JSC TMT Guide

Exterior Cladding | Interior
Panelling | Battens and Screens

JSC TMT

THERMALLY MODIFIED TIMBER

THERMALLY MODIFIED TIMBER

Thermal modification is a mature technology for enhancing the durability and dimensional stability of timber. Thermally Modified Timber (TMT) has been proven over many years on residential, civic and commercial buildings and is globally recognised as an environmentally friendly method of timber enhancement for exposed outdoor applications.

The principle of applying extreme heat to enhance timber durability has been recognised for millennia. Thermal modification of timber to improve decay resistance is evident in concentrations of charcoal in postholes from Scandinavian Bronze-age buildings.

Accelerated by the increase in environmental awareness and the drive to minimise toxic elements in the building life cycle, the qualities of TMT have gained increasing favour with designers, builders and homeowners in Canada, the US, UK, Australia and New Zealand, and global production of TMT now exceeds well over 1 million cubic metres annually. Specialised equipment for the thermal modification process has evolved over 100 years of development, and modern industrial equipment is sophisticated, efficient, and offers precise control of the modification process.

Cover image: TMT Taiga Vertical Shiplap Exterior Cladding Coated in Clear Wood Oil | Holmes Hill Estate Showhome Oamaru | McBrimar Homes
Image at right: Brushed TMT Taiga Vertical Shiplap Cladding Coated in JSC Scumble Nightfall | Greenhithe Retreat | Steven Lawson Architects
This page: TMT Taiga Vertical Shiplap Cladding Coated in JSC Scumble Suede | Riverhead Project | Ryse Construction

THERMAL MODIFICATION PROCESS

Thermal modification involves heating the timber to high temperatures in a humidity-controlled environment with a restricted supply of oxygen preventing combustion. The introduction of steam in the process limits checking and splitting. The process results in timber with permanent structural changes that deplete the available cellulose and lower the equilibrium moisture which are both requirements for fungal growth and decay. Thermal modification occurs throughout the cross-section of the timber - there is no untreated core or graduated distribution through the timber thickness.

These modified timbers exhibit dimensional stability, long-lasting resistance to fungal decay, and significantly reduced moisture absorbency. Remarkably, the durability of TMT is achieved solely through the application of heat in a controlled environment, without the use of any chemicals in the treatment process. As a result, there are no added toxic substances present or released during the building's lifespan.

Notably, thermally modified timber consistently exhibits durability and stability, machines smoothly, and boasts consistent rich earthy tones throughout its thickness, providing highly desirable aesthetic, technical, and environmental qualities that enhance the look, feel, and performance of contemporary timber-clad homes. Furthermore, beyond exterior cladding, the thermal modification process imparts visual and tactile qualities, including subtle variations of rich brown shades, soft light diffusion, and a silky texture, making it a highly attractive option for interior applications such as panelling, sarking, or feature battens.

TMT Taxon Vertical Shiplap Cladding Coated in JSC Scumble Wood Oil Frost

WHAT IS JSC TMT®?

Increasing environmental awareness and demand for sustainable, natural and chemical-free building products initiated JSC's research into thermal timber treatment methods. The clean and chemical free nature of of Thermally Modified Timber opens up a truly sustainable resource.

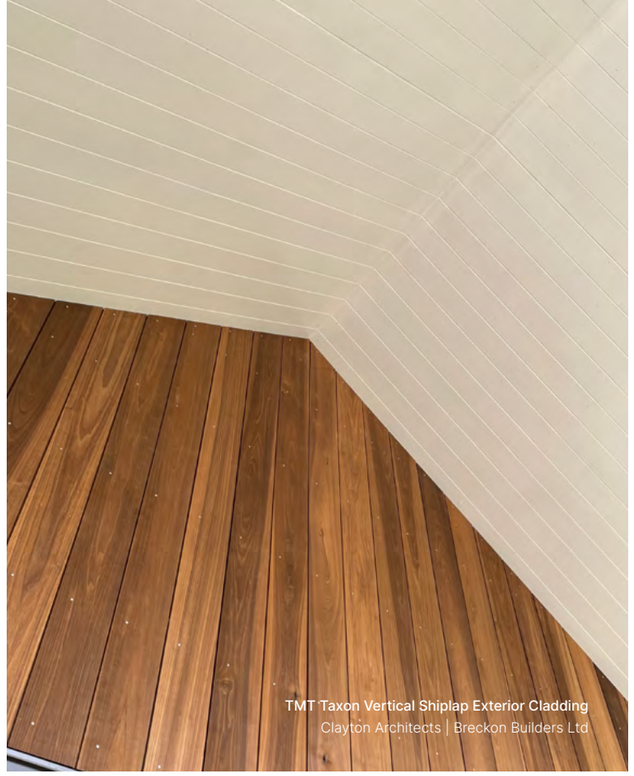
The JSC TMT® selection of Thermally Modified Timbers has been specifically sourced for the New Zealand market. Their versatility, durability, aesthetic properties, and environmental credentials are attuned to the New Zealand weather and our urban and rural landscapes.

By utilising thermal modification treatment, JSC TMT® makes use of abundant and sustainable natural timber resources for exposed building elements while also extending the timber's lifespan, effectively sequestering carbon for an extended period. Additionally, due to the absence of toxic treatment chemicals, there are environmentally responsible alternatives for end-of-life disposal or recycling of thermally modified timber.

Like any natural timber used outdoors, thermally modified timbers weather to shades of grey when subject to the elements of temperature, moisture, and UV light*. If a colour choice is preferred, a JSC factory coat of a premium grade oil stain with a UV protectant is the first step to a long and beautiful life.

*Clear coatings are available to protect the timber while allowing natural weathering to grey off the surface.

Brushed TMT Taiga Random Width Vertical Shiplap Exterior Cladding | Hurley Architects | New Zealand



TMT Taxon Vertical Shiplap Exterior Cladding
Clayton Architects | Breckon Builders Ltd

TMT Taiga Vertical Shiplap & Board and Batten Exterior Cladding
RTA Studios | Patrick Reynolds

KEY BENEFITS OF THE JSC TMT® PRODUCT RANGE

Dimensional stability

Excellent dimensional stability through reduced moisture absorption and modified cell structure. Able to accept darker coatings with significant reduction in dimensional movement.

Durability

The TMT process dramatically reduces the occurrence of fungal decay by removing the food source and reducing the equilibrium moisture content of the timber.

Responsibly sourced and non-toxic

Premium quality that is responsibly sourced. There is no presence or release of added toxic substances during the building life.

Certified premium quality

Truly natural product with certified quality; all JSC TMT® products are sourced from reliable and world-renowned suppliers that are leaders in the timber thermal modification process.

For all climates

Proven to perform and look beautiful for longer in the most challenging conditions.

Beautiful grade and finish

Whether a feature or clearer grade, all JSC TMT® options come in beautiful rich brown tones and take oil and water-based coatings well, including dark colours.

TMT Taiga Vertical Shiplap Exterior Cladding Coated in JSC Scumble Wood Oil Colour Lava Grey
Signature Homes Showhome | Matakana, New Zealand

ABOUT OUR TMT PRODUCT RANGE

JSC has a selection of Thermally Modified Timbers available ranging from interesting feature grades to clearer grades. For more information on all the JSC TMT® options or a free sample, contact the JSC team.

TMT TAIGA®

Feature Grade Thermally Modified Timber

This beautiful product has rich warm brown tones and “butterfly knots” showing up at regular intervals that give cladding and interiors a completely unique personality.

TMT TAXON®

Darker Clearer Grade Thermally Modified Timber

Has a soft, even-grained appearance with minimal knots and a variation of deeper chocolate tones making it a great choice for a range of applications.

TMT AMBA®

Lighter Clearer Grade Thermally Modified Timber

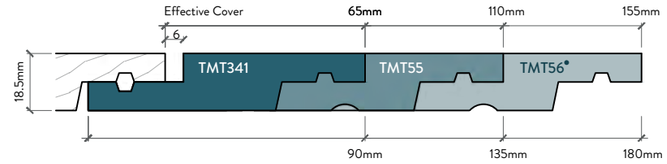
This premium thermally modified timber product offers excellent durability, stability, and consistent light golden brown tones. Its uniform colour makes it ideal for a range of styles and colour palettes.

Note: Other options may be available upon request, contact JSC to discuss your requirements.

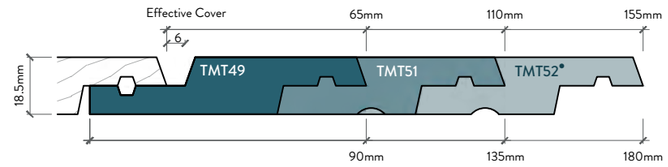
JSC TMT WEATHERBOARD PROFILES

VERTICAL SHIPLAP WEATHERBOARDS

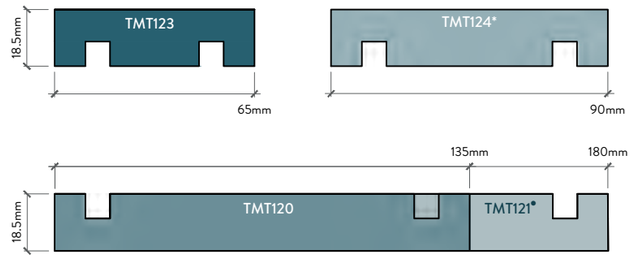
SQUARE EDGES PROFILES - 6mm CHANNEL



BEVELLED EDGES PROFILES - 6mm CHANNEL



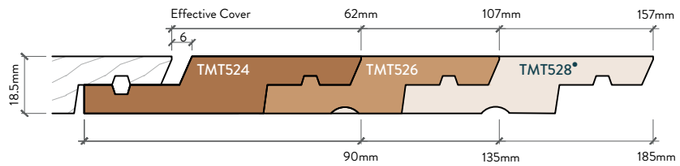
VERTICAL BOARD & BATTEN



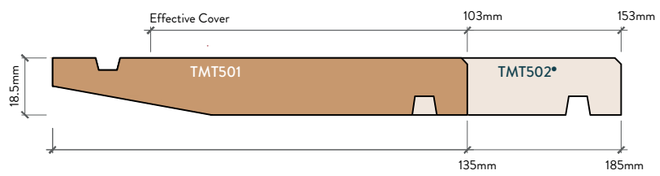
*NOTE: TMT124 to be used as corner profile only

RUSTICATED HORIZONTAL WEATHERBOARDS

DOUBLE SPLAY RUSTIC PROFILES - 6mm CHANNEL



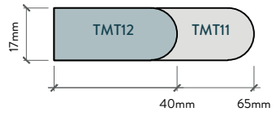
BEVEL BACK WEATHERBOARDS



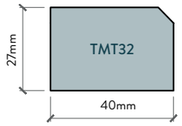
•NOTE: Profiles not available in TMT Taiga

EXTERIOR MOULDINGS

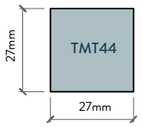
SCRIBER



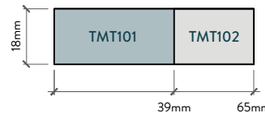
EAVES MOULD



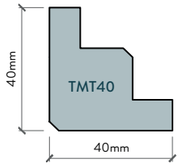
INTERNAL CORNER MOULDING

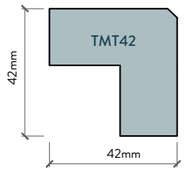


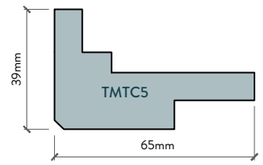
BATTENS



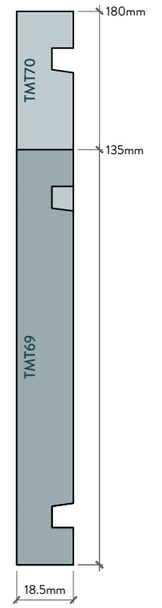
EXTERNAL CORNER MOULDINGS







FASCIA BOARDS



NOTES

1. Custom profiles available upon request.
2. Not all lengths are available in all profiles.
3. Profiles on this chart show the standard JSC Profile range.
4. Not all profiles or lengths are in stock.
5. Profiles are available in Band Sawn finish. Dressed and Brushed finishes are available depending on chosen specie and coating requirement.
6. Fixings: 316 Stainless Steel Annular Grooved Nails.
7. Details are subject to change without notification. Refer to www.jsc.co.nz for up to date documentation.
8. JSC weatherboards must be installed by a suitably qualified and experienced tradesperson in accordance with the chosen cladding specification, installation and maintenance documentation.

JSC

PREMIUM ARCHITECTURAL
& BUILDING SOLUTIONS

jsc.co.nz

TechHelp@jsc.co.nz | Sales@jsc.co.nz

FIND JSC ONLINE

AUCKLAND
(09) 412 2800
22 Sawmill Road
Riverhead

HAMILTON
0800 57 26 88
43 McKee Street
Pukete

WELLINGTON
0800 57 26 88
61 Seaview Road
Seaview

CHRISTCHURCH
(03) 348 9726
23 William Lewis Drive
Sockburn

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