

RAW MATERIALS

Wood: The MDF (Medium Density Fibreboard) process at Nelson Pine Industries Ltd (NPIL) uses up to 700,000 tonnes of wood per year, from the residue of logging from renewable pine plantation forests LVL uses an additional 200,000 tonnes per year of wood resource. It requires a higher grade of log which is converted to an added value product.

Water: Every tonne of MDF made requires about one tonne of water, which is very low compared with other processes that use wood residues. For example, pulp and paper production typically requires between 10 and 50 tonnes of water per tonne of final product. Some of the water is used for washing the wood chips to remove any dirt, sand or stones that could cause wear on the refining process, and also to ensure the board is clean. The other major use of water is to make steam used to heat and soften the chips before they are ground up into fibre. NPIL is continuing to find ways to reduce the amount of water required in the process.

Energy: About 70% of the energy used on the site is generated by burning wood waste. This comes from:

- Bark taken off in the debarking and chipping operation.
- Sawdust from trim and sizing saws.
- Sander dust from board sanding.
- Board offcuts from the panel sizing saws.

The other 30% of the energy comes from electricity supplied via Network Tasman.

Resin: Resin to glue the fibres together into board is supplied by two resin companies. Dynea has a resin plant next door to NPIL and pumps the resin to tanks on site via a pipeline. Orica manufactures resin for NPIL at its resin plants in Christchurch and Tauranga. Both resin manufacturers have worked closely with NPIL to develop environmentally friendly resins. These minimise environmental effects when the resins are used to make board and also minimise the emissions from the board when it is used. GoldenEdge MDF can now be made with emission levels similar to natural wood.

Water and waste: Nelson Pine Industries is part of a cluster of industrial users of the water and waste services provided by the Nelson regions two councils. Effluent, mainly from the chip washing stage of production, is treated on site before being piped to the regional treatment plant. Water used on site at NPIL to raise steam is treated to ensure it is as pure as possible. Steam is an important part of the MDF production process, used to cook the wood chips and refine them into wood pulp.