

Kaynemaile for Exteriors




Kaynemaile® 

RE/8™



Lawson Lane Campus | Santa Clara, CA, USA

 Lucas Fladzinski Photography



Jury Winner
Building Envelopes,
Cladding & Roofing



Popular Choice Winner
Sustainable Design



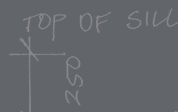
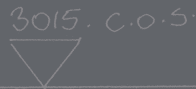
Winner
Building Systems
& Components

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- in kaynemaile-limited
- p kaynemaile

www.kaynemaile.com

SOS
RE
DAG
FOR
THE
KING



Z100 TO O/S
BEAM

EXISTING
STEEL
BEAM

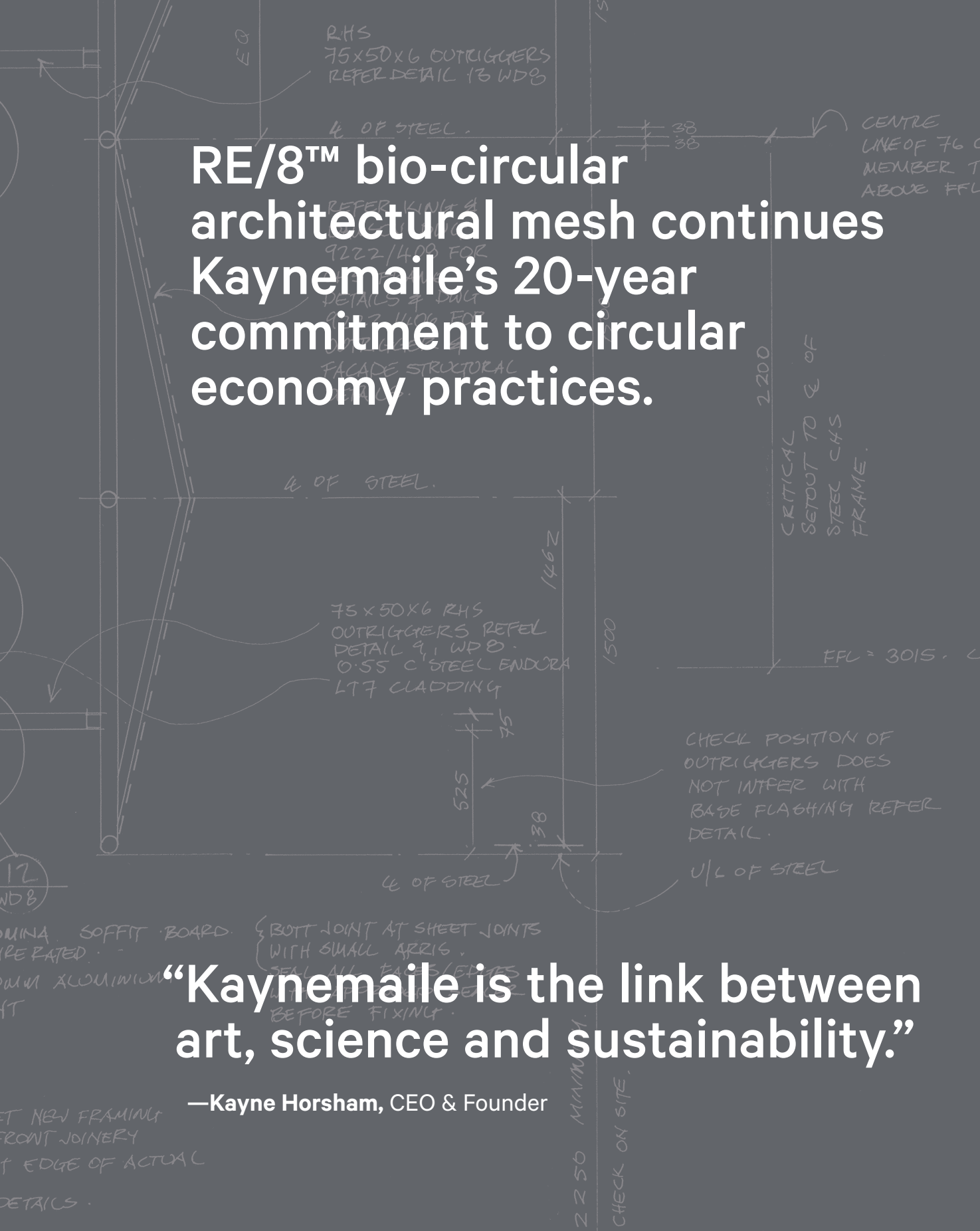
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REFER I



Z450

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RHS
75x50x6 OUTRIGGERS
REFER DETAIL 13 WDB

4 OF STEEL.

38
38

CENTRE
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MEMBER T
ABOVE FFL

RE/8™ bio-circular
architectural mesh continues
Kaynemaile's 20-year
commitment to circular
economy practices.

REFER KING &
9222/400 FOR
DETAILS & DWG
9222/400 FOR
OUTRIGGERS &
FACADE STRUCTURAL

2 200

CRITICAL
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STEEL CHS
FRAME.

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FFL = 3015.

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38

4 OF STEEL

U/L OF STEEL

CHECK POSITION OF
OUTRIGGERS DOES
NOT INTERFERE WITH
BASE FLASHING REFER
DETAIL.

12
WDB

MINIMUM SOFFIT BOARD
OPERATED:
MINIMUM ALUMINIUM
FRONT JOINERY
AT EDGE OF ACTUAL
DETAILS.

BOTT JOINT AT SHEET JOINTS
WITH SMALL ARRIS.
SEAL ALL GAPS/EDGES
WITH POLYURETHANE FOAM
BEFORE FIXING.

2250 MINIMUM.
CHECK ON SITE.

“Kaynemaile is the link between art, science and sustainability.”

—Kayne Horsham, CEO & Founder



Functional and Beautiful

We reimagined two-thousand-year-old chain mail armour into a unique architectural mesh made using our own patented, award-winning technology.

RE/8 bio-circular architectural mesh reduces solar heat gain by up to 70% while still providing compliant airflow and visual transparency. We can make our screens to any height or width without joins, giving you exceptional design freedom for your next exterior project.

Making Waves

PROJECT

Lawson Lane Campus

DESIGN ARCHITECTS

Arc Tec

LOCATION

Santa Clara, CA, USA

This stunning facade for the Lawson Lane Campus in Silicon Valley features Kaynemaile's range of three-dimensional, kinetic screens across the parking garage.





We worked with design architects Arc Tec and installers B.T. Mancini to complete this stunning facade for the Sobrato Organisation as part of a major office development in Santa Clara CA.

Each Kaynemaile screen on this project has a self-supporting, lightweight internal frame connected to vertical stainless steel cables. A ribbon of our bronze coloured polycarbonate mesh runs over each frame, creating a kite-like structure.

The different locations of each projecting section give contrasting light and shadow effects, enhancing the wave across the face. The nature of the stainless steel internal support system combined with Kaynemaile's mesh allows it to move with the wind along the San Tomas Expressway, creating a kinetic, expressive building for passers-by.





Kaynemaile's RE/8 bio-circular architectural mesh is manufactured to withstand the demands of high temperature and UV exposure zones, plus it's durable and easy to maintain.

With up to 70% solar reduction and compliant airflow all within a self-supporting package, this Kaynemaile system is a beautiful addition to the architecture of Silicon Valley.









© Brad Feinknopf

Urban Movement

PROJECT

Parking Garage at the Greater
Columbus Convention Centre

DESIGN

Schooley Caldwell, Ned Kahn, Kaynemaile

LOCATION

Columbus, OH, USA

*“This project has been a tremendous success and has been
very well received in the city”.*

—STEPHEN A. MUNGER, SCHOOLEY CALDWELL



The successful collaboration between Ned Kahn, Kaynemaile and the team at Schooley Caldwell was the key to the development of this stunning kinetic facade for the Greater Columbus Convention Centre.

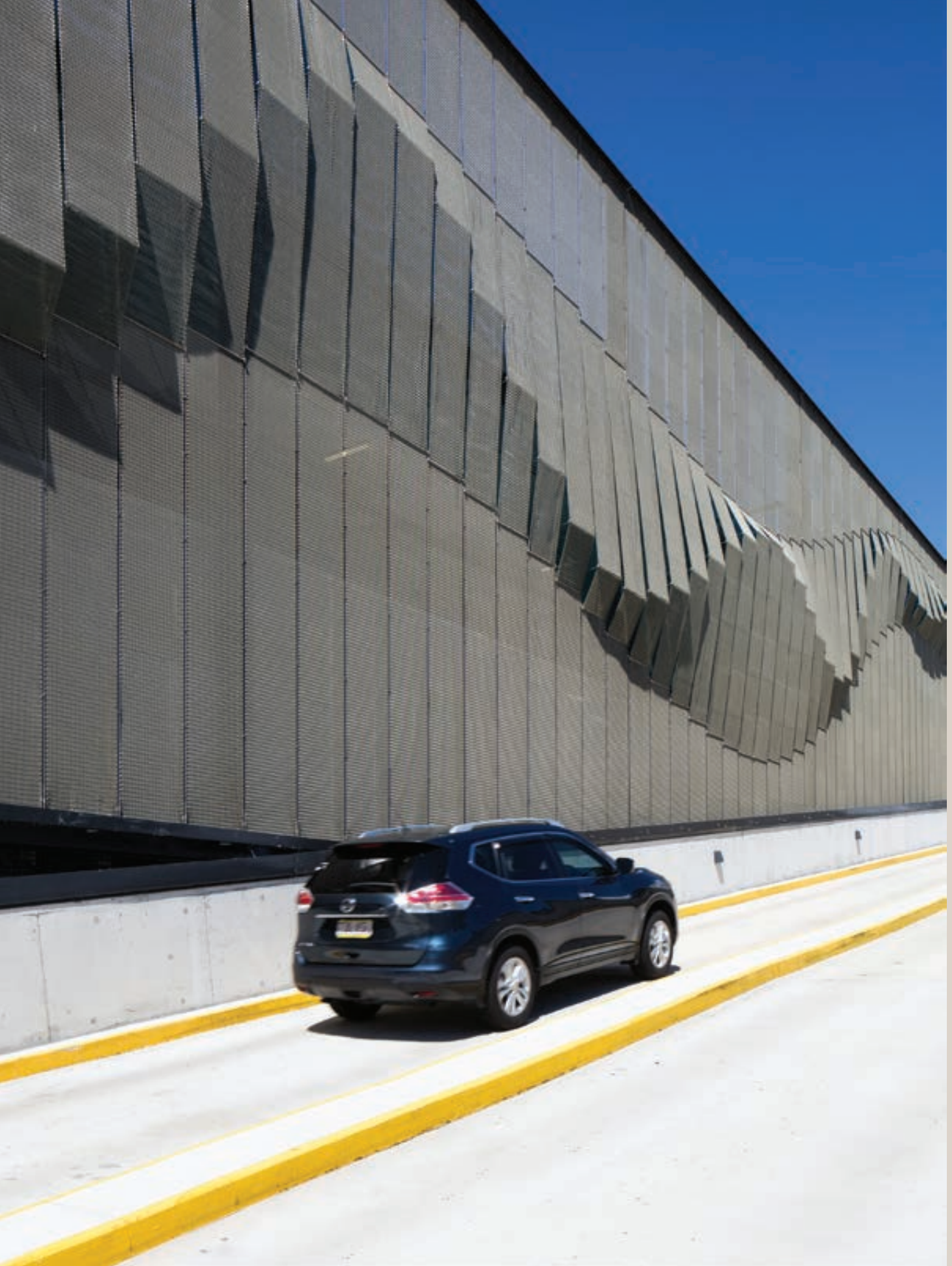
The design and fluid movement is made possible through Kaynemaile's unique manufacturing process as well as the material's light weight. Each of the three screens are single pieces of mesh 60 metres long x 4 metres high.

With our mesh already in use as a ceiling feature on site at the Union Ballroom, the architects and the convention centre board were highly supportive of the material selection.

↑ ABOVE: When the breeze picks up, the mesh moves with it, creating a unique wave feature.

→ RIGHT: The screens span the full width in three single piece sections.





Ocean Inspiration

PROJECT

Pacific Fair Shopping Centre Parking Garage

DESIGN

Scentre Group

LOCATION

Gold Coast, Australia

“Using Kaynemaile really invigorated this project for us. It turned a parking garage into a compelling architectural statement”.

—STEPHEN SIMPSON, SCENTRE GROUP

When Scentre Group’s design team approached Kaynemaile with the concept for Pacific Fair it seemed like a perfect match. Initially designed with a rigid metal panel in mind it soon became apparent that the traditional material lacked the fluidity the designers needed. Additionally, the need for a substantial sub-frame for a metal panel system had increased the project costs significantly.

Kaynemaile’s architectural mesh can be made to any size in a seamless piece, this meant it worked with the pre-engineered structural frame heights and gave the project designers more flexibility.

With Scentre Group encouraged by the material’s possibilities, our fabrication team quickly turned out new screen concepts at scale for review—a fast track prototyping process that gave the client confidence to progress further with the design.

Kaynemaile’s collaborative approach extended into the detailing phase as a unique self-supporting fixing system was developed, providing the ability to be adjusted on site during install and allowing for future maintenance.

Along with the three-dimensional screens, a flat Obsidian Black coloured Kaynemaile screen was also produced for the parking garage exterior—a seamless single-piece screen measuring 50 metres wide by 9 metres high, which was lifted and fixed off in a day by hand without the need for costly site cranes.

During the day the sun sparkles off the ten million or so individual Kaynemaile rings. At night the second layer of mesh becomes a rippling wave moving with the breeze from the nearby Pacific Ocean, transforming a utilitarian parking garage into a stunning landmark.

“We were really impressed by the speed with which Kaynemaile expedited the project. The timeframe for this facade was six months and Kaynemaile succeeded in delivering within four.”

— STEPHEN SIMPSON
Regional Manager Design Projects, Scentre Group

→ **TOP RIGHT:** The three-dimensional screen draws inspiration from the waves and golden sand of the nearby beaches.



← **LEFT:** This large Obsidian Black single piece screen was lifted and fixed off in a day.

→ **BOTTOM RIGHT:** Feature lighting gives the screen a distinct day and night look.







90 HOCKER BLVD
Nerang 11
Brisbane 81
MOUNTAIN RESORTS
Tamborine Mtn 33
Springbrook 41
Blana Barra 48
O'Reilly's Plateau 74



*“It was a proud moment to see the canopy at the opening ceremony.
Great team effort to turn an idea into a sensational reality!”*

—RICHARD FENNE, WOODS BAGOT DUBAI

The WonderCool Effect

PROJECT

The Arrivals Canopy at Expo 2020 Dubai

DESIGN

Woods Bagot Dubai

LOCATION

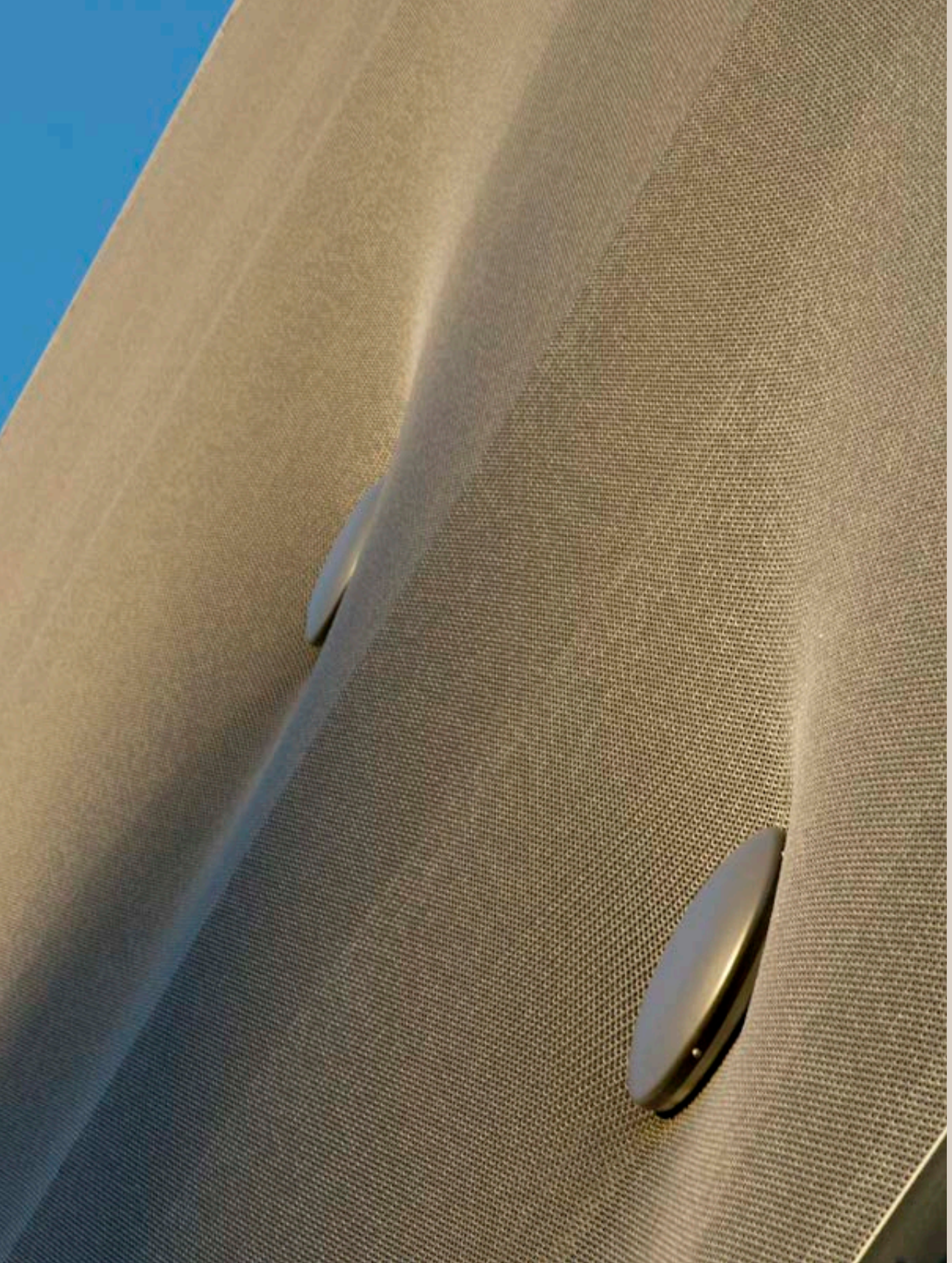
Dubai, UAE

This soaring kinetic canopy acts as both outdoor air-conditioning and massive urban artwork. The fluid movement of the single-piece Kaynemaile screens generate a calming sensory experience and trigger air movement. By night, the canopy comes to life as a backdrop to dynamic light shows.

We call this unique combination of attributes the ‘WonderCool’ effect, bringing life and movement to urban spaces.







Seamless at Scale

PROJECT

Angas Street Parking Garage

DESIGN

Tectvs

LOCATION

Adelaide, Australia

This multi-storey parking garage was clad using only eight individual screens—the biggest being a seamless piece 58 metres wide x 16 metres high.



Inspired by an old leather couch the unique concept called for button-like steel discs to be tensioned back into the mesh. To achieve this design we prototyped the concept at scale, making sure it could be successfully realised and installed within the fast installation schedule.

The steel buttons create significant depth in the Kaynemaile screens, giving dynamic colour and shadow changes as the light moves from day to night across the facade.

With install speed in mind we designed our fixing system to allow these large screens to be lifted and fixed off in a day, significantly reducing road closures and disruptions to the surrounding neighbourhood.

The unique three-dimensional properties of Kaynemaile's RE/8 mesh provides up to 70% reduction in solar gain and code compliant airflow, reducing heat transfer into the building significantly.

↑ ABOVE: The depth of the pull back into the mesh is highlighted along the facade.

→ RIGHT: This single piece screen measures 58 metres wide x 16 metres high.



Atlanta Intersection

PROJECT

The Interlock Parking Garage

DESIGN

Wakefield Beasley & Associates

LOCATION

Atlanta, GA, USA

The Interlock development in Atlanta features Kaynemaile's range of modular screens. Designed to work with standard floor heights they are a cost-efficient way to transform a utilitarian parking garage structure.





Described by the property developer SJC Ventures as ‘transformative mixed use’, the Interlock features apartments, retail, office space and a myriad of hospitality and community focused options and has a focus on urban living and connecting with Atlanta’s booming West Midtown.

Kaynemaile reduces up to 70% of visible and infrared light waves from impacting on the building surface, providing an alternative route to solar gain protection for parking garages such as the Interlock.

This 800 space parking garage features almost 1000 square metres of our mesh screens across the facade.

Our flat screens give a seamless aesthetic to the facade design and require less sub-frame than traditional panel-sized products. The light weight of the mesh combined with the simple fixing system makes a fast installation schedule possible.

Kaynemaile helps with natural ventilation in the garage allowing code-compliant free-air movement through the almost 75% open area. This is thanks to the three-dimensional structure of the mesh with its low restricted cross-sectional area.

→ ↑ RIGHT & ABOVE:
Kaynemaile’s modular screens blend seamlessly above the parking garage entrance.



P

EXIT

ENTER

A PARKING
6:39

A PARKING
6:39

“We explored the idea of a structure that creates a unique spatial character internally, while becoming an abstract, recessive landscape element externally”.

—CHROFI ARCHITECTS

Spatial Shading

PROJECT

Marsden Park Amenities Block

DESIGN

CHROFI Architects

LOCATION

Sydney, Australia

This amenities structure was designed to provide shelter and bring an element of joy and delight to the fast growing neighbourhood. Our custom gold coloured mesh adds fun to the predominantly grey canopy structure while providing overhead solar shading.







Vibrant Weather Protection

PROJECT

Toi Rauwhāangi Massey College of Creative Arts
and the University of Auckland

DESIGN

Athfield Architects and Architectus

LOCATION

Wellington and Auckland, New Zealand

Kaynemaile's RE/8 mesh provides protection from wind, rain and sun for atriums and courtyards, transforming underused spaces into vibrant meeting places.



Jason Mann





Geometric Shading

PROJECT

Carousel Shopping Centre Parking Garage

DESIGN

Scentre Group

LOCATION

Perth, Australia

Kaynemaile worked with Scentre Group to develop the screening for the Westfield Carousel multi-level parking garage in Perth, Australia.



© Dion Robeson

The facade is made up of a series of projecting pyramids with Kaynemaile mesh tensioned over top. The design covers all four sides of the large parking garage building with a total surface area of 650sqm.

The bronze coloured mesh was an ideal choice for this project creating a dynamic, shimmering effect with contrasting light areas over the pyramid forms. Installation was fast given the scale of the job thanks to our simple fixing systems.

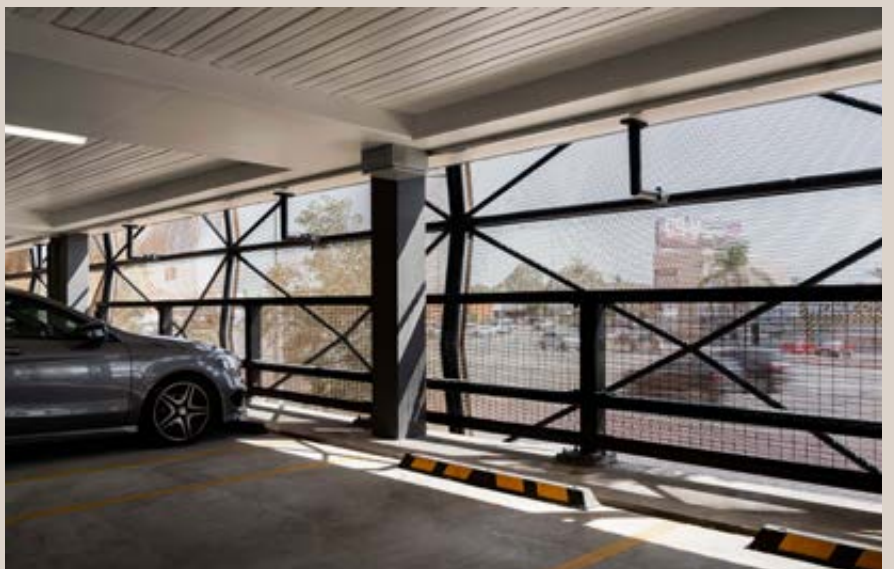
As Western Australia has a sub-tropical climate, using a material that cuts heat to the interior but maintains compliant air flow was crucial for the project. Kaynemaile's RE/8 mesh significantly reduces both radiant heat through direct sunlight and thermal conductive heat from entering the interior 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.





← ↑ **LEFT & ABOVE:**
Kaynemaile mesh is tensioned
over each steel sub-frame to
create the pyramid shapes.

→ **RIGHT:** Kaynemaile screens
provide sun shading without
obscuring views to the outside.





← ↑ LEFT & ABOVE:
Kaynemaile screens
integrate beautifully
into these high end
contemporary homes.

📷 Adam Letch (above) | John Williams (left)

Residential Shading

Contemporary design and high performance define Kaynemaile exterior residential screens. Our RE/8 bio-circular architectural mesh provides energy efficient sun shading and weather protection for your next residential project.

→ **THIS PAGE:** Kaynemaile screens don't rust so are perfect for coastal conditions and wet areas.

→ **OVER:** Used within steel movable frames these Kaynemaile screens are perfect shading solutions.

With up to 70% solar reduction properties and simple fixing systems, Kaynemaile screens are perfect for residential shading. Our mesh can be fitted within movable exterior frames or used as fixed screens for solar and weather screening.

Our RE/8 mesh offers an elegant material contrast on contemporary residential projects providing a different look from day to night. Ideal for coastal environments, our mesh won't rust and is easy to maintain.

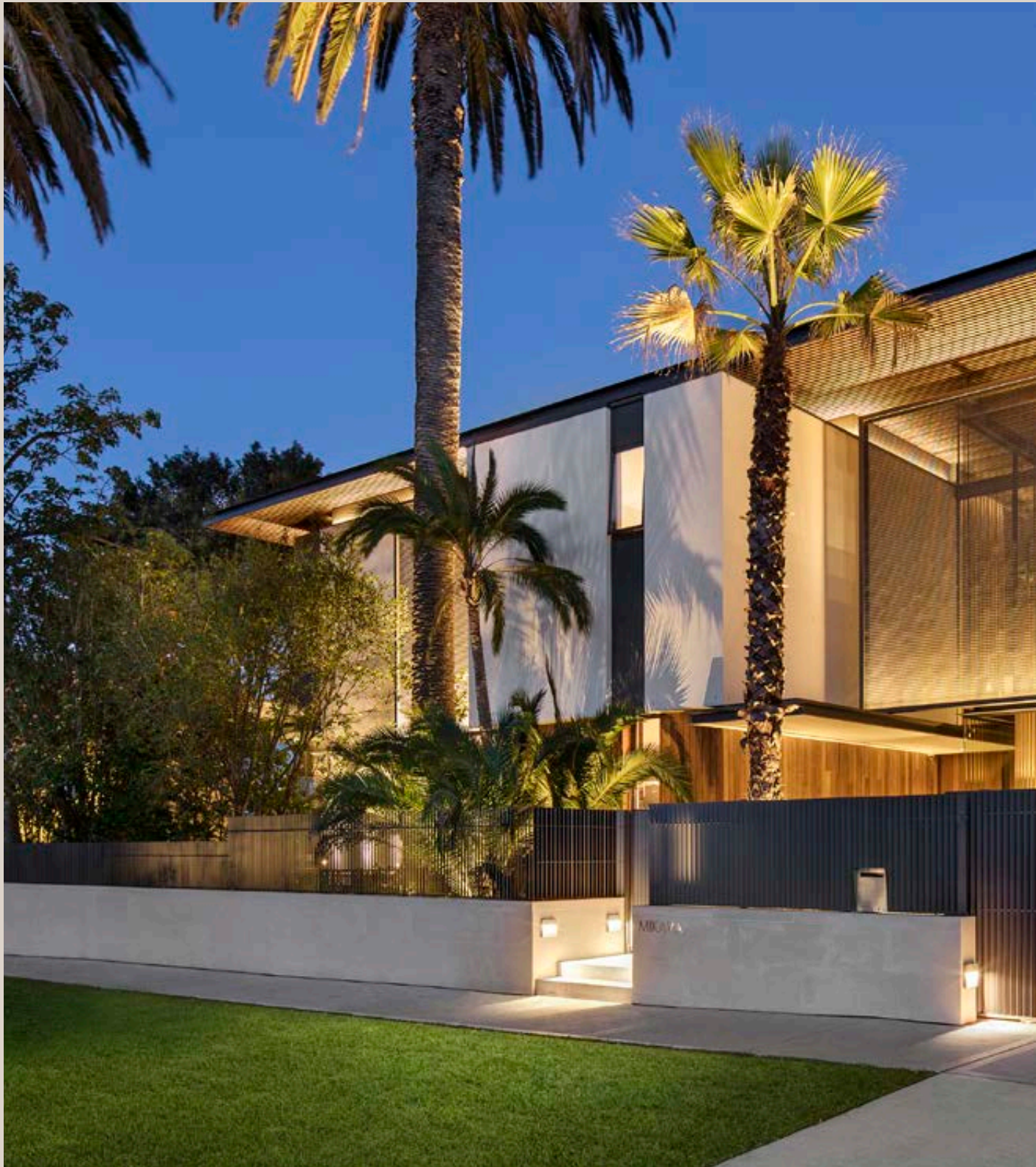


© Marshall Masters



© John Williams







RE/8 Bio-circular Architectural Mesh by Kaynemaile

Kaynemaile's Class A compliant polycarbonate mesh is a patented, world-leading innovation. With over 60 years of polycarbonate material science and research to call on, we know our mesh inside out. We think the benefits of our product are extraordinary.



RE/8 Bio-circular Architectural Mesh

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

RE/8 is LEED enabled and supported by ISCC Plus certification.



Super Fast Installation

Our mesh goes up fast, cutting down the install time dramatically and saving costs. Our fixing systems are simple and we don't need the same level of sub-frame as metal products. This means our installed rate is more cost effective than metal or glass panel products.



Sun Shading

RE/8 architectural mesh significantly reduces radiant heat through direct sunlight (EMR) by up to 70%. This gives you the ability to let daylight in and manage the passive solar gain—all while maintaining visual transparency.



Lightweight and Unlimited Size

RE/8 architectural mesh is lightweight (3kgs per square metre) and is not limited by panel size. We can make our screens to any height or width without joins or distracting gaps. Making screens to the size you need gives you design freedom and cost efficiency.



Trusted Durability

Metal based materials corrode and oxidise in coastal conditions. RE/8 mesh does not. We use colour-fast pigments that will not stain your building when it rains.



Unbeatable Strength

Our mesh is made from the highest performing Makrolon® RE Polycarbonate. It is extremely robust and impact resistant. Thermally stable from -40°F to 248°F (-40°C to 120°C). Our mesh holds true to its tensile strength.



Simple Attachment Systems

Our attachment methods for both exterior and interior systems are simple and we provide these as part of our system. We can help you with detailing and specification information. Contact us at sales@kaynemaile.com



Fire Performance

KML22 65-FR

Test	Result
USA	
ASTM E84-19 Flame Spread index (FSI): 5 Smoke Developed Index (SDI): 350	Class A
NFPA 286	Pass, meets standard criteria (Class A)
NFPA 285	Pass, meets standard criteria
NFPA 268	Pass, meets standard criteria
NFPA 701	Pass
Conforming with section 803.12 stability at 200°F	Meets standard criteria
ASTM D 635	Classified HB and Class CC1
ASTM D 1929 Self-Ignition Temperature	968°F (520°C)
ASTM D 1929 Flash Ignition Temperature	842°F (450°C)
ASTM D 2843 Smoke Density Rating	70.9
EU	
BS EN 13501-1:2007 + A1:2009	B-s1, d0
BS EN ISO 11925-2:2010	Compliant
BS EN 13823:2010 + A1:2014	Compliant
DIN 4102 part 1	Pass B1
NZ / AU	
AS ISO 9705 Room Corner Test <i>NZBC verification method C/MV2 appendix A</i>	1s—Smoke production not more than 0.5m ² /s ² x 1000
NCC Specification C1.10	Group 1 flammability rating. SMORGA of 0.5m ² /s ²
AS 1530.3	Regulatory indices—Ignition index = 0 Spread of flame index = 0 Heat evolved index = 0 Smoke developed index = 1
IMO Resolution A.652	Pass smouldering cigarette & match flame equivalent
UL94-VO/3.0	Self-extinguishing

For fire code information relevant to your region, visit us online:

kaynemaile.com/technical



Colour Range

We've come up with a range of solid and translucent colours to give you a variety of looks for your exterior project.

Colour Details

Standard Exterior Colours

Translucent colours: Ruby Red, Azure Blue, Jade Green, Marine.

Solid colours: Bronze, Champagne, Copper, Steel, Obsidian Black.

Finish

All colours are in a gloss finish.

Custom Colours

Do you have a multi-job site or large project you need a custom colour for?

Get in touch with us to discuss the options. Minimum quantities apply for custom colours. Not all colours may be suitable for exterior applications. Longer lead times may apply.

Warranty

Kaynemaile's RE/8 bio-circular architectural mesh for standard applications has a 10 year warranty.*

**Excludes kinetic or custom applications. Contact Kaynemaile to discuss your specific application.*



Ruby Red

Azure Blue

Jade Green

Marine

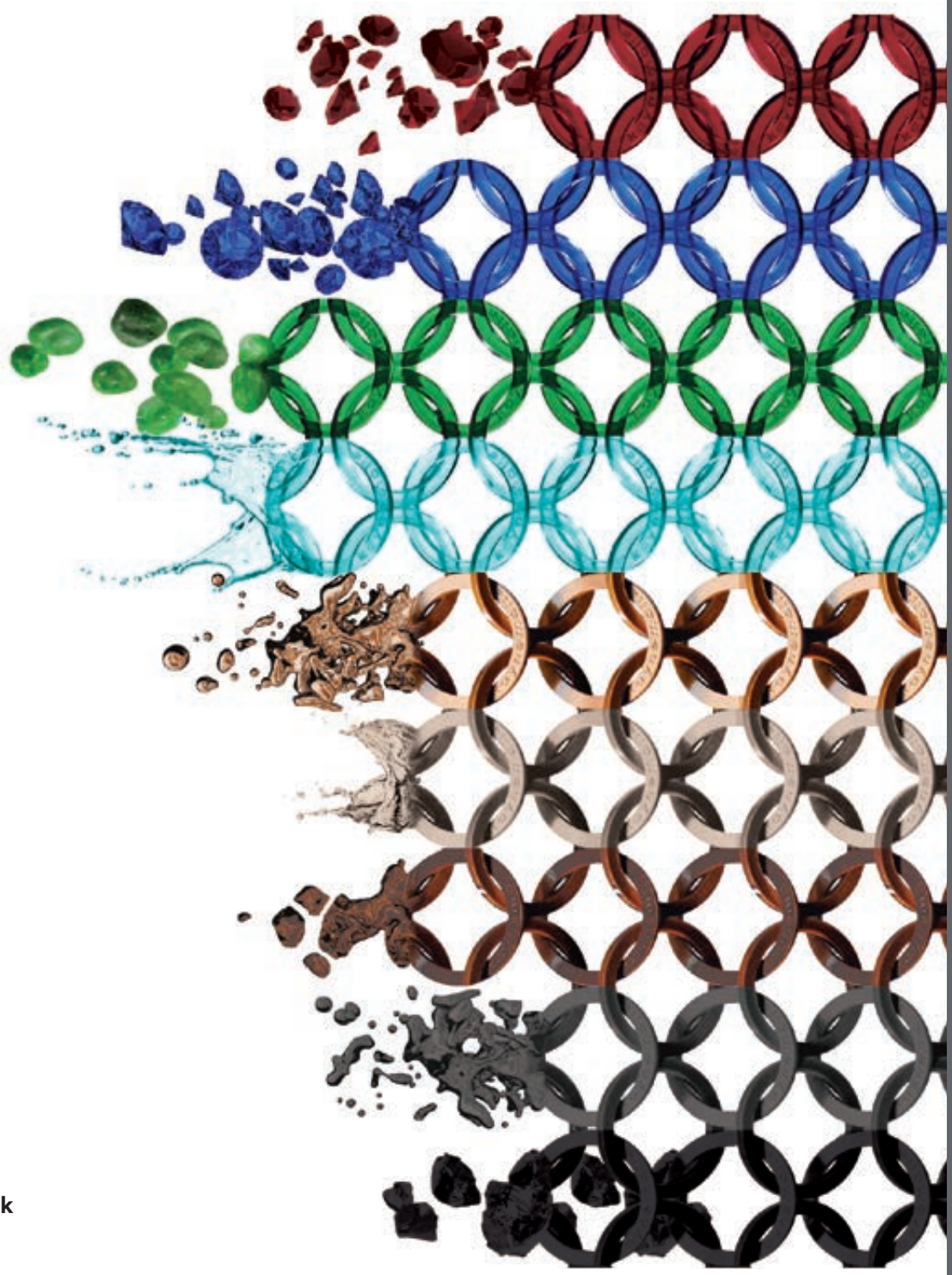
Bronze

Champagne

Copper

Steel

Obsidian Black



Technical Information

Kaynemaile's RE/8 bio-circular architectural mesh can be made to any height or width without the limitation of a panel size.

It is lightweight and goes up fast, dramatically reducing project schedules. RE/8 mesh is LEED enabled, tough and impact resistant, giving you unmatched design freedom for your next project.

For more visit:
www.kaynemaile.com/technical

RE/8 bio-circular architectural mesh by Kaynemaile is lightweight and doesn't need the same level of fixings or substructure as metal products. Our screens go up fast cutting down install time dramatically and saving costs.

Features

Weight: 0.6lbs/ft² (3kg/m²)

Sizes: Unlimited in size.

Colour range: Our mesh comes in a range of solid and translucent colours. For colour range see page 57 of this booklet.

Supplied hardware: Kaynemaile screens are supplied with our RE/8 bio-circular architectural mesh and fixing system to suit your sub-frame.

Hanging system

Our Kaynemaile screens utilise our 0.5in (12.7mm) stainless steel tube at the top and bottom and our 0.9in wide x 0.39in high (23mm x 10mm) low profile anodised aluminium track at the sides.

Frame requirements

Our screens are under tension vertically and need a frame around the full perimeter. The size of the screen will determine the sub-frame requirements.

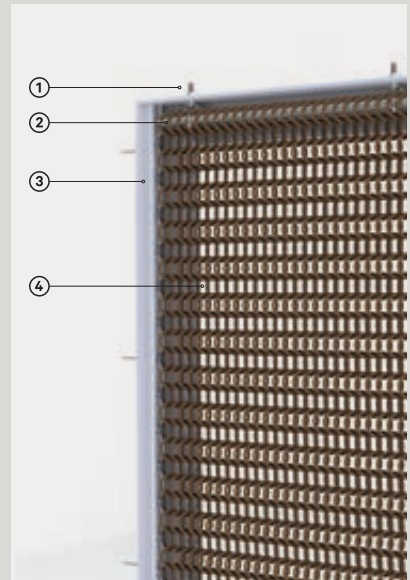
We can provide you with wind loading details so you can accurately determine your sub-frame requirements. Our ideal sub-frame for large screens is made from steel equal angle.

Screen tension

Our RE/8 mesh screens are tensioned vertically.

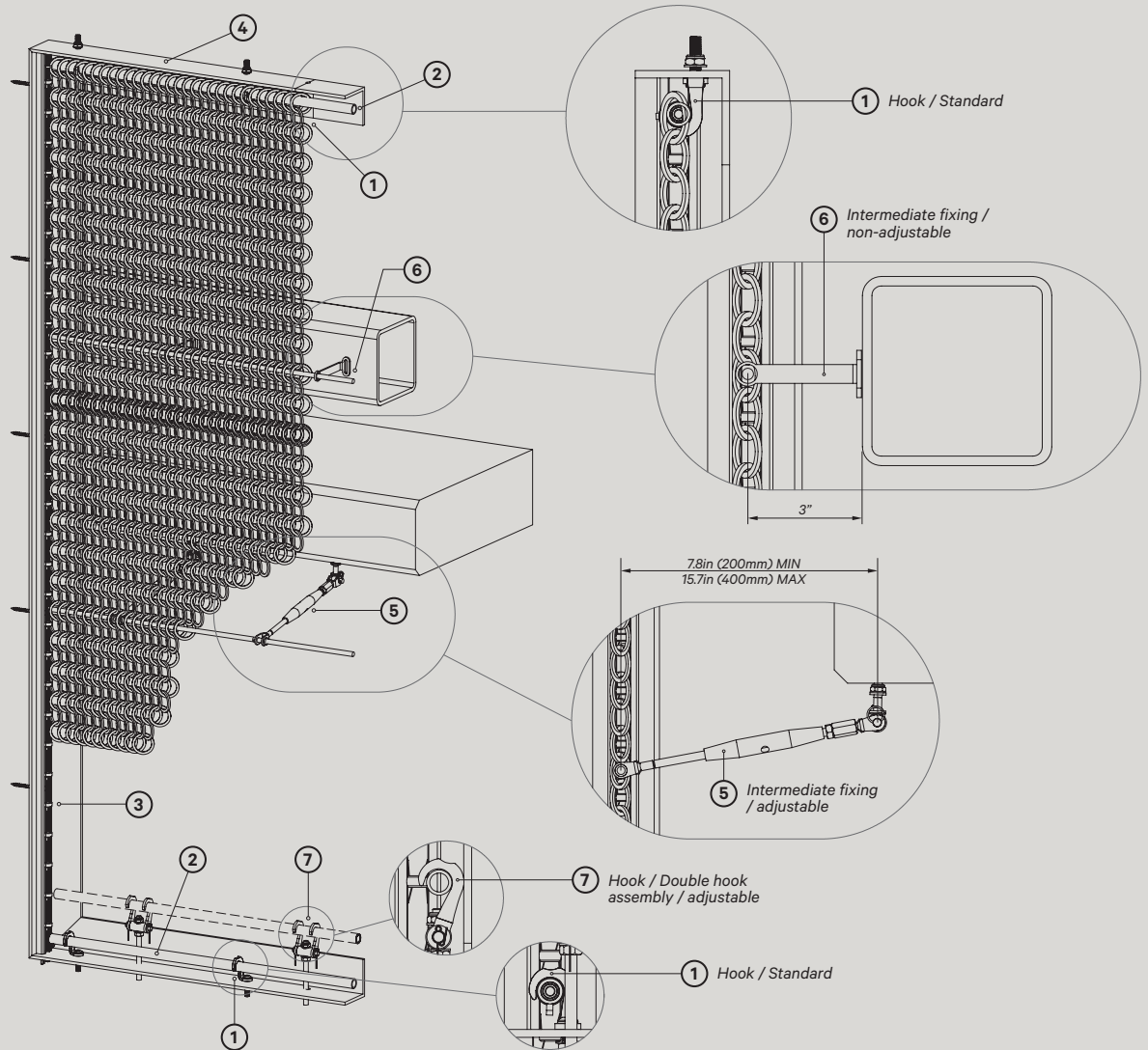
How to specify your screens

To specify your Kaynemaile Exterior Flat Screen just let us know the approximate width and height and we will advise on fixing details. If your screen is over 13ft (4m) in height it may require intermediate fixings.



- ① S/S fixing screw
- ② S/S hanging tube & hook
- ③ Low profile aluminium track & polycarbonate saddles
- ④ RE/8 bio-circular architectural mesh

Typical Kaynemaile Fixing Details



- ① Standard 0.12in (3mm) thick stainless steel hook. Typical hook spacing is 12in (300mm) however spacing varies based on the screen size and the project requirements. Hook fixings are M6 metric (0.25in).
- ② Standard 0.5in (12.7mm) stainless steel tube through top and bottom mesh rows.
- ③ Standard aluminium low profile track. Finish is silver anodised. Uses 0.1574in fixings (M4 metric) at 7.87in (200mm) spacing.
- ④ Typical steel equal angle full perimeter sub-frame. Recommended minimum size is 2.95" x 2.95" (75mm x 75mm). Note: Sub-frame is not supplied.
- ⑤ Adjustable intermediate fixing. Screens over 13ft high (4m) may require intermediate fixings. An adjustable fixing is used where a backspacing exceeds 2.5in (70mm) or when the intermediate fixing is required to attach to the underside of a concrete slab or sub-frame.
- ⑥ Non-adjustable fixing. Screens over 13ft high (4m) may require intermediate fixings.
- ⑦ Adjustable double hook arrangement. Typically used for large screens that may require spot-applied tension adjustments or screens with non-parallel bottom edges. Uses M6 metric fixing (0.25in).

Please note: These details are provided for information purposes only and may not be the full extent of your project requirements. Please contact Kaynemaile or your local representative for more information.

Discover our interior
applications online.



For more on our interior
range, visit us online:
kaynemaile.com/interior

Collaborate with us

We're happy to talk through your project with you—from product information to technical assistance. Call or send us an email. We're here to help.

RHS
75x50x6 OUTRIGGERS
REFER DETAIL 13 WDO

4 OF STEEL.

38
38

CENTRE
LINE OF 76 CHS
MEMBER TO BE
ABOVE FFL.

REF. TO
LANSCH DWG
9222/408 FOR
NAME
DWG
9222/406 FOR
OUTRIGGER #
FACADE STRUCTURAL
DETAIL

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2100

CRITICAL
SETOUT TO C OF
STEEL CHS
FRAME.

4 OF STEEL.

75x50x6 RHS
OUTRIGGERS REFER
DETAIL 9, WDO.
0.55 C STEEL ENDURA
LTF CLADDING

1462

1500

FFL = 3015, C.O.S

75

525

38

CHECK POSITION OF
OUTRIGGERS DOES
NOT INTERFERE WITH
BASE FLASHING REFER
DETAIL

4 OF STEEL

U/L OF

SOFFIT BOARD. { BUTT JOINT AT SHEET JOINTS
WITH SMALL ARRIS.

SEAL ALL FACES/EDGES
APPROVED
BEFORE FIXING

Kaynemaile

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sales@kaynemaile.com

REI8

KAYNEMAILE.COM



For more on our exterior
applications, visit us online:
kaynemaile.com/exterior

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