Kaynemaile for Exceptional Residential Projects

Kaynemaile®

R·E/8

A modern chainmail fabric consisting of polycarbonate interlinked rings formed seamlessly together, RE/8™ Bio-circular Architectural Mesh by Kaynemaile has over 60-years of material science and research to call on.

It provides energy-efficient sun shanding and adds privacy to any space.

“[Kaynemaile mesh] ticked the boxes being a transparent low maintenance solution made from non-corrosive material. The spatial experience of the children’s bedrooms and bathroom can be largely contributed to the dappled afternoon light shining through the Kaynemaile mesh”

—NIC RAATH, CREATE ARCHITECTURE.

Honoree
Biodesign,
Circular Design,
Materials

Jury Winner
Building Envelopes,
Cladding & Roofing

Popular Choice Winner
Sustainable Design

Winner
Building Envelope

Why RE/8 mesh is great for residential applications

TECHNICAL BENEFITS

1

RE/8 Bio-circular Architectural Mesh

RE/8 mesh is comprised of an industry first cradle-to-gate carbon neutral polycarbonate by Covestro, a leading global producer of advanced polymers.

2

70% Solar Reduction

Kaynemaile's RE/8 mesh significantly reduces both radiant heat through direct sunlight (EMR) and thermal conductive heat from entering the interior of a building by up to 70%. This gives you the ability to let daylight in and manage the passive solar gain—all while maintaining visual transparency.

3

High Airflow

An open structure of up to 80% can be achieved with our mesh, giving you high airflow and natural ventilation throughout a space.

4

Unbeatable Strength

Our mesh is made from the highest performing thermoplastic. It is extremely robust and impact resistant. Thermally stable from -40°F to 248°F (-40°C to 120°C).

5

Unlimited Screen Size

We are not limited by panel size—we can make our screens to any height or width without joins or distracting gaps. This gives you freedom at the design stage that other materials don't. Making our screens to the size you need them means less structure, less fixings, and less time on site.

6

Design Flexibility

Because our mesh has no panel size limit, the design options are unique—from large single piece screens, to geometric screens stretched over a subframe, to kinetic screens moving in the breeze.

7

Fast Installation

Our mesh is lightweight (3kg per square metre) and goes up fast, cutting down the install time dramatically and saving costs.

8

Trusted Durability

Metal based materials corrode and oxidise in coastal conditions. RE/8 mesh does not. Our mesh holds true to its tensile strength. We use colour-fast pigments that will not stain your home when it rains, unlike traditional metal products.

Sun Shading and Privacy Screening for Elegant Double Bay Home

CASE STUDY

Kaynemaile screens provide privacy and sun shading for this contemporary home situated in Sydney's harbourside suburb of Double Bay. Our mesh screens are fitted within simple steel frames and compliment the elegant design and thoughtful material selection.

As well as fixed screens the house incorporates automated solar screens within a solar management system that detects the sun and moves the screen positions automatically – creating an innovative facade solution.

During the night, architectural lighting concealed within the mesh screen frames highlights the range of textures and materials used on the facade.

Manufactured from engineering grade polycarbonate, Kaynemaile's unique properties reduce solar heat gain into the building envelope by up to 70% without losing visual transparency. We can make our screens to any height or width without joins—we are the only manufacturer in the world that can do this.

Installation: SAOTA Architects in association with TKD Architects | **Location:** Sydney, Australia
Photography: Adam Letch

Design: SAOTA Architects in association with TKD Architects
Built by: Horizon

Awards

MBA Excellence in Housing Award

Trends International Design Awards 2018 (TIDA), Category Winner—Australian Architect-designed New Home

Trends International Design Awards 2018 (TIDA), Category Winner—International Home of the Year

One Cool Pool House

CASE STUDY

Using the existing mid-century modern design language as a starting point Johnston Architects and Bespoke Interior Design set about a redesign of this Auckland house giving it an updated material and colour palette and beautifully integrating a new pool house and landscaping.

When used externally, Kaynemaile acts as both a solar screening device and as a decorative feature element, reducing solar gain by up to 70% without sacrificing air flow.

Steel coloured mesh was used to provide solar shading and create privacy for the upstairs bedroom. Juxtaposed with the concrete block it introduces a striking feature to the facade.

This beautiful renovation improves the connection between the house with the exterior in a stunning fashion.

Design: Johnston Architects and Bespoke Interior Design | **Location:** Auckland, New Zealand
Photography: John Williams Photography

Kaynemaile Screens offer impressive performance attributes, as well as adding aesthetic value to a home.

A Balance Between Privacy and Openness at Jacks Point, Queenstown

CASE STUDY

The owners of this stunning property wanted a product that would provide privacy while letting in light and maintaining the views.

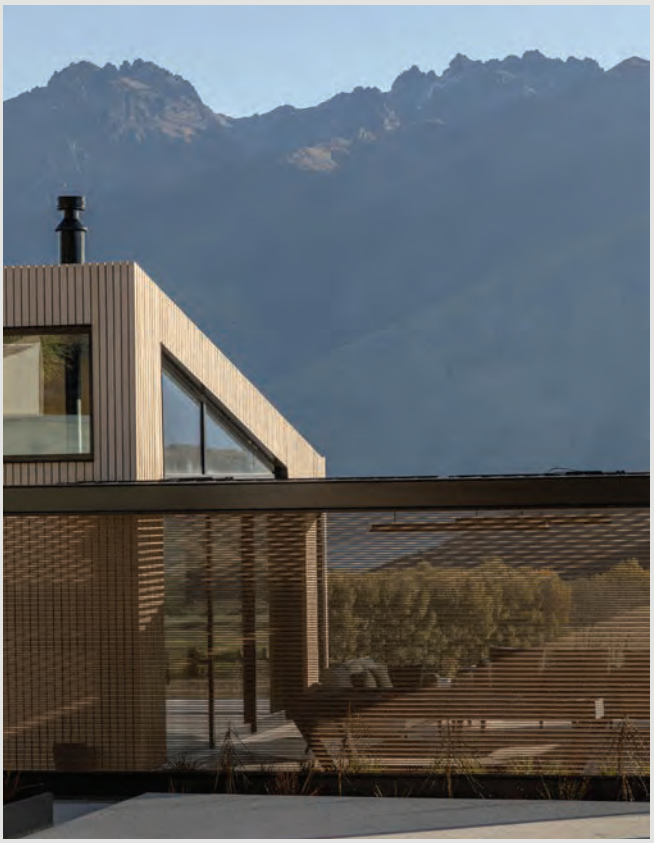
The Kaynemaile screen chosen needed to be an element which would both blend in with the house and mountainous suroundings, yet also stand out as a feature.

The Bronze coloured mesh was the perfect choice to add warmth and a soft looking texture to the otherwise hard concrete outdoor space.

The screen provides shade and privacy, while also allowing you to look through the outdoor living space to the amazing views behind.

Installation: Bolig Architecture | **Location:** Queenstown, New Zealand
Photography: John Williams Photography

The Kaynemaile Mesh provided a distinctive feature screen that seamlessly blended with the property while simultaneously making a statement, without undermining other elements.



House H
Privlaka, Croatia

CASE STUDY

A contemporary design which needed a high performance exterior screen to provide solar-protection, privacy and an aesthetic edge. Kaynemaile was the perfect choice for many reasons, one being that our mesh is durable in coastal conditions. Metal based materials corrode and oxidise in the sea air, but as Kaynemaile is made from polycarbonate, it does not — perfect for this coastal home.

"It's wonderful to see the mesh's changing appearance due to catching sunlight from all sides. From almost opaque in the morning towards a more permeable state with a fascinating play of shadow and iridescent glow in the afternoon. Within the combination of the Croatian stone facade and the wooden shutters, the mesh becomes the visual highlight of the house." - Boris Banozic, Architect

Design: Banozic Architecture Studio | **Location:** Croatia

Solar Screen for Stewart House

CASE STUDY

Kaynemaile easily copes with the demanding coastal environment and extreme Southern Hemisphere sun.

Privacy screening was a major factor for material selection as the house faces a busy road in the seaside town of Mount Maunganui. Kaynemaile provides privacy without restricting the sea views.

Installed as single pieces within a simple steel sub-frame, the screen is an elegant contrast to the harder material surfaces of the house.

Awards

ADNZ Resene Architectural Design Awards National Winner — Residential New Homes 150m2-300m2

Design: Adam Taylor Architecture | **Location:** Mount Maunganui, New Zealand | **Photography:** Marshall Masters

Luxury Gateway for Stunning Residence

CASE STUDY

Viva Developments is a luxury property developer based in Western Australia. We worked with Viva to develop exterior screens for the entrance-way of a new private residence in East Fremantle.

The client wanted screens to create privacy for the open area beyond the entrance, which spans two levels. It was important that the screens didn't restrict light entering the space to maintain the airy, open plan design. The screens were fitted discretely to the framing of the front pivot entry gate which spans 6-metres in height and adjacent architectural panels. Bronze Kaynemaile worked perfectly with the modern, contemporary aesthetic of this home, complimenting the range of materials and textures used on the facade. Manufactured from engineering grade polycarbonate, Kaynemaile's unique properties reduce solar heat gain into the building envelope by up to 70% which was paramount for this project. All material choices needed to be able to withstand the heat and weather conditions of the harsh Western Australian coastal environment.

We can make our screens to any height or width without joins—we are the only manufacturer in the world that can do this.

Design: Daniel Lomma Design | **Installation:** Viva Developments
Location: Perth, Australia | **Photography:** Michael Conroy, Silvertone Photography

Why does solar reduction matter?

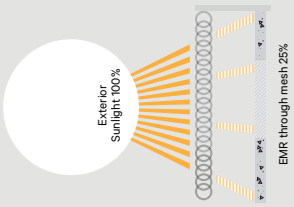
SOLAR REDUCTION WITH KAYNEMAILE:

The urban heat island effect, caused by the over-reliance on heat-absorbing construction materials, means that cities are often 1.8–5.4°F (1–3°C) warmer than their rural surroundings. This puts significant pressure on cooling systems, increasing electricity consumption. The effect is further amplified by the use of fully-glazed facades, where direct sunlight causes overheating. In hot and humid cities, almost half of the electricity used by high-rise office buildings goes towards cooling.

How RE/8 mesh works

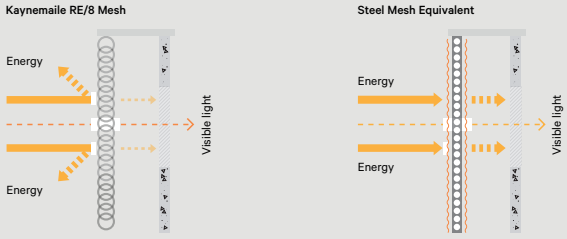
The Kaynemaile facade system provides a cost-effective method to significantly improve the thermal environment inside a building, by reducing radiant heat transfer from direct sunlight. Its unique design lets daylight in, but allows you to manage the passive solar gain within the building envelope — all while maintaining visual transparency.

There are 3 key factors at play:



Deflecting sunlight: The Kaynemaile facade system has been shown to deflect up to 70% of visible and infrared light waves, which are linked to overheating. The mesh system provides an alternative route to solar gain protection. In many environments, shading systems like ours have been shown to be even more effective at managing interior temperatures than costly, retrofitted glazing.

Insulative properties: Steel mesh products are highly thermally conductive, so under direct sunlight, their temperature rises and they transfer radiant heat into the building. In contrast, RE/8 mesh is made from a high-grade polycarbonate, which is an insulator. Our mesh remains at a near ambient temperature, even at the height of summer, moderating the building's thermal environment, and reducing its running costs.



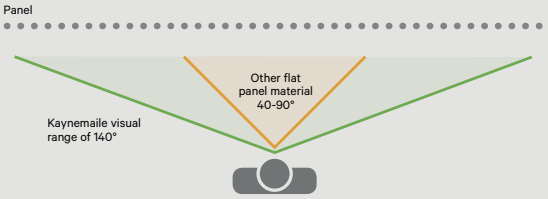
Cooling properties: In our three-dimensional mesh structure, a high proportion of the mesh surface area is always in shade, which helps to control temperatures. In addition, as air passes through the cross-sectional open area, it provides a cooling effect.

A typical two-dimensional steel mesh or perforated sheet offers much lower visible open area, significantly less airflow, and higher air temperatures, increasing a building's overall thermal load.

With RE/8 mesh you can reduce the total heat gain on the building envelope significantly. By protecting the building from harsh sunlight and not restricting the cooling effects of air movement, building engineers can reduce the air conditioning design and system costs, as well as reducing the total energy consumption costs in hot climates.

Visual transparency means inside-out visibility

Unlike traditional two-dimensional perforated steel panels and meshes, RE/8's three-dimensional nature gives a consistent visual open area, providing great visual transparency and unobstructed views from the inside out. Other flat panel materials have an open aperture only when measured perpendicular to the panel face. RE/8 mesh gives a massive 140-degree panoramic view.



KAYNEMAILES SCREEN AT SYDNEY RESIDENCE

Photography: Tony Savelli, Revolver Media

FEATURE SPOTLIGHT

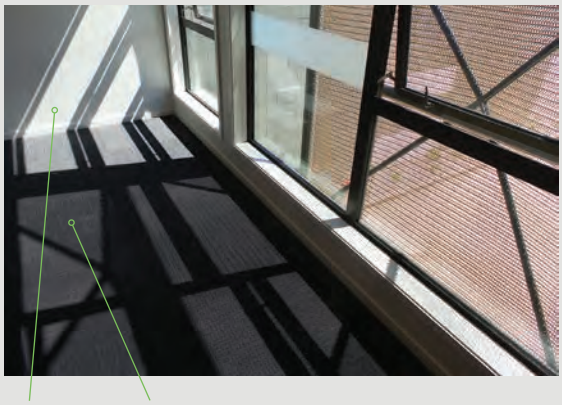
Solar control and inside-out visibility

RE/8 mesh provides up to 70% sun filtering, and allows unobstructed views from the inside out.

Project: Edith St, Leichhardt Residence
Installation: Metric Interiors
Photography: Tony Savelli, Revolver Media

Exterior Facade

Inside-out visibility



Full sun **without** RE/8 mesh

70% shading **with** RE/8 mesh

Kaynemaile®

RE/8

Need a Sample?

No problem, contact us and we'll get one out to you.

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