



COMPANY & PRODUCT OVERVIEW 2023

Pioneering change for the modern world with MicroLouvre Koolshade®

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For Architects, Designers and Building Service Engineers focused on controlling and managing the sun, saving energy and allowing light and air-flow, with Angular Selective Technology.

Pioneers of unique engineering and unrivalled product performance to enhance occupant wellbeing.



kool

/k u : l /

verb

1. become or make less hot.

"we dived into the river to cool off"

shade

/ʃ eɪ d /

noun [C] UK

1. comparative darkness and coolness caused by shelter from direct sunlight



koolshade

/k u : l / /ʃ eɪ d /

noun, verb

noun[C]

unique woven metal fabric with paper thin louvres made from recycled copper. " koolshade stopped the heat from the sun, but not the natural light or ventilation at my window"

verb

to koolshade glazing or complete façades, sustainably stopping solar heat gain, allowing light, air and vision out and save energy.

"in order to create the most environmentally conscious building in Europe they opted to koolshade it"

1936

Koolshade was invented by John J. Grebe of Dow Laboratories, USA

And first manufactured in conjunction with the Borg-Warner Corporation & Ingersoll.

1940's

OVER 80 YEARS OF HISTORY

KOOLSHADE[®]

SOLAR SCREENS

Fabric screens known as KoolShade were being used extensively on hospitals, commercial & residential building applications across the US, and later throughout the globe by a distributor network.

1960's

KoolShade production was relocated to Puerto Rico.

Early 80's

1983, **Andrew Cooper**, 5th generation Portsmouth blind maker, discovers Koolshade & becomes UK & Middle East Distributor.

He then sells his family business and starts Koolshade UK.



OVER 80 YEARS OF HISTORY

Late 80's

The factory in Puerto Rico was destroyed in 1989 by hurricane Hugo and although re-built, production was affected by months of power outages and supply chain problems. It never recovered.

The surviving weaving machines were moved to Dallas Fort Worth but fell into disrepair.

1990's

These original weaving machines, now gathering dust, were rescued and shipped over to the UK for recomissioning.

Andrew Cooper continued to invest in manufacturing and focused on providing unique apprenticeships and training, supporting our young engineers of the future whilst growing the business.

2000's

Smartlouvre has taken over the manufacturing and brought it into the 21st century, by upgrading and computerising the machines.

As our climate changes, there is an increasingly urgent need for PASSIVE ways to reduce temperatures in buildings. KoolShade® achieves this.

From a VERY smart idea, realised decades ago, to one of the most effective ways to shade our planet from the modern climate challenge, the journey has been long...

2020's

...but for us, at SLTechnology, the journey has only just started.

WHO ARE WE?

- we are a weaver
of a totally unique metal fabric
- used for building façades
windows and cladding
- and also lighting
for angular selective uses



but the main use is

solar shading



but also

lighting
façades &
interior design

WHO DO WE DO IT FOR?

- environmentally-friendly homeowners
- forward-thinking constructors
- eco-conscious architects

for people

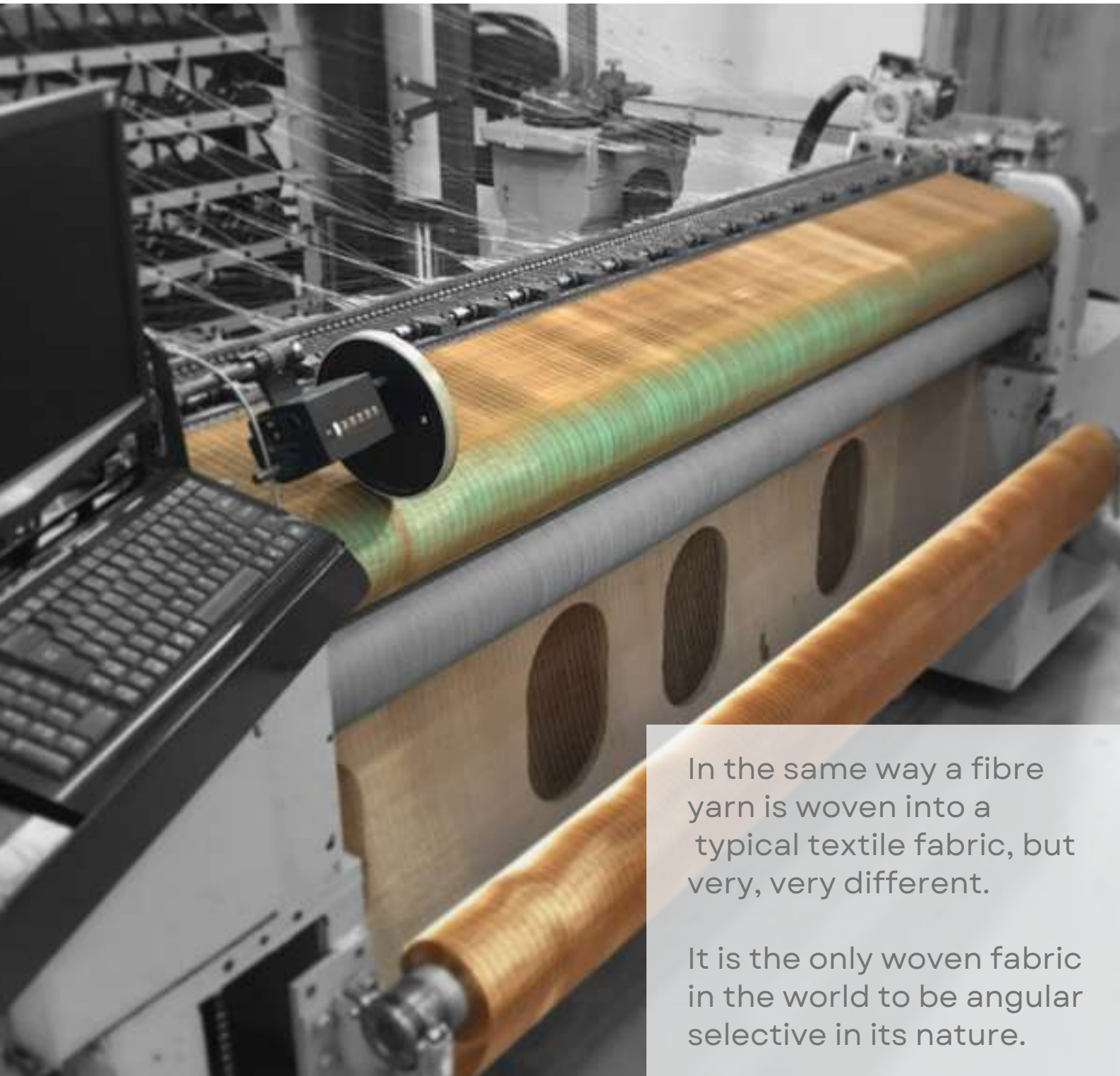
and their health and wellbeing



in sectors like



HOW IS IT MADE?

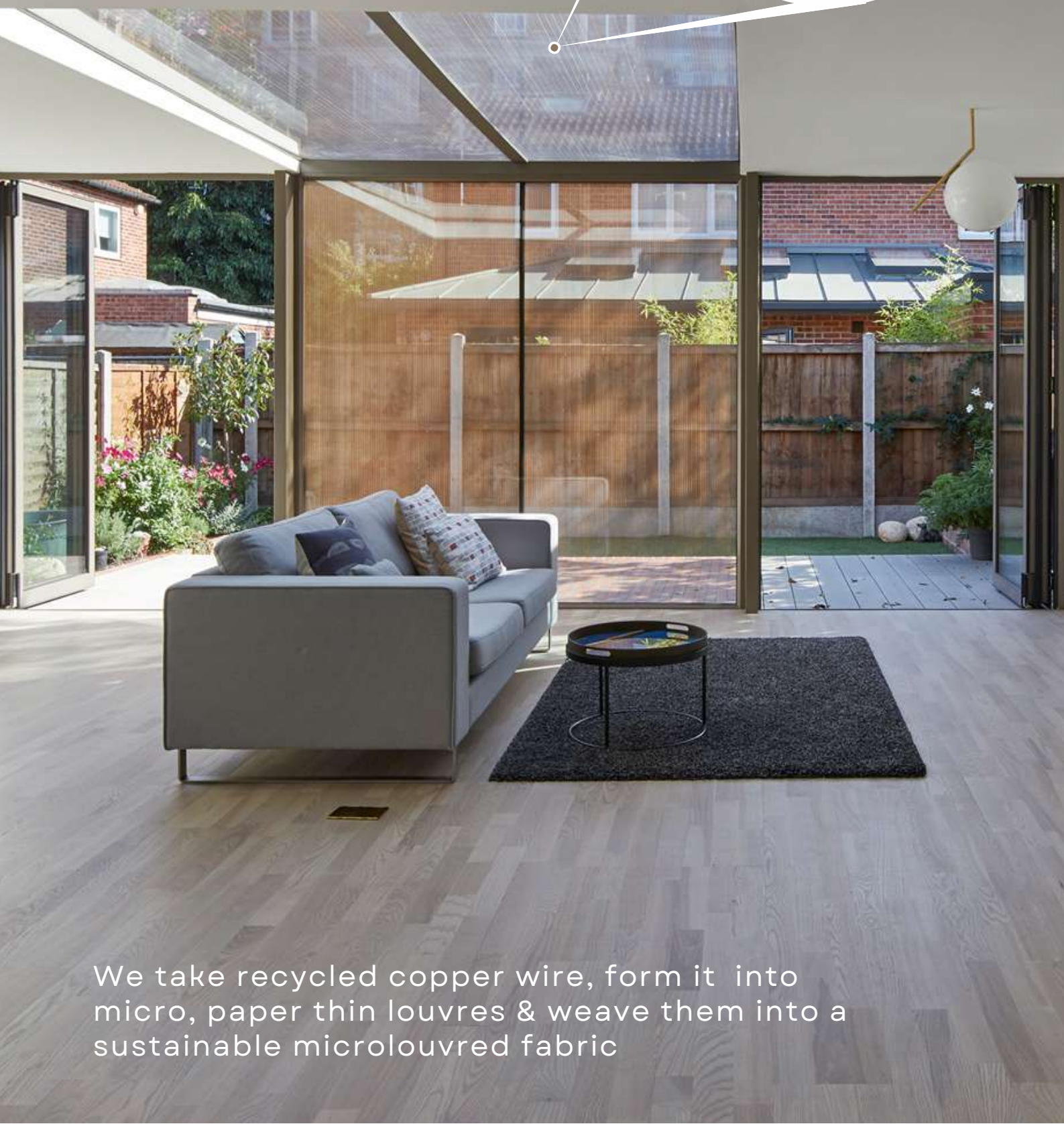
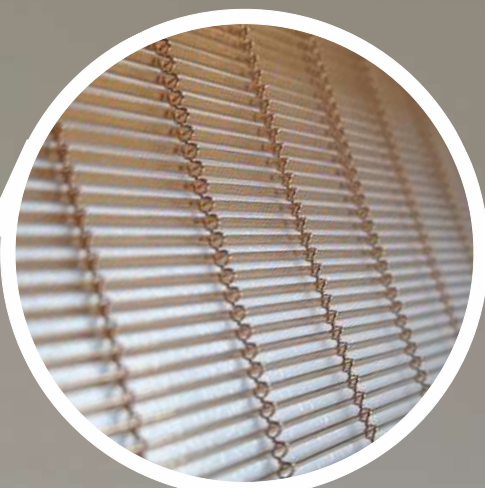


In the same way a fibre yarn is woven into a typical textile fabric, but very, very different.

It is the only woven fabric in the world to be angular selective in its nature.



It helps create
Passive Haus
buildings that promote
wellbeing



We take recycled copper wire, form it into
micro, paper thin louvres & weave them into a
sustainable microlouvred fabric

GLOBAL REPRESENTATION



LOCAL EXPERTISE

Campus Pictet De Rochemont

Applying MicroLouvre Koolshade® to your facade, either using a stand-alone screen or within the glazing, provides effective protection against excess heat gain and glare whilst still maintaining **LEED Compliant** visibility to the outside world.

Its application has been proven to reduce energy demand for cooling by as much as 70% and lighting by over 50%, which increases it's Passive House credentials.

MicroLouvre Koolshade® is also hurricane proof.

The Campus Pictet De Rochemont pictured above, will be enveloped in MicroLouvre KoolShade®.

Soon to be...

"the most environmentally conscious building in Europe".





ARCHITECTURAL GLAZING

MicroLouvre KoolShade fabric can be supplied for encapsulation or lamination in glass which provides solar protection and aesthetic benefits

FAÇADES

Discrete & sympathetic application to historic buildings is possible.

It creates uniformity & an improved aesthetic as well as the solar protection performance whilst replicating both window design & appearance.



PRIVACY AND SECURITY



Microlouvre Koolshade® screens also provide privacy and security from external viewing into a building.

It solves the problem of being overlooked, due to the angled louvres and it's strength protects building occupants from debris and the elements.

LIGHTING APPLICATIONS



In recent years, the micro-fine, multi-directional louvred fabric has been adopted as a lighting accessory by designers looking to neutralise glare, re-direct light and stop light pollution issues.

PROJECT EXAMPLES



HUU-AY-AHT FIRST NATIONS

Huu-ay-aht First Nations is a self-governing, modern treaty Nation whose lands are in the Barkley Sound region on the west coast of Vancouver Island, at the entrance to Alberni Inlet. The lands and waters making up their traditional territories have been occupied by them since time immemorial.

As a leader among First Nations, Huu-ay-aht First Nations will create certainty for its people and generate wealth for financial independence by providing economic opportunities, social, cultural, and recreational programs for all Huu-ay-aht people.

CHRIST THE KING COLLEGE

Christ the King College in Newport, Isle of Wight, UK, was built in 2008 and extended using **built-off-site modular construction** in 2013/2014.



Hot spots near windows were causing overheating in the classroom, and the pupils were struggling with flies coming through the open window for essential, natural ventilation.

After a trial of MicroLouvre KoolShade screens in 2013, a significant improvement with heat gain and glare was proven. In 2014 the screens were installed providing pupils with a cool, shaded, ventilated, glare free study environment throughout the classrooms, with localised hotspots near windows eliminated.

Stunning, modern, but fundamentally flawed.

Endeavour House has a modernist, glazed exterior that looks amazing. The glass has no opening windows, so the building has become like a greenhouse.

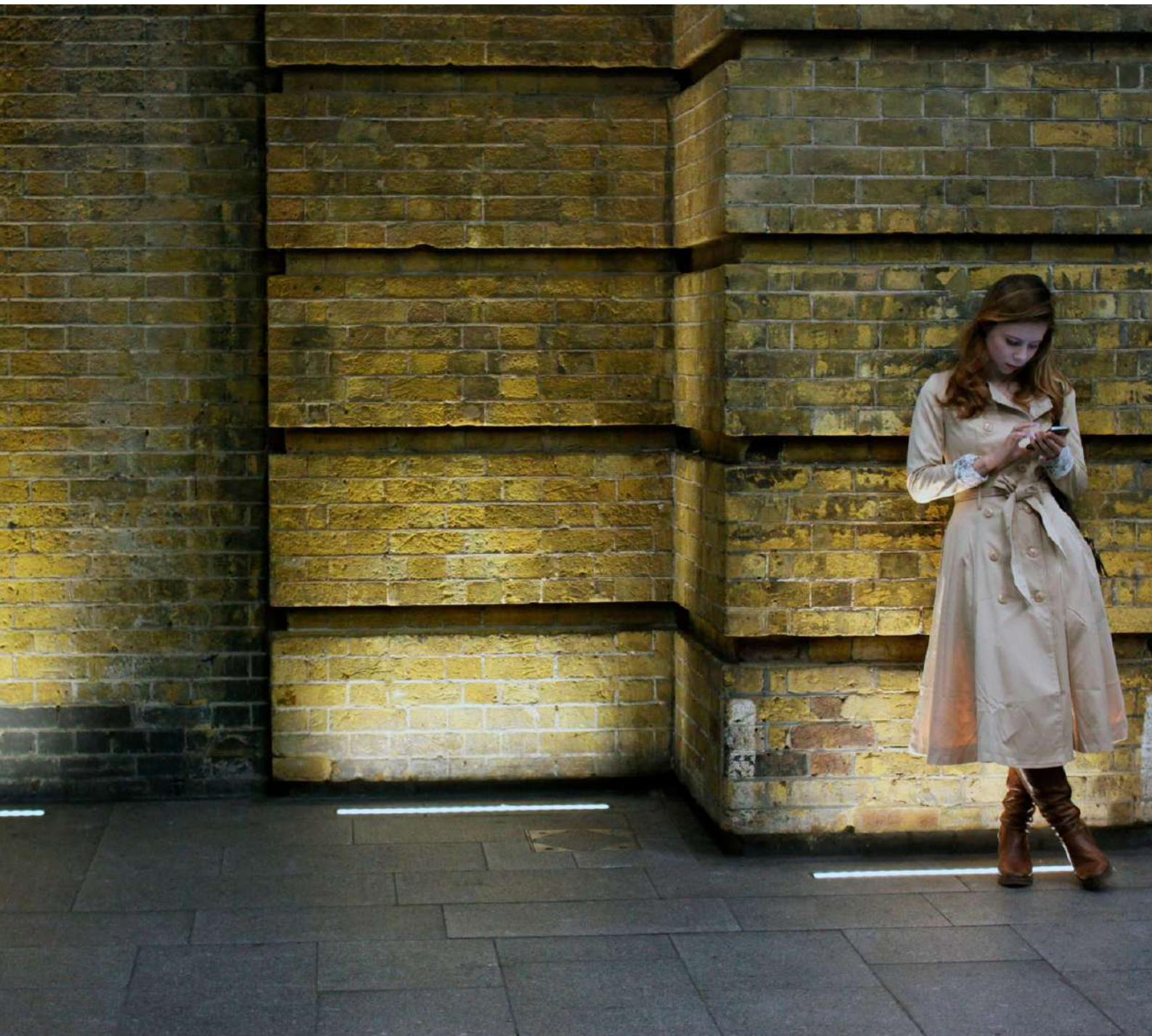


The use of MicroLouvre KoolShade® has added a stylish envelope to a section of the building which brings thermal comfort to those inside.

It is a highly efficient and versatile woven metal fabric. Its micro-louvres are set at specific angles to stop solar heat gain and glare, and is non-combustible.

Architectural lighting specialists **StudioFractal** and its partners, worked on a project to create the first new public square in London for 150 years, a functional space with heaps of character at **King's Cross Square, St Pancras**.

StudioFractal worked with lighting designer acdc to realize its design for this historic piece of architecture, and we supplied MicroLouvre® fabric to neutralize the glare from the in-ground luminaires



KING'S CROSS SQUARE



UNIVERSITY OF SOUTHAMPTON

Due to the high rate of air exchange, air conditioning as a retrofit solution was completely impractical. The view to the outside was considered a critical design feature of the lab and could not be altered.

The design that covered the glazed façade also holds special significance to the lab as it reflected a significant milestone in the lab's history. A solar control solution was needed to be complimentary and not obscure the design from view.

LILIAN BAYLIS

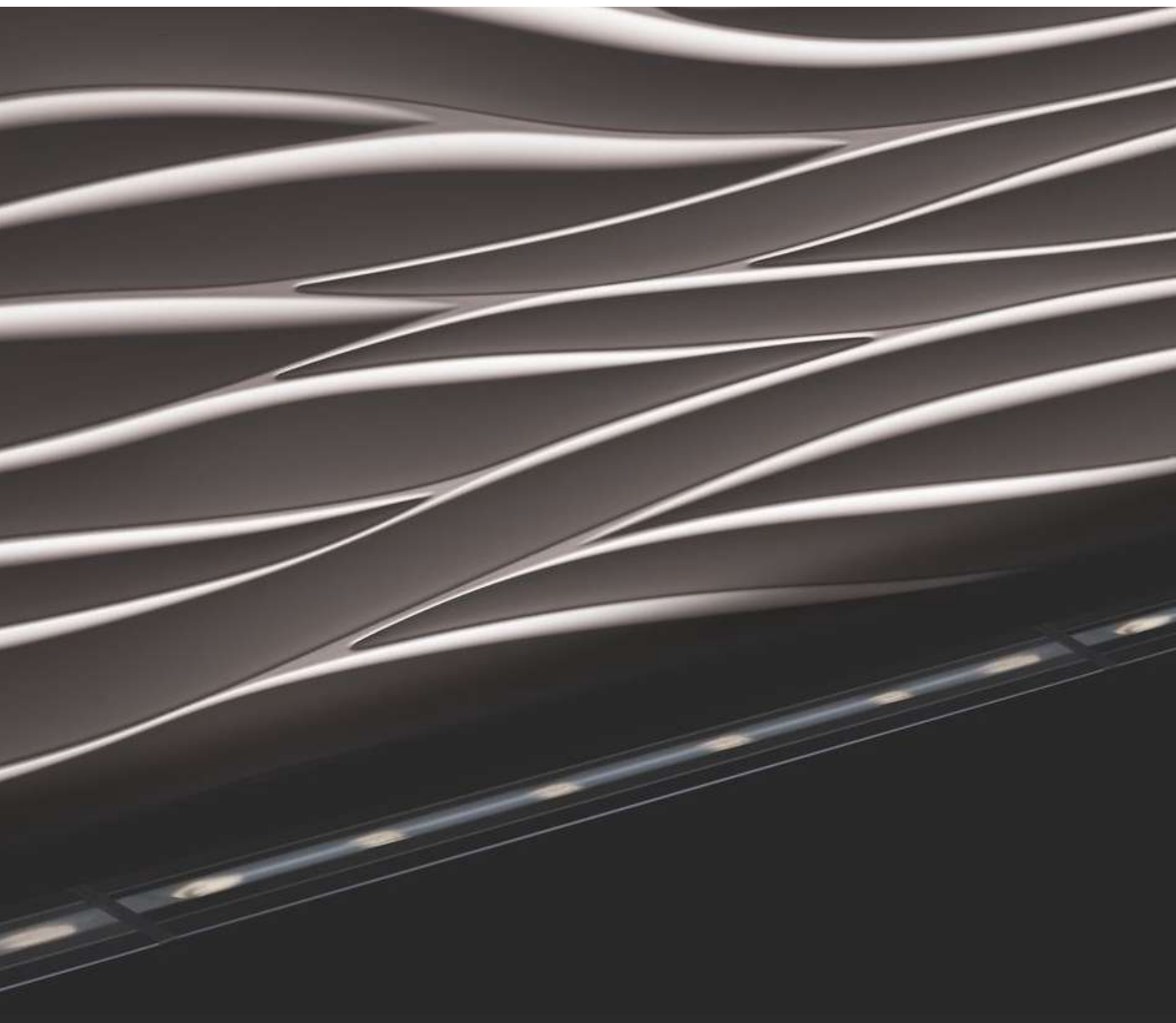


The former Lilian Baylis Secondary School building, a prominent example of 'Brutalist' architecture has been renovated and refurbished to become an award winning residential complex.

As an essential part of this transformation, an aesthetic exterior lighting scheme to create a serene and welcoming ambiance for the building.

The use of MicroLouvre® K700/0° fabric integrated into the luminaires effectively neutralises all sideways glare, without disturbing the light projected forward onto the illuminated surface.

Combined with screen-printed glass to protect the viewer from bounce-back glare, Contour Edge is one of the most visually comfortable, in-ground recessed luminaires on the market, without compromising output or quality.



JOHN CULLEN

ION SCIENCE



The ION Science team struggled with solar heat gain pouring through workshop skylights because temperature regulation for sensitive testing equipment was essential.

MicroLouvre® Screens have now been quickly and easily fitted to the skylights, using 3M Dual Lock tape thereby avoiding the need for any drilling or mechanical fixings whilst maintaining an essential air gap between screen and glass to allow heat dissipation.

Dual lock allows the screens to be easily removed for window cleaning and they are maintenance free.

BINARY HOUSE



The BINARY House project was undertaken by the SPACE Group Architects. The rear elevation contains a central fixed glazed panel that is seemingly wrapping upwards and over to become a skylight.

The architect used MicroLouvre KoolShade® brilliantly to blur the lines between the garden, the sky and the indoor spaces.

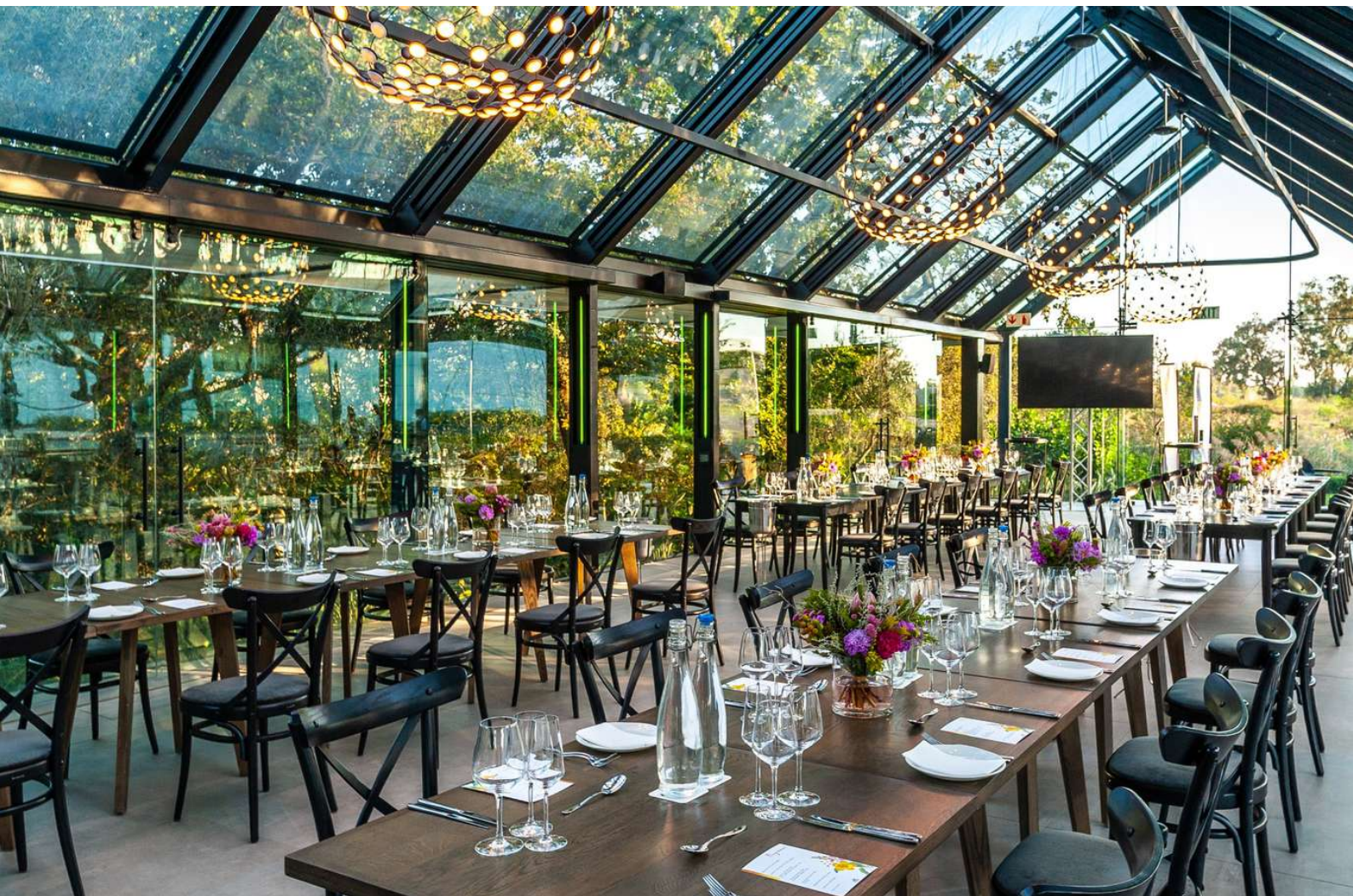
The rooms flood with daylight and remain cool from natural, passive 'air conditioning'. Solar heat gain is stopped before even reaching the living space.

Their beautiful venue
'The Glasshouse',
suffered from
excessive heat and
glare due to the all-
glass construction.



HAZENDAL

ANNO 1699



Temperatures had to be reduced whilst maintaining contact with the beautiful surrounding gardens.

An internal aluminium louvre system inside the glass roof was both ineffective and blocked natural daylight and vision. The Glasshouse has to be used for all-year-round weddings parties, and business functions, therefore, a solution had to be found.

Now MicroLouvre KoolShade® is fitted it is now able to take bookings all year round, where previously it was overwhelmingly hot in summer months.

KOOLSHADE®

PRODUCT OVERVIEW

Pioneering change
for the modern world
with MicroLouvre Koolshade®

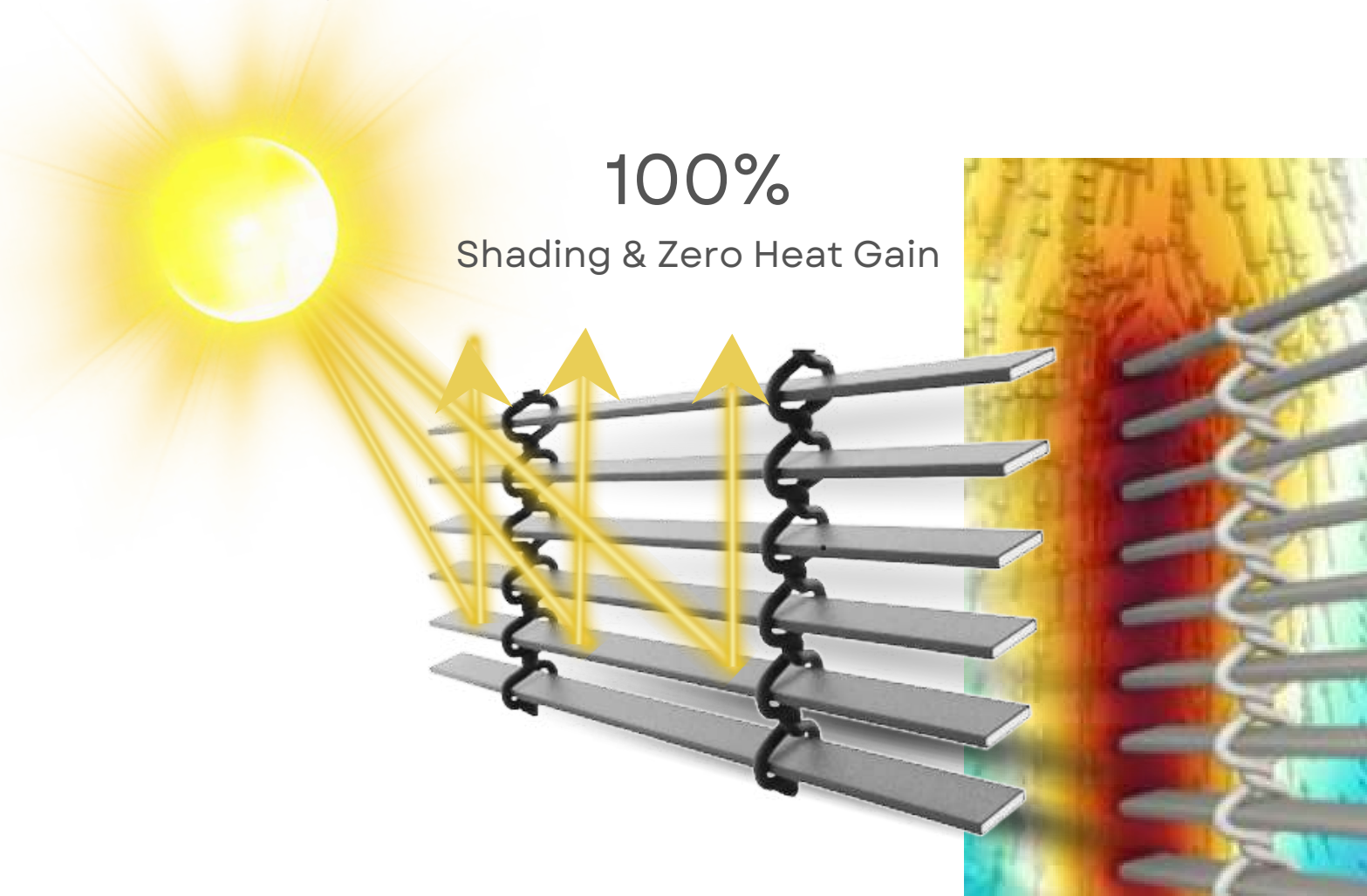
13 micro-thin louvres every 2 cm
Each paper thin louvre locked in at
the same precise angle



RAW WOVEN FABRIC

SIMPLY UNIQUE

Applying Microlouvre KoolShade® to a building, provides effective protection against heat gain & glare whilst maintaining visibility to the outside world.



Its application has been proven to reduce energy demand for cooling by as much as 70% and lighting by over 50%. It is A1/A2 fire rated, which is now a legal requirement for many residential buildings.

Microlouvre KoolShade® metal fabric is only 1.55mm thick and each louvre measures only 1.25mm x 0.30mm. The fabric has an open area of 80% and weighs just over a kilo per square metre.

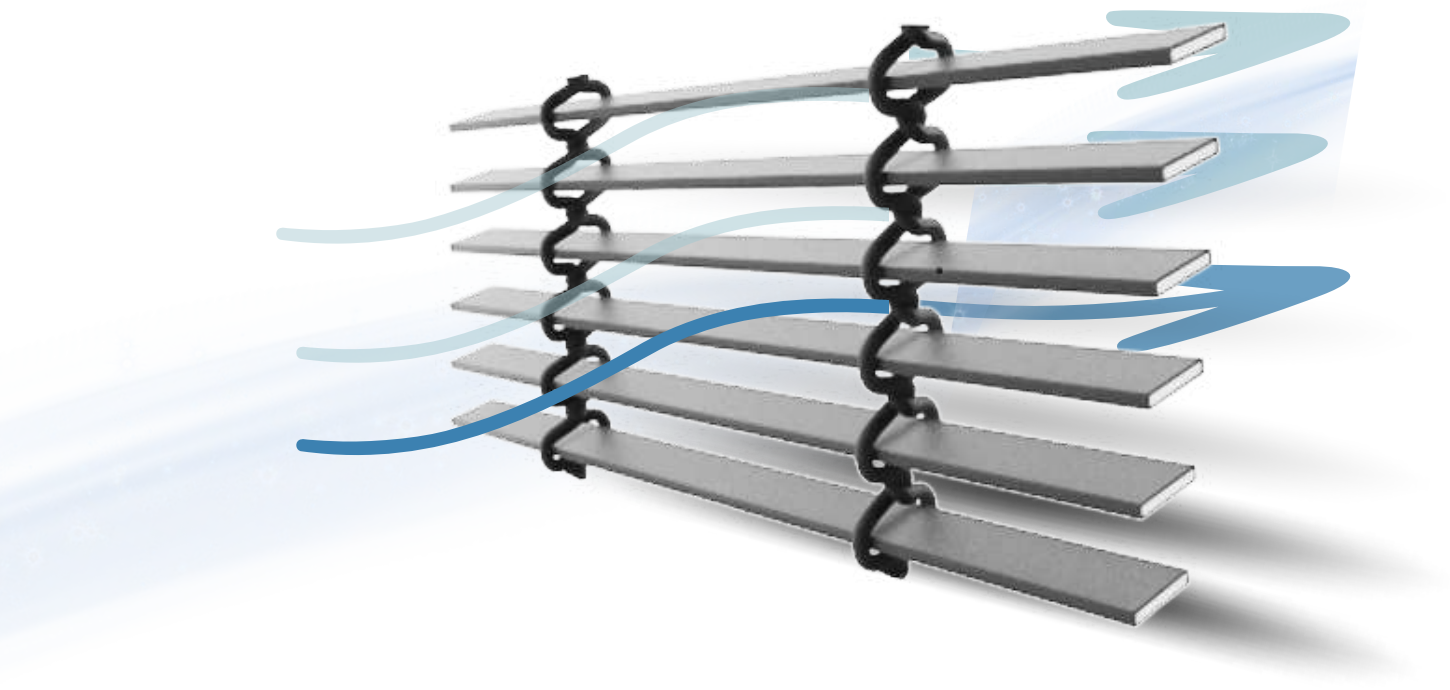
Effective & sustainable

The sun's heat is stopped

How does MicroLouvre Koolshade® work?

in simple terms

It doesn't allow the hot solar radiation through, it gets stopped by the angled micro-louvres and a chimney effect occurs removing the heat before it reaches the glass.



But still allows light and ventilation to pass through as normal. This keeps rooms well lit and comfortably cool.

Fresh air can still flow

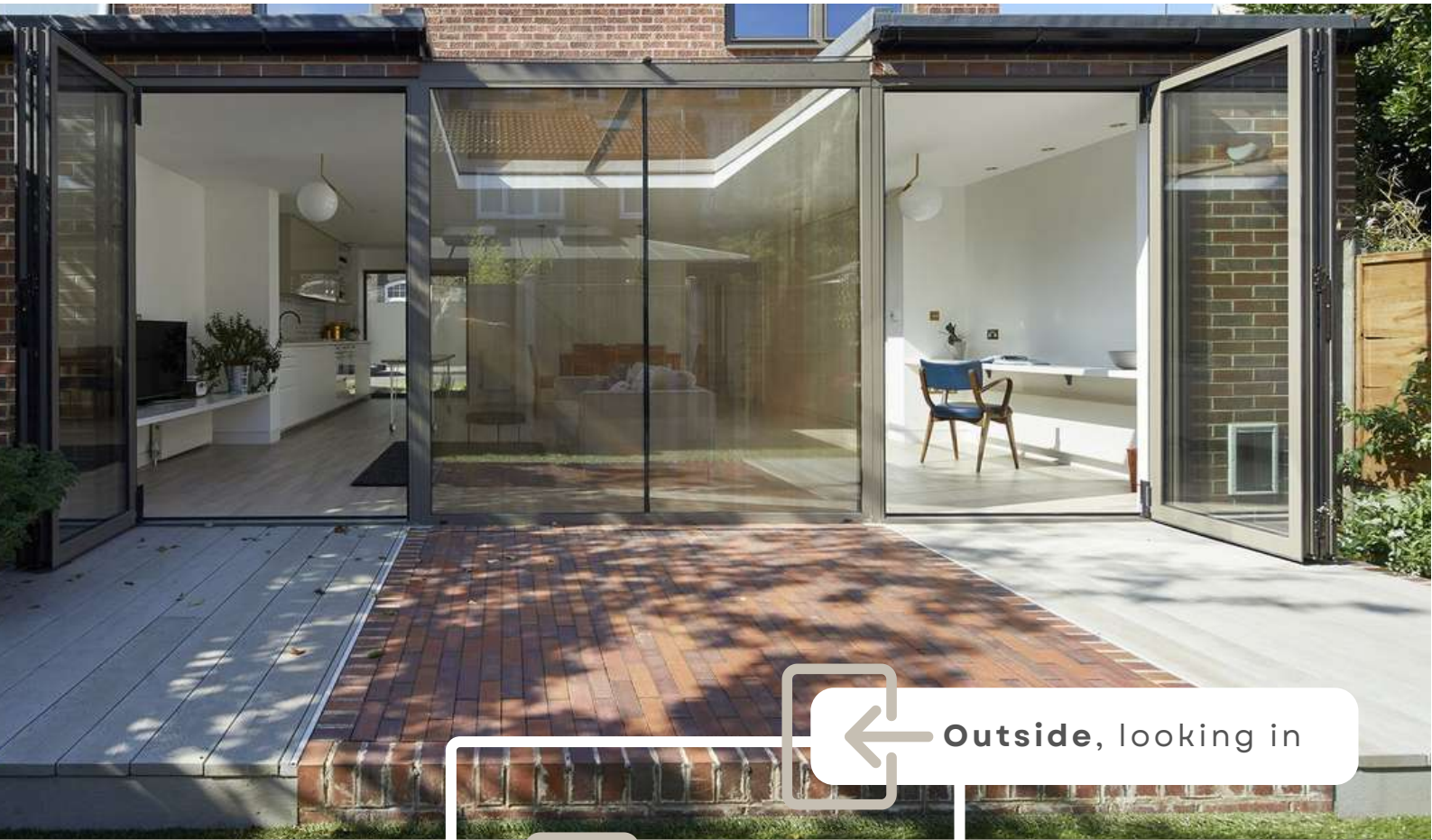
FIXING



The Fabric has an extremely high tensile strength so can be fixed with a range of cable options for a contemporary and stylish appearance.



VIEW IN, VIEW OUT



Outside, looking in

Inside, looking out





There are a wide range of options for sliding, opening and removing the frames where a static fix is not required.



The fabric can be mounted in frames and fixed to buildings.

COLOURS



#353c40

≈ Anthracite Grey

Color-Conversion

HEX #2596be



HSL 202, 9, 23



RGB 53, 60, 64, 1



XYZ 4, 4, 5



CMYK 17, 6, 0, 75



LUV 25, -4, -4



LAB 25, -2, -3



HwB 202, 21, 75



LITERALLY, ANY COLOUR YOU CHOOSE

UNBEATABLE SUSTAINABILITY



100%

MicroLouvre KoolShade® metal fabric & frames are 100% recyclable

68%

Air conditioning usage can be reduced by over 68% when used as Solar Shading

60+

MicroLouvre KoolShade® has proven longevity with 60+ maintenance free years

As our climate changes, we need to promote ways to enjoy the 'good' bits of the sun, whilst eliminating the 'bad'. While natural heat and light are essential in most buildings there are rapidly increasing occasions when the levels are dangerously high.

CREDENTIALS

LONGEVITY

**MicroLouvre
KoolSHADE®**

Shading from the sun has been a challenge in habitats for decades.



Malibu

HRL LABORATORIES



1960



Indianapolis INDIANAPOLIS COUNCIL BUILDING



1976



London

PECKHAM POLICE STATION



1988



And MicroLouvre KoolShade has been shading homes, offices, factories, hotels airports and more for decades.

FULLY EFFECTIVE AT
ALLOWING LIGHT IN

AND STOPPING
THE SUN'S HEAT



OTHER APPLICATIONS



Arcitectural Glazing

Light & Glare Control



Façade restoration

Fire Protection



Privacy & Security

Interior Design



ACCREDITATIONS



Fraunhofer

The Fraunhofer Institute for Solar Energy Systems ISE, with a staff of 1200, is the largest solar research institute in Europe.

When tested at Fraunhofer, the angle selective MicroLouvre achieved impressive results confirming MicroLouvre as the most comprehensive solution for Thermal and Visual Comfort in one system.



USGBC is the recognized leader of the green building movement, providing the tools to help advance and sustain green building practice and the innovation necessary to fully carry out our mission.

Through LEED and GBCI's expanded portfolio of aligned certification standards, we are at the forefront of driving growth across a global market that is at varying degrees of adoption and maturity.



CSIRO works with leading organisations around the world. From its headquarters in Canberra, CSIRO maintains more than 50 sites across Australia and in France, Chile and the United States, employing about 5,500 people.

CSIR grew rapidly and achieved significant early successes. In 1949, further legislated changes included renaming the organisation as CSIRO.



Collaborating with customers, suppliers, academia and other stakeholders is fundamental to what we want to achieve. It's about pushing boundaries and finding inventive ways to collectively make a positive contribution to an ever-changing world. This will be vital if we're to realize our science-based target of halving our carbon emissions by 2030.



The Good Homes Alliance's stated aim is to build and promote sustainable homes and communities and to transform the whole of mainstream UK house building into a sustainable endeavour. It is a not-for-profit community interest company with a board of directors.



SimScale have evaluated the thermal and pressure flow characteristics of MicroLouvre® and simulated the fabric in their digital wind tunnel set up at various wind speeds and angles.

The results have allowed us to validate previous performance data and determine an appropriate discharge coefficient (Cd) which can be inputted directly into thermal modelling software such as IES, TaS and DesignBuilder.



Building Research Establishment (BRE) the world's leading building science centre, wind tunnel tested MicroLouvre screens from different angles to simulate severe wind conditions on high buildings.

MicroLouvre proved to be indestructible at winds exceeding 100mph+, in excess of Hurricane Force 12 on the Beaufort Scale and a Category 2 Hurricane on the Saffir-Simpson scale.



BERKELEY LAB

The Lawrence Berkeley National Laboratory California is a multiThe Berkeley Lab included MicroLouvre in a major research project for one of America's largest Energy companies. With MicroLouvre, daily cooling loads were reduced by 68% on sunny days when compared with dual pane, high performance solar control glass with an internal blind.



ISO 9001 is defined as the international standard that specifies requirements for a quality management system (QMS).

Organizations use the standard to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements.



Recognised internationally as the go-to professionals in all aspects of fire safety. We are very proud to be working with one of the world's leading fire engineering and solution providers, trusted by many of the most prestigious construction firms, architects and estate owners.

And,...the added benefit of
detering birdstrikes.

LEED v4 Points are
awarded for bird
safety as part of
the Innovation and
Design (ID) category



In the UK alone well over a
hundred million birds die
from glass strikes every year
(British Trust for
Ornithology).



MICROLOUVRE®

Dark Sky Sanctuary

Night sky pollution, also known as light pollution, is the presence of artificial light in the night sky that interferes with our ability to observe the stars and other celestial objects.

Here are just some of the problems associated with night sky pollution:

1. Disrupting ecosystems: Artificial light at night can disrupt ecosystems by altering the behavior of animals, such as migratory birds and sea turtles, that use the stars to navigate. It can also interfere with the mating patterns of some species.
2. Health problems: Light pollution can disrupt the circadian rhythms of humans, which can lead to health problems such as insomnia, depression, and increased risk of cancer.
3. Affecting our cultural heritage: The loss of the night sky, which has been a source of inspiration and wonder for humans for millennia, has a profound impact on our cultural heritage.
4. Affecting astronomical research: The presence of artificial light makes it difficult for astronomers to study the night sky, and it reduces the sensitivity of telescopes.
5. Wasting energy: The excess lighting in cities and towns results in a waste of energy, which contributes to greenhouse gas emissions and global warming.

Overall, night sky pollution is a growing problem that has significant negative effects on the environment, human health, energy consumption, and our cultural heritage.



Smartlouvre
Technology



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MicroLouvre KoolShade® Fabric

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