



New Zealand
Concrete Masonry
Association Inc.

NZCMA PROJECT PROFILE #2

Cranko House

WELLINGTON

PROJECT PRINCIPALS

Architect: Cranko Architects

Consultant: Don Thomson Consulting Engineers Limited (DTCE)

Contractor: PCB (Peter Camp Builders Limited)

Masonry Supplier: Firth Industries (NZCMA Member)

Structural Mason: Valley Blocklaying

Concrete masonry products are used extensively in this new Wellington house to create a comfortable and functional family home in an established city-fringe neighbourhood.

The layout optimises its northern orientation with polished concrete floors on north and west sides that act as heat sinks. The north-facing, double-height glazed entry gallery acts as a conservatory/trombe wall.

The incorporation of passive solar design principles is key to achieving a reduction in the home's energy requirements. The mass of heavy building materials, in this case exposed concrete and concrete masonry, is utilised in conjunction with the sun's changing elevation angle during the year to sustainable effect.

In conjunction with appropriate thermal insulation, window placement for good solar gains and natural ventilation, the exposed concrete elements in the house absorb, store and later radiate the sun's heat, off-setting temperature troughs and peaks, to create a moderate living environment.

This house demonstrates how concrete masonry construction can enable an elegant, joyful, hard wearing, low-energy solution for everyday family life.



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Images: Kevin Hawkins and Deborah Cranko

CONCRETE MASONRY - RECOMMENDED USE

Concrete masonry construction (or blockwork) is a permanent hollow formwork which is filled with concrete (blockfill) and allows for the integration of reinforcing steel, a feature essential for earthquake resistant structures for industrial, commercial, and residential buildings.

REQUIREMENTS OF NZCMA

The Association requires its masonry manufacturer members to produce concrete masonry blocks, including veneer types, to meet the Australian/New Zealand manufacturing Standard AS/NZS 4455.1.2008, Part 1 Masonry Units.

ADVANTAGES OF CONCRETE MASONRY

Concrete masonry is a solid, predictable, and reliable material that provides permanence, and high fire and acoustic resistance. Masonry walls can also be positioned and designed to achieve great weather protection and thermal efficiencies.



Image: Patrick Reynolds

THE NEW ZEALAND CONCRETE MASONRY MANUAL

The New Zealand Concrete Masonry Manual, which was created in the late 1970s as a guide to the design and construction of concrete masonry, has been updated and is available in sections for free download as required from the NZCMA website – www.nzcma.org.nz

NZCMA MEMBER COMPANIES

For advice and concrete block availability, NZCMA Members can be contacted at the following links:

| COMPANY | LOCATION | CONTACT |
|------------------------------------|-------------------------------|--|
| Bowers Brothers Concrete Limited | Various in Upper North Island | www.bowersbrothers.co.nz |
| Firth Industries | Various | www.firth.co.nz |
| Mitchell Concrete Limited | Taranaki | www.mitchellconcrete.co.nz |
| The Block Shop New Zealand Limited | Various in North Island | www.blockshop.co.nz |
| Viblock Limited | Christchurch and Alexandra | www.viblock.co.nz |
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