# FIBREBOARD MANUFACTURING EXCELLENCE







## Welcome to Daiken

Daiken provides highest quality Medium Density Fibreboard (MDF) to the world. Made from locally grown plantation Radiata pine we produce MDF renowned for its colour, consistent quality and low emissions. This not only makes our products easy to work with, it also ensures optimal finish and long-term results.

Daiken entered the New Zealand MDF industry in 2009 buying the Rangiora MDF plant in Canterbury and consolidating their presence in 2018 by purchasing the Southland MDF plant.

In February 2009, New Zealand operations became part of the Daiken group, one of Japan's leading building material manufacturers. This combined depth of experience from New Zealand with the know-how, technical strength and international connections of the Daiken group, provide a responsive environment to allow continuous improvement in our capability and achievement at the highest levels. These synergies produce premium quality MDF products capable of meeting the highest international standards, sent to market via strong distribution channels.

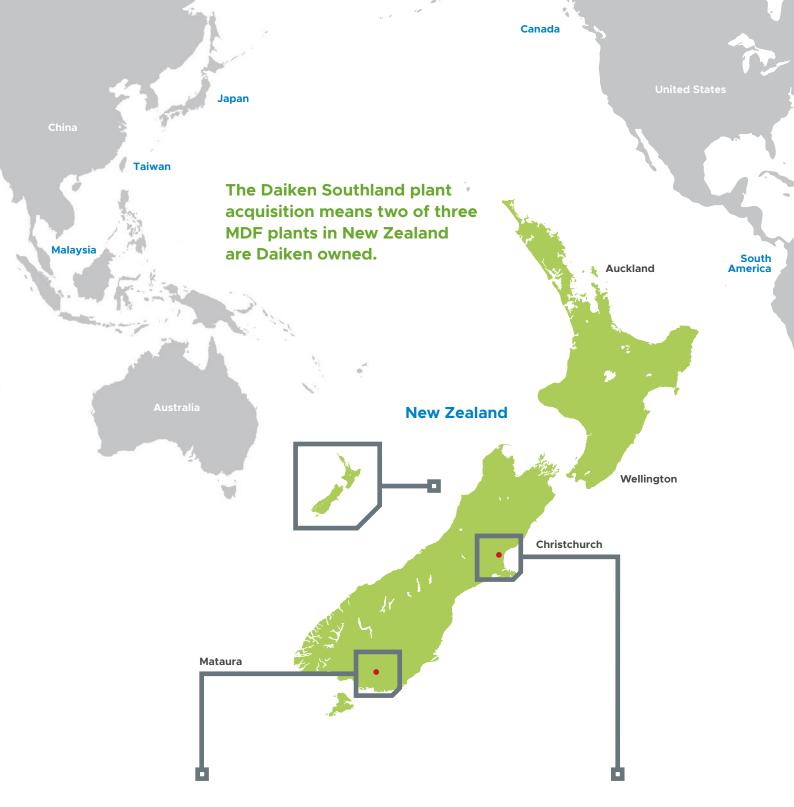
To ensure that we can offer customers a competitive product we prioritise increasing resources towards optimising uptime, yield, productivity, and of course, quality.

Everyone at Daiken is focused on customer needs and securing a reputation for the highest levels of customer satisfaction. In order to improve our performance on quality, price and delivery, we welcome your continued guidance, assistance and encouragement.









### **Daiken Southland (Mataura Plant)**



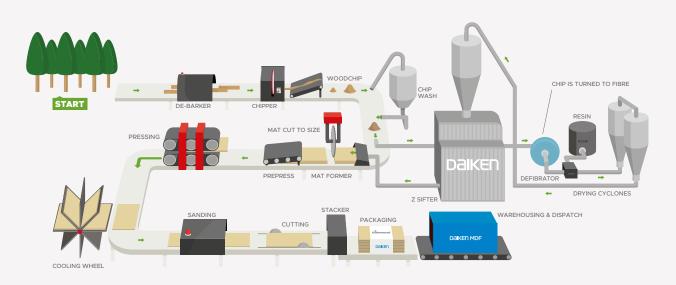
Plant land area: 125 ha | Plant area: 10 ha

**Daiken New Zealand (Rangiora Plant)** 



Plant land area: 159 ha | Plant area: 17 ha

### How Medium Density Fibreboard is made



### DNZ Rangiora Plant production

Year Commissioned
Press Type
<b>Production Capacity</b>
Standard Press Thickness
Standard Press Density

Line 1	
1976-2022	
Multiopening (Multiday	lights
105,000 m³/year	
12-30 mm	
350-750 kg/m <sup>3</sup>	

Line closed for production in 2022

### DSL Mataura Plant production

1996
Continuous
203,000 m³/year
2.5-36 mm
400-850 ka/m³

# Manufacturing excellence

Daiken MDF is highly regarded internationally due to the density and colour uniformity of our product range. This is achieved through innovative production techniques and manufacturing excellence.

Operating 24 hours a day, our processes start with screening and washing of chips that are then heated until soft for refining. The refining process that transforms woodchips into wood fibres is thermo-mechanical, so no chemicals are used. Resin and wax are added to the fibres before drying to control moisture. Fibres are formed into mats and compressed under heat to produce solid fibreboard. The boards are then sanded, cut to size, packed and delivered to customers in New Zealand and all over the world. Traceability back to panel level allows us to keep tight control on quality throughout the supply chain.

### Made to order

We have an extensive range of products, and can also customise panel size, thickness and density to meet individual requirements.

• Thickness: 2.4mm-36mm

Line 2

1994 Continuous 107,000 m³/year 2.5-9 mm 350-850 kg/m³

- Dimensions: Various
- Density: Super-UltraLight (less than 400kg/m<sup>3</sup>), UltraLight (401-550kg/m<sup>3</sup>), Light (551kg/m<sup>3</sup>-650kg/ m<sup>3</sup>), Standard/Medium (651kg/m<sup>3</sup>-850kg/m<sup>3</sup>), High Density (more than 850kg/m<sup>3</sup>)
- Emission: E0, SE0
- Certifications: JIS, Carb P2, FSC<sup>®</sup>, ECNZ, EPA TSCA Title VI, ULEF



# Innovative technology

At Daiken we pride ourselves in meeting technological, process and engineering challenges. Both our plants are fine-tuned to get the best out of technology and manufacture with effectiveness and efficiency.

As world-wide requirements for MDF emission and product quality standards have changed, so have our methods to not only keep up with the latest expectations, but to exceed them in many ways. Daiken has committed to investment in plant and machinery that will allow us to maximise technological advances to improve product consistency and colour for example, or extend the properties of our panel.

Our plants have pioneered changes to the operation of their presses to increase board strength, and develop UltraLite and now Super UltraLite panels in response to demand for an extremely lightweight product with superb machining characteristics. Always at the forefront of emission capabilities, and with our Rangiora plant being the first facility outside Japan to meet the stringent Japanese Industrial Standard (JIS), we take pride in providing products that meet CARB and ULEF emission tests.



- 1976 MDF comes off New Zealand's first MDF production line at the Rangiora plant, owned by Canterbury Timber Products
- 1977 The Rangiora plant officially opened by New Zealand Prime Minister Robert Muldoon
- 1985 Carter Holt Harvey (CHH) purchases the Rangiora plant
- 1994 A second production line was added at the Rangiora plant to focus on thin board production
- 1996 Rayonier New Zealand build continuous press MDF mill in Southland
- 2000 The Rangiora plant is the first outside Japan to meet new Japanese low formaldehyde emission standards
- 2001 Another first development of new UltraLite panels for the USA market
- 2009 Daiken Corporation and Itochu Corporation purchase the Rangiora plant, establishing Daiken New Zealand
- 2018 Daiken Corporation purchase MDF plant in Southland from Dongwha New Zealand, doubling their New Zealand production capacity.







### Your first choice for healthier interiors

Daiken New Zealand offers the lowest range of formaldehyde-emitting MDF.

Our Medium Density Fibreboard products are made using wood fibres from Radiata pine, urea formaldehyde (UF) resin, and small amount of wax. Formaldehyde is a natural part of most living systems occurring naturally in the air we breathe, and in wood fibres. Worldwide, considerable effort is put into reducing levels of formaldehyde emission in many products such as carpets, paints and varnishes, and MDF.

Daiken has poured enormous amounts of research resource into becoming world-leaders in managing emissions in our MDF panels. By working with resin makers, we have developed a range of products that meet the exacting Japanese Industrial Standards (JIS) for formaldehyde emissions. The superior grade, F4 Star (also known as Super EO), has formaldehyde levels similar to natural wood to give you assurance in the best controls available. We are proud of our achievement in meeting ultra-low emission (ULEF) in many of our standard products.

Many of our products also comply with the equally rigorous California Air Resources Board (CARB) limits on formaldehyde emissions. This represents a de facto national standard for the US, and the new regulations EPA TSCA Title VI and CARB Phase2.

# Internationally renowned quality

Daiken is committed to a programme of continual quality development and exceeding industry standards.

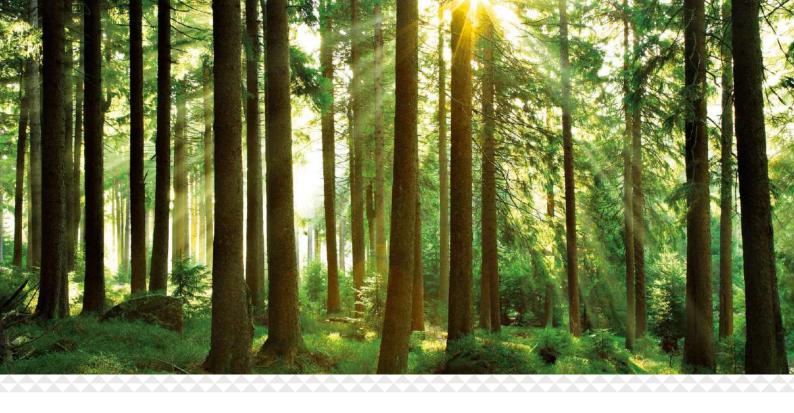
As part of our comprehensive external and in-house quality programme, our plants operate to ISO 9001 quality standards. We monitor, benchmark, and strive to continuously improve our business performance, products, systems and individual performance.

In addition, we employ a strict internal quality programme of 'kaizen' – a Japanese business philosophy of continuous improvement of working practices, and personal efficiency. This has enabled us to maintain an efficient manufacturing operation, transparent operating procedures and a focus on minimising waste, while continually working to move capability to a higher level.

We also believe strongly in open communication, working alongside the market to understand key areas of performance and how these can be improved through innovation. As well as our own stringent quality controls, we are also part of a number of external management programmes to ensure we retain our leadership position in the international MDF industry.







# Sustainability in action

Daiken products meet the world's most stringent environment standards. This means when you purchase from Daiken, you can be sure you've made the best choice for the environment too.

### Responsible sourcing

Unlike the vast majority of the world's MDF, New Zealand MDF is made from exotic plantation-grown Radiata pine trees. These forests are mostly located a short distance from the plant. We utilise grades of wood not suitable for timber that would otherwise be left to rot, reducing wood wastage in the forest.

Whenever possible, we source wood harvested from plantations that meet the Forest Stewardship Council's® (FSC®) stringent environmental, social and economic standards. Product made from this wood carries the FSC® certification label.

We are also part of Environmental Choice – New Zealand's most trusted multiple criteria environmental labelling programme, which operates to internationally recognised standards and principles. In addition, our environmental management system meets the strict criteria set out in the ISO 14001 certification process.

### Environmental initiatives

We constantly monitor conditions to ensure we are managing our operations in an environmentally responsible manner. We monitor water quality (underground and surface) to ensure our effluent treatment process and discharge methods are noncontaminated. One hundred percent of wastewater is treated and then used for irrigation on farmland.

We also strictly monitor formaldehyde emissions, as well as regularly measuring wood dust. An external authority completes an annual survey of wood dust and formaldehyde. Several initiatives on-site focus on the recycling of cardboard, office paper and containers.

### Supporting our community

We believe in supporting our community by supporting our local economy. We source local materials for our manufacturing operations, provide employment opportunities and hire local contractors where possible. In addition we maintain membership of local Employers' Chamber of Commerce – to ensure strong links with our region's key business networks.



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