

Nu-Wall Aluminium Cladding

&

Environmental Sustainability

Embodied energy – at face value it would appear that the embodied energy in aluminium is very high; indeed, lists of such data published covering various products used in construction would rate “virgin” aluminium (i.e. aluminium smelted from primary ore) among the highest. When considering Nu-Wall Aluminium Cladding this data should be viewed in the context of the following additional facts:

- **Mass** – aluminium is very light; for example a Nu-Wall cladding board has approximately 20% of the weight of a typical fibre cement weatherboard with equivalent cover. The total mass of Nu-Wall required to clad a building would be fractional compared to many other products, significantly offsetting the higher per kg value for embodied energy.
- **Recycled content** – approximately 50% of the aluminium used in production of Nu-Wall profiles is recycled, as opposed to being obtained from primary production. The recycling process consumes approximately 5% of the energy consumed during primary production; hence the product’s overall embodied energy factor is significantly diluted.
- **Produced in New Zealand** – the majority of the aluminium extruded to produce Nu-Wall profiles is produced at the Bluff Aluminium Smelter, powered largely with renewable electricity from the Manapouri hydro-electric power station. Another benefit arising from local manufacture is the far lower consumption of energy occurring through transportation of the product, relative to products manufactured offshore.

Finishes applied – paint finishes applied on the construction site to many cladding products pose a significant environmental contamination issue. This issue is ongoing throughout the life of the building as the finish deteriorates, requiring repainting to not only restore appearance, but also to maintain durability and weathertightness. Nu-Wall powdercoat finishes are applied in a factory using controlled processes, resulting in far less contamination. Ongoing maintenance of Nu-Wall is limited to washing only; hence the product asserts a much more environmentally benign presence throughout its life than many others.

Recyclability – at the end of a building’s life, Nu-Wall cladding can be removed and sent for recycling; hence the product will present no waste disposal problem at such time. Screw-fixing of the product at initial installation facilitates its ultimate removal. The local availability of recycling plants minimises the transport, and hence energy requirement to complete the cycle.

