

## Litecrete Commercial Panels

Architects have chosen precast concrete for many years because it offers exceptional versatility, speed of enclosure and durability. Litecrete has further extended these boundaries. No other material provides the combination of textures, shapes, surface details, fire resistance, acoustic values, insulation, moisture resistance, low maintenance and accelerated construction schedules. But the key benefit is that Litecrete can also offer solutions to designers and engineers when developing a building's steel or concrete superstructure – especially in poor soil, high seismic or re-cladding applications.



Litecrete can reduce the weight of concrete cladding panels by 50% while offering insulation and fire-resistance standards that exceed the Building Code requirements. Engineers and architects have depended upon the strength, durability and design possibilities of precast concrete to achieve a variety of outcomes.

Litecrete can offer:

- Design freedom: unlimited aesthetic options; excellent plan flexibility
  - Outstanding durability, including fire and moisture resistance
  - Excellent acoustic properties
  - Fast-track construction: faster to erect; installation unaffected by inclement weather
  - Low maintenance and life-cycle costs
  - Environmentally friendly; less embedded energy; recyclable
- Peace of mind: quality-assured, consistent factory manufacture enables greater quality control and superior consistency of finish

The pumice aggregate provides Litecrete with its unique strength-to-weight ratio. The added R-value will improve the thermal efficiency of the structure leading to corresponding reductions in HVAC demand. Compare that to glass curtainwall assemblies that have no significant or much lower R-values. Litecrete is vapour-permeable; it allows water vapour (condensation) to move through the panel to the exterior of the building. When the weight of structural components is lowered a multitude of benefits follow, such as: lighter (and less costlier) foundations, reduced seismic loads, fewer connectors, cheaper shipping costs, smaller cranes. Litecrete can be used for:

- High-rise exterior cladding panels
- Low-rise exterior cladding panels
- Inter-tenancy walls
- Fire walls
- Acoustic walls
- Eyebrows and aprons
- Dangerous goods stores
- Utility buildings
- Estate fencing

Litecrete is manufactured under strict quality-controlled factory conditions, delivered to site and rapidly installed. Various thicknesses can be manufactured to order, from a minimum of 150 mm. Panels have fully embedded steel reinforcing. Maximum size panel is 7 to 8 metres x 3.5 metres.

## Durability

Litecrete does not rot, harbour mould or mildew, split or crack.

When used and installed in accordance with the limitations and instructions of the manufacturer, the specifically designed components of the Litecrete panel system can be expected to meet the New Zealand Building Code durability requirement of 50 years, provided the Litecrete wall panels are installed and finished as recommended and all protective linings, coating systems and seals are correctly maintained. Associated sealants, seals, flashings and sealing systems are required to have a minimum of 15 years durability.



## Formliners

Litecrete is an ideal medium for using formliners in the mould to reproduce decorative designs for cladding panels. The photo above shows panels manufactured for the Birkenhead Library.

## External Coatings

The flat, exterior surface of the panel is produced off a steel casting bed. If a plaster-type finish is specified the large, flat panel surfaces mean that only a minimal plaster thickness (1/2mm) is required. Therefore, the exterior can be either (1) painted or (2) skim coated with 1-2 mm of plaster then painted. However, vapour-permeable coatings (paint) or plaster systems should be used

## Maintenance

External coating systems must be maintained in accordance with the respective manufacturer's instructions and all damage repaired promptly to ensure the ongoing weathertight properties of the coating systems.

## Colour Variation

Because Litecrete is manufactured from natural materials no one panel is exactly the same colour and variations must be accepted from one batch of concrete to another.

## Internal Linings

Gib® plasterboard can be glue-fixed direct to Litecrete wall panels using Fosroc Panel Bond or Selleys Liquid Nails adhesive in beads at 250mm centres. Lining materials can also be screw fixed into 40 mm vertical timber battens attached to Litecrete panels at 600 mm centres

## Retaining Walls

The structural requirements of precast concrete retaining walls require a minimum strength of 25 MPa. As the strength of Litecrete is 12 Mpa it is not recommended for below-grade (retaining) applications. Wilco Precast can supply normal precast concrete retaining panels if required.

## Alternative External Cladding

Alternative exterior cladding systems, such as brick, stone or weatherboards, can be attached to Litecrete exterior wall panels. Such systems must be fit for purpose and must comply with the relevant provisions of the New Zealand Building Code.

## External Plant-Ons

There are proprietary products available, which can be attached to the exterior surfaces of Litecrete walls to replicate classic architectural styles with features such as windowsills, quoins, cornices and mouldings. These are generally manufactured from lightweight concrete, expanded polystyrene or plaster. Such products should be finished in a similar manner to the Litecrete panels.

## Fire Resistance

Litecrete is fire-resistant to 240/240/240 (refer BRANZ Report FR 3524).