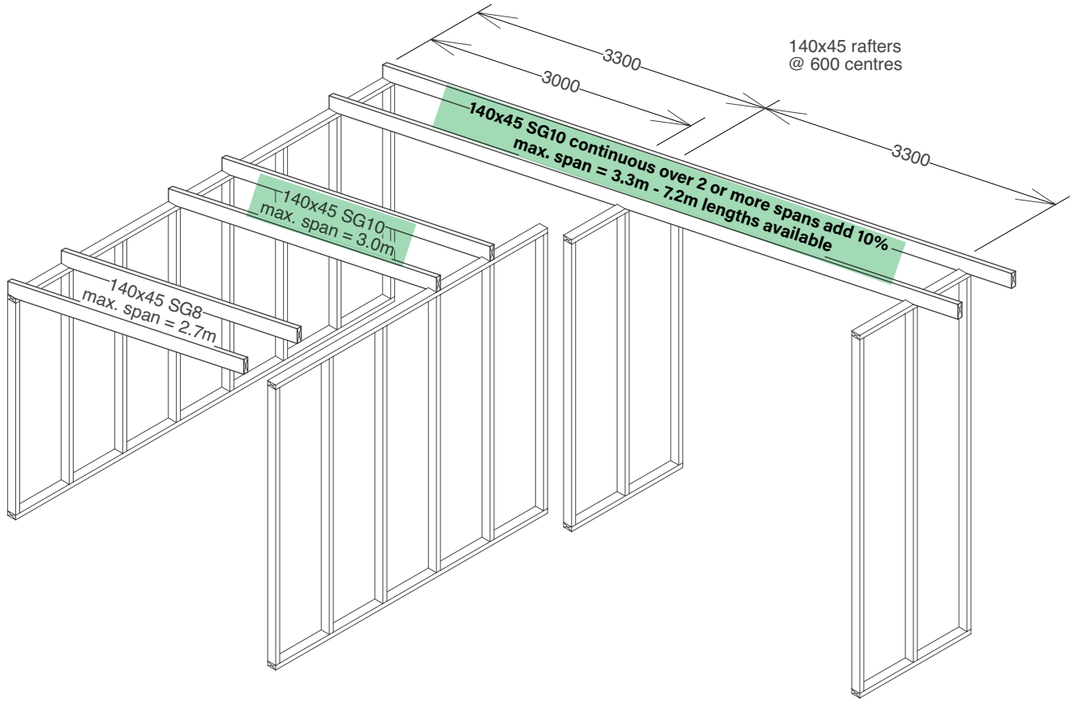
In a series of 9 images, Northpine's 3D Scale Model demonstrates how designing with Northpine SG10 has many benefits.

The images compare SG8 and SG10 options in Rafters, Walls, Bearers and Joists. See for yourself!

SEE

www.northpine.co.nz/span-tables

RAFTERS

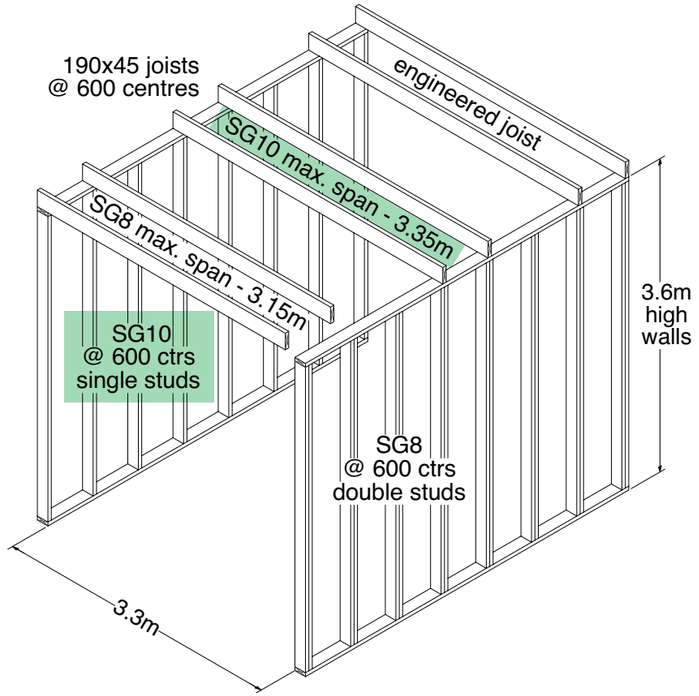


VALUE EQUATION

If SG8 costs 100%
SG10 costs 125%
and Engineered timber costs 180%*

***Indicative only, based on prices current October 2025**

JOISTS & STUDS



VALUE EQUATION

If SG8 costs 100%
SG10 costs 125%
and Engineered timber costs 180%*

SG10 single stud wall cost about 65% less than SG8 double stud wall and is much lighter to maneouvre on site.

***Indicative only, based on prices current October 2025**

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Growing stronger

Although Northpine is a relatively small sawmill in terms of production, with over 60 people on the payroll it is a significant employer in a tightknit community. Northpine invests heavily in staff training and development. Senior management are degree qualified and employees hold a variety of technical qualifications specific to the industry.

Since 2010, Northpine has been recognised by its industry peers with over a dozen Northland Forestry Awards - most of them for Wood Processing Excellence. The company also contributes strongly and often to local community events and organisations through sponsorship and donations.

Northpine site, Waipu

Key contacts

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Online resources

- **Videos of Northbeam in use**
  in civil, commercial and residential construction
- **SG8/SG10 Span Tables**
- **3-D Scale Model**
  demonstrating the benefits of specifying SG10
- **Building product information requirement regulations 2022**
- **How to correctly measure moisture content of H1.2 treated timber**

www.northpine.co.nz

SALES ENQUIRIES: Freephone **0508 432 115** | E: **sales@northpine.co.nz**

CIVIL ▲ COMMERCIAL ▲ RESIDENTIAL

STANDARD PRODUCT LIST

Other sizes, lengths and treatments by request.

POSTS AND BEAMS

Wet H5 F1 Posts

- Produced to order

Pergolas | Retaining | Multipurpose

Sawn	
Finish Size	Lengths
175 x 175	4.8 | 6.0
250 x 250	4.8 | 6.0
300 x 300	4.8 | 6.0
400 x 400	4.8 | 6.0

Other sizes and lengths by request.

Wet H5 SG8 Posts

Structural | Exterior | Multipurpose

Sawn		MG
Finish Size	Lengths	Finish Size
125 x 125	3.6 | 4.8 | 6.0 | 7.2	120 x 120
150 x 150	3.6 | 4.8 | 6.0 | 7.2	140 x 140
200 x 200	3.6 | 4.8 | 6.0 | 7.2	190 x 190

Wet H5 SG8 Beams

Structural | Exterior | Retaining etc

Sawn		MG
Finish Size	Lengths	Finish Size
150 x 75	3.6 | 4.8 | 6.0 | 7.2	140 x 70
200 x 75	3.6 | 4.8 | 6.0 | 7.2	190 x 70
250 x 75	3.6 | 4.8 | 6.0 | 7.2	240 x 70
300 x 75	3.6 | 4.8 | 6.0 | 7.2	290 x 70
150 x 100	3.6 | 4.8 | 6.0 | 7.2	140 x 90
200 x 100	3.6 | 4.8 | 6.0 | 7.2	190 x 90
250 x 100	3.6 | 4.8 | 6.0 | 7.2	240 x 90
300 x 100	3.6 | 4.8 | 6.0 | 7.2	290 x 90

TREATED KD

H1.2 SG8

Structural | Subfloor | Lintels

MG	
Finish Size	Lengths
140 x 45	7.2 only
190 x 45	7.2 only
240 x 45	7.2 only
290 x 45	7.2 only

H1.2 SG10

Structural | Subfloor | Lintels

MG	
Finish Size	Lengths
90 x 45	4.8 | 6.0 |
140 x 45	4.8 | 6.0 | 7.2
190 x 45	4.8 | 6.0 | 7.2
240 x 45	4.8 | 6.0 | 7.2
290 x 45	4.8 | 6.0
140 x 70	4.8 | 6.0
190 x 70	4.8 | 6.0
140 x 90	4.8 | 6.0
190 x 90	4.8 | 6.0

H3.2 SG8

Structural | Subfloor | Lintels

MG	
Finish Size	Lengths
140 x 45	7.2 only
190 x 45	7.2 only
240 x 45	7.2 only
290 x 45	7.2 only

H3.2 SG8 Beams

Structural | Lintels | Rafters

MG	
Finish Size	Lengths
140 x 70	4.8 | 6.0
190 x 70	4.8 | 6.0
140 x 90	4.8 | 6.0
190 x 90	4.8 | 6.0

TREATED WET

Wet H5 SG8

Framing | Joists | Retaining etc

Sawn		MG
Finish Size	Lengths	Finish Size
75 x 50	4.8 | 6.0	70 x 45
100 x 50	4.8 | 6.0	90 x 45
100 x 75	4.8 | 6.0	90 x 70
100 x 100	4.8 | 6.0	90 x 90
150 x 50	4.8 | 6.0 | 7.2	140 x 45
200 x 50	4.8 | 6.0 | 7.2	190 x 45
250 x 50	4.8 | 6.0 | 7.2	240 x 45
300 x 50	4.8 | 6.0 | 7.2	290 x 45

Current at March 2026 and reviewed six-monthly.
Download here: northpine.co.nz/northbeam

BRANZ Appraised
Appraisal No.986 [2017]

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