Building
better
together

Quick Guide to
Engineered Timber for Townhouses

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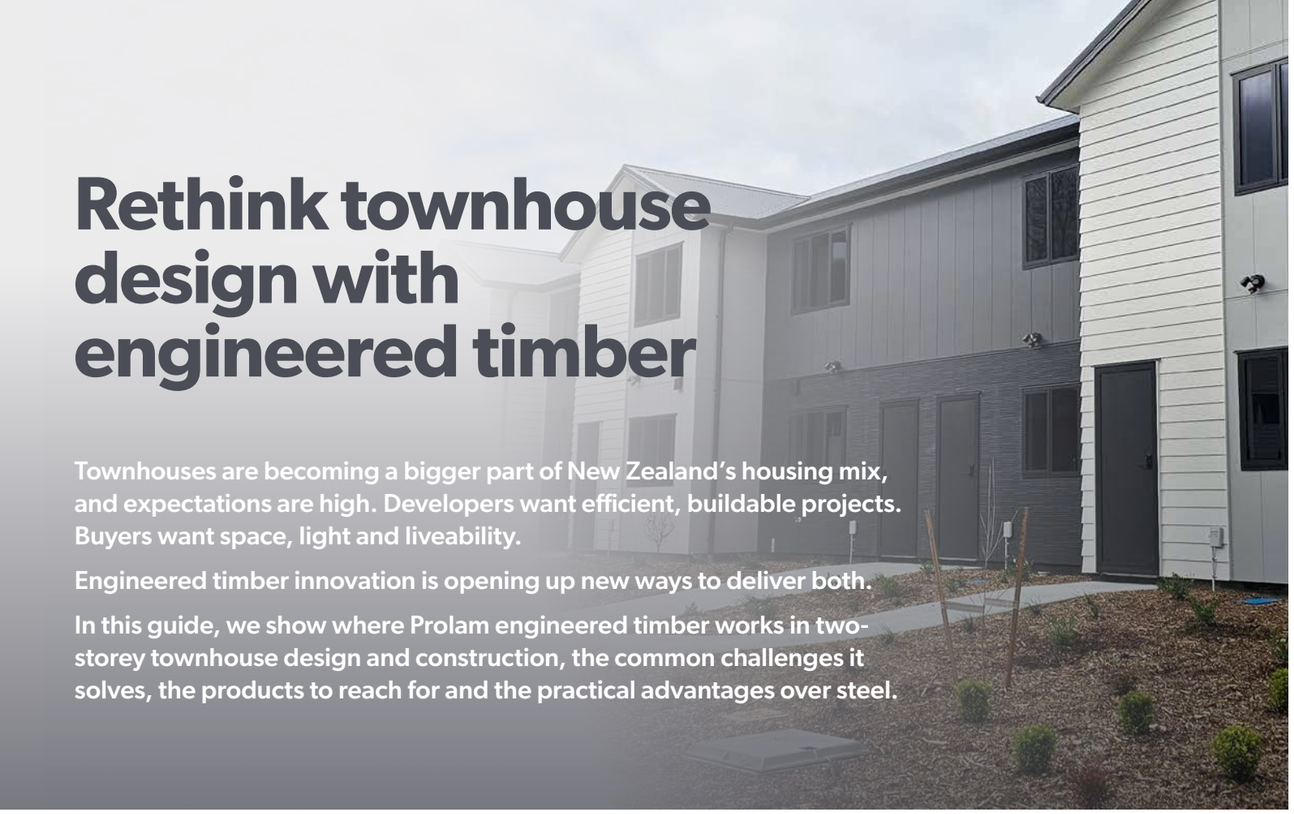
Prolam®
Engineered Laminated Timber



Rethink townhouse design with engineered timber

Townhouses are becoming a bigger part of New Zealand's housing mix, and expectations are high. Developers want efficient, buildable projects. Buyers want space, light and liveability.

Engineered timber innovation is opening up new ways to deliver both.

In this guide, we show where Prolam engineered timber works in two-storey townhouse design and construction, the common challenges it solves, the products to reach for and the practical advantages over steel.

Designing and building two-storey townhouses within NZS 3604

Townhouses are typically designed to make the most of a compact site — with narrow frontages, shared walls and layouts that prioritise usable floor area, natural light and indoor–outdoor connection.

At the same time, every townhouse must meet the structural performance requirements of the New Zealand Building Code. For two-storey timber-framed townhouses within the scope of NZS 3604, that includes providing sufficient bracing to resist wind and earthquake loads.

The challenge is that the very features that make these homes more liveable can also reduce the wall available for that bracing.

That's where Prolam's PLX bracing range comes in. Purpose-built, tested bracing elements, they provide engineered timber options for common townhouse conditions that can otherwise push projects towards steel.

Prolam delivers what townhouse projects need

SPACE
Create wider openings and more liveable layouts.

STRUCTURE
High-capacity solutions for bracing and structural support.

SPEED
Repeatable, build-ready solutions that simplify construction.

Prolam®
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Where Prolam works in two-storey townhouses

01 MAXIMISE GARAGE OPENINGS

DESIGN GOAL
Create the widest garage opening the frontage allows, improving access and making off-street parking more practical.

SOLUTION
Prolam® PLX Portal

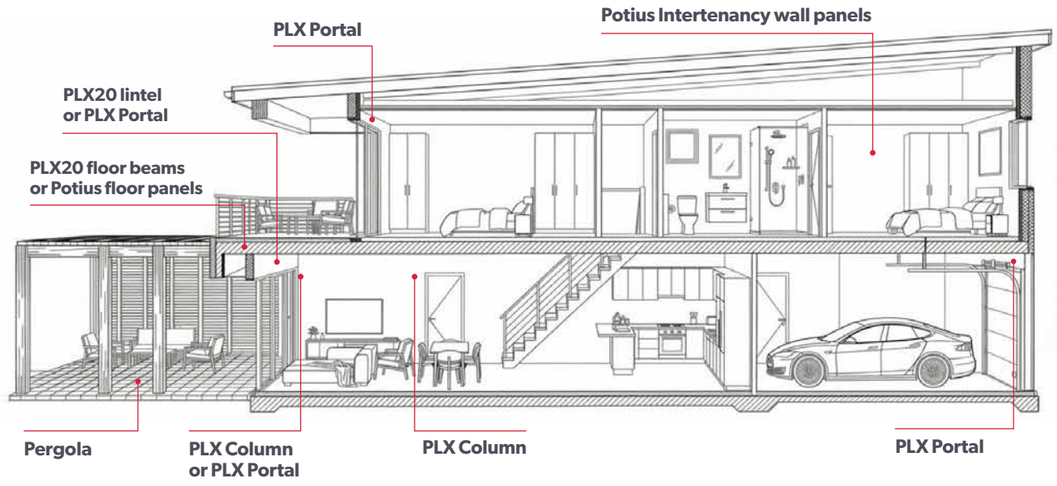
WHY IT WORKS
A wider garage opening leaves less wall either side to achieve the required bracing. **PLX Portal** provides a pre-engineered, high-capacity bracing solution that keeps the opening wide while retaining timber-framed construction.

02 CREATE WIDER WINDOWS + RANCHSLIDERS

DESIGN GOAL
Bring in more natural light and strengthen indoor–outdoor connection with generous glazing.

SOLUTION
Prolam® PLX Portal

WHY IT WORKS
Large openings reduce the wall available for bracing. **PLX Portal** can provide bracing around wider openings on both the ground floor and upper storey.



03 CREATE FULL-WIDTH OPEN-PLAN LIVING

DESIGN GOAL
Open up kitchen, dining and living spaces without adding walls that compromise the layout.

SOLUTION
Prolam® PLX Column

WHY IT WORKS
In a long, narrow townhouse, there may simply not be enough wall along a critical bracing line. **PLX Column** concentrates high bracing capacity into a short wall length, helping preserve the open-plan layout.

04 ADD BALCONIES + OUTDOOR LIVING

DESIGN GOAL
Extend usable living space outdoors and add architectural value with balconies, pergolas and covered areas.

SOLUTION
Prolam® Beams + Posts + Pergolas

WHY IT WORKS
Prolam offers prefabricated glulam solutions for outdoor structures, with H3.2 beams and H5 posts for exposed use across a range of finishes and sizes.

Additional applications on page 5

The PLX advantage for townhouse projects

HYBRID GLULAM-STEEL ENGINEERING

A flat steel bar is embedded within the timber laminates to create compact, high-strength members with exceptional load-bearing and bracing capability.

CLEAR PATH TO SPECIFICATION + CONSENT

Published design information, fixing details and PS1 documentation help streamline specification and support a smoother building consent process.

BUILT FOR TIMBER FRAMING

PLX bracing systems integrate directly with timber-framed construction, with timber-to-timber connections and no need to pack the structure out before other trades continue.

PREFABRICATED + BUILD-READY

PLX Portal and PLX Column arrive as prefabricated kitset solutions, including foot plates and connections, ready for efficient installation on site.

SIMPLER ON SITE

Up to 40% lighter than an equivalent steel solution, **PLX Portals** are installed using standard tools and equipment, reducing the need for cranes or hiabs on tight townhouse sites.

Take engineered timber further with Potius

Potius, part of the Prolam Group, extends the engineered timber solution into prefabricated floor and wall systems for multi-unit residential construction.

POTIUS™

SCAN QR TO LEARN MORE

Floor Panels

- For mid-floor and subfloor construction.
- Prefabricated, lightweight panels that can simplify installation and reduce on-site labour.

Intertenancy Wall Panels

- For separating adjoining townhouse units.
- Prefabricated wall systems that support a more repeatable construction process across multi-unit developments.

Engineered timber solutions at a glance

Rethinking townhouse design and construction means matching each design goal with the right engineered timber solution, and understanding where it can replace steel or simplify construction.

Townhouse Design Goal	Structural Challenge	Engineered Timber Solution
Prolam Applications		
Maximise garage width within a narrow frontage	Limited wall either side of the opening to achieve the required bracing	**PLX Portal -** alternative to a steel portal
Create full-width open-plan living	Limited wall length along the bracing line to achieve the required bracing capacity	**PLX Column -** alternative to additional bracing walls or steel (ground floor only)
Create wider windows and ranchsliders	Large openings reduce the wall available for bracing and require structural support over the opening	**PLX Portal / Prolam glulam -** alternative to steel
Create wide internal openings	Supporting loads across the opening without intermediate walls or posts	**Prolam glulam beams and lintels -** alternative to steel beams
Reduce floor beam depth or achieve wider spans	Achieving the required span and capacity within limited floor depth	**PLX20 -** alternative to conventional framing or steel
Add balconies and outdoor structures	Supporting exterior spans, cantilevers and structural loads	**Prolam glulam / Pergola solutions -** alternative to site-built timber or steel
Potius Applications		
Speed up mid-floor or subfloor construction	Creating an efficient structural floor system, particularly where conventional construction is labour-intensive	**Potius floor panels** - alternative to conventional mid-floor and subfloor construction
Create intertenancy walls	Providing a dedicated wall system between adjoining dwellings	**Potius wall panels -** alternative to masonry and proprietary panel systems

Ready to take townhouse design and construction to the next level?

Prolam makes it easy to move from product selection through specification, consent and installation.

PLX PORTAL, BEAMS + POSTS

Use the **Prolam Specifier**

PLX COLUMN

Specify on **GIB EzyBrace®**

DESIGN + INSTALLATION GUIDES

Access **Technical Resources**

ENGINEERING SUPPORT

Talk to **Our Team**

Explore the Prolam range

Prolam® PLX Portal

Prolam® PLX Column

Prolam® Pergolas

Prolam® Beams

Prolam® Posts

Need an SED solution for townhouses?

Ask us about our SED Column.

New Zealand made quality

Prolam®
Engineered Laminated Timber

Building better together

At Prolam, we support engineers, architects and building professionals to design and build with strength, confidence and ease using premium engineered timber solutions.

NZ made quality

Innovative timber solutions designed and made in New Zealand using high quality, locally sourced materials – creating local employment and training opportunities.

Solid eco-credentials

Made from New Zealand plantation timber, with research-backed resistance to harsh environmental conditions, FSC certified timber options available.

Confident compliance

Prolam sets the benchmark in building code compliance and certification for glulam timber products – for smooth engineering and building consent approvals.

Built-in ease

Control at every step, with expert technical advice on tap – from knowledge of local industry codes, precise product specification to installation and after sales support.

Fast and efficient

Industry-best lead times via a secure supply chain, proactive management of stock holdings and next level production efficiencies.

Strong and safe

Precision engineered for a superior fit, optimal structural integrity, dimensional stability, and easy and safe installation.

Cutting edge technology

Advanced manufacturing processes and smart tools that streamline product specification, supply, installation and certification.

Have technical questions?

Our sales team and structural engineers are on-hand to support you to find the right solution for your project.

Call 03 526 7436 or visit our Prolam Specifier at specifier.prolamnz.com

Prolam® Specifier

Specify with certainty

Planning a project?
Our team of experts are ready to assist.

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