

New Zealand's newest architectural marvel dressed in shiny stainless steel



Photos by Patrick Reynolds, courtesy of Patterson Associates

The recently inaugurated Len Lye Centre in New Plymouth, Taranaki, displays an eye-catching façade of highly reflective stainless steel. Designed by Patterson Associates, an award-winning architecture firm based in Auckland, the museum is destined to become a new architectural landmark of New Zealand.

By Matjaž Matošec

The Len Lye Centre is New Zealand's first institution dedicated to a single artist, the pioneering filmmaker and kinetic sculptor Len Lye (1901–1980). The mirror-like exterior echoes Lye's use of stainless steel in many

of his sculptures. As such, the museum not only serves as a lasting tribute to this internationally renowned and visionary artist, but also celebrates rich local history of industrial innovation. The region's association

with stainless steel is so strong that the architects refer to this material as Taranaki's local stone. Commissioned by the New Plymouth District Council and financed via an extensive fundraising program, the Len Lye

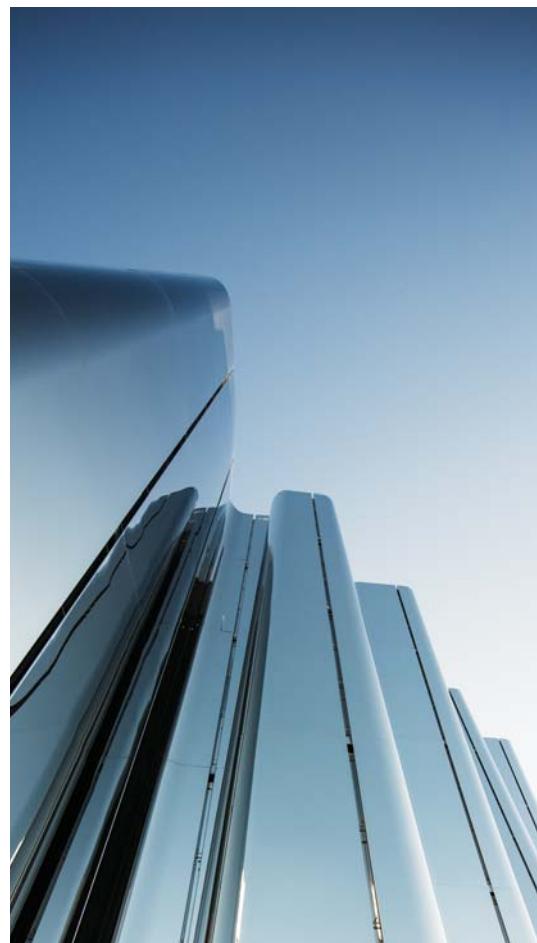
Centre is adjoined to and will operate in tandem with the existing Govett-Brewster Art Gallery. In addition to a tight budget, a number of other challenges had to be confronted. As the architects explained to us, "there was much discussion regarding the material specification. When working with stainless steel, architects always face the challenge of managing corrosion and glare. Given that

the building is located very close to the west coast of New Zealand, the smoothest type of marine-grade stainless steel was selected in the end, to resist corrosion." 32 tonnes of bright annealed, Type 316 stainless steel were sourced from Japan and polished to the highest possible level (number 8) before entering New Zealand. The stainless steel sheets were then fabricated and curved by Rivet, a local stainless steel manufacturer.

In contrast to many metal-clad buildings that are strongly panelised, the architects of the Len Lye Centre were after a more monolithic and sophisticated appearance. "An early idea for the building's façade was to create a stainless steel curtain composed of full-height panels. However, full-height panels proved impossible to achieve, due to too many risk factors involved, from cutting 14-metre-long stainless steel sheets off the roll to installation on-site. In the final design, it was broken down into manageable panel sizes and the team set about figuring out a detail to trick the eye. What resulted was an almost invisible horizontal butt joint and an oversized vertical joint to achieve the desired visual affect. While the panels sit very tightly together, they all sit on a slotted connection on the supporting

stainless steel channels. This allows for adequate expansion which helps mitigate oil canning. Oil canning was undesirable not only from a visual point of view, but also in terms of glare. There is also a plan for trees to be planted in critical areas, once the adjacent street has been transformed into a public space. For the moment, however, it appears that people are enjoying the façade just as it is – exposed and shiny. The concave zones are on a very tight curve, approximately 360mm, so the hotspot zone is fairly close to the building. However, there haven't been any problems to date with this from a public perspective. This is quite different to some of the larger buildings around the world where the radius for the concave curve of the building is significant, causing a significantly larger concentration of energy, some distance away from the building."

The architects had explored the merits of perforating the panels, to reduce the amount of solar energy reflected off the surface, but in the end the risk of corrosion around the perforations was considered too great. Regular cleaning assists in the removal of salt deposits to prevent staining and has so far proved effective in keeping the panels bright and shiny.



Type 316 stainless steel was polished to the highest possible level, to ensure maximum corrosion resistance and achieve mirror-like appearance.