



**NK WINDOWS**  
uPVC Systems

## NK Windows and 10 Homestar Built Rating

Date: July 2016

**We are very proud to be the window and door designer, manufacturer and installer of choice for New Zealand's first 10 Homestar Built rated house. Completed in late 2015 in Christchurch by developer and architectural designer Bob Burnett, this house provides its occupants with a healthy and dry constant 20 deg. C in all rooms throughout the year with almost zero energy bills. Standard double-glazed windows and doors, as used by 75% of our clients, were used.**

### Homestar rating system

The Homestar rating system is an independent rating tool that certifies the health, efficiency and sustainability of New Zealand homes. It's been in existence since 2010 and is a quality-assurance mark – similar to Energy Star for appliances, or the WELS scheme for water efficiency. A home is rated on a 1-10 scale: a rating of 1 Homestar means it needs significant work, and 10 Homestar indicates international best practice. Most existing New Zealand homes only achieve a 2-3 Homestar rating. A new home built only to the Building Code would achieve a 3-4 Homestar rating.



### Smart use of technology

Being awarded a 10 Homestar Built rating takes more than just great windows. Oriented to capture warmth from the sun, grey water and rainwater systems, water efficient fittings, photovoltaic solar panels, energy efficient lighting, low VOC paint, solar wall ventilation system that warms incoming air, slab-edge insulation and a solar powered hydronic under floor heating system all contribute to the high performance of this 140sqm two storey house in Addington, Christchurch.

### uPVC windows and doors

Although NK Windows is very proud to be involved in this high performing house - it was just another job. There was nothing out of the ordinary for NK Windows in terms of products, design, manufacture or installation. "Standard double-glazing with argon and Low-E coatings fitted into our standard 5-chamber thermally resistant profiles is what we do every day of the week", says NK Windows director Martin Ball. He continues, "We are in the business of creating warmer, safer and quieter homes for families to live in, be comfortable in and enjoy. 75% of our clients opt for the same glass and profile system that has been installed in this 10 Homestar Built rated home."



Photo courtesy of Bob Burnett Architecture

uPVC windows have been used extensively in Europe for decades and in fact over 60% of European homes have uPVC windows and doors. Additionally, uPVC accounts for 90% of the replacement window market in the UK. Given the success of uPVC in the UK and Europe, plus: the similarities in climate with New Zealand; strict European environmental manufacturing rules; and New Zealand in need of higher performing and affordable housing stock, uPVC solutions are very well suited to this country.

### Costs and standards

What will surprise most people is that building a high performance home does not need to cost a lot of money.



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The key is to engage with a suitable architect and plan appropriately from the start. The additional cost to build this 10 Homestar home compared to a home of equivalent size and style with a 3-4 star rating is approximately 10%. Compared to an equivalent 6-7 star home the additional cost would be approximately 2%. The whole of life value of building a green home far exceeds building a home just to code. When considering the additional comfort and health benefits from living in a warm and dry home it is difficult to understand why the NZ Building Code sets such low standards. Most people treat the Code as a target and assume it will deliver comfort. In reality it is just a minimum standard that in most cases will not deliver the warmer, safer and quieter home that most people desire.

### Passive houses

The term passive house (Passivhaus in German) refers to a rigorous, voluntary standard for energy efficiency in a building, reducing its ecological footprint. Although quite new to New Zealand, the first examples appeared in Europe in 1990 and are now mostly seen in Germany, Austria and Scandinavia. Many countries around the world are now embracing the standard and there are numerous examples in New Zealand.

### Additional information

- Homestar (<http://www.homestar.org.nz/>)
- Passive House Institute of New Zealand ([phinz.org.nz](http://phinz.org.nz))
- Passive House Academy of New Zealand ([passivehouseacademy.ac.nz](http://passivehouseacademy.ac.nz))
- New Zealand Green Building Council ([nzgbc.org.nz](http://nzgbc.org.nz))
- The International Passive House Association ([passivehouse-international.org](http://passivehouse-international.org))
- Bob Burnett Architecture ([bbarc.co.nz/articles/](http://bbarc.co.nz/articles/))

### New Zealand's housing problem

Too many New Zealand houses are cold, damp and unhealthy. It's not only old houses though. Occupants in many new houses built only to the building code suffer with cold, damp and difficult to heat homes in colder parts of the country. The effects on occupants' physical and mental health along with the significant social and economic costs are well documented. Windows play a significant role in the thermal performance of a house and therefore occupant comfort and health. NK Windows are well positioned and want to help raise the standards of New Zealand's housing stock.



*Does this moisture and mould look familiar? Help protect your family from the ill effects of a cold and damp house by fitting thermally resistant windows and doors.*

