



## COMPANY & PRODUCT OVERVIEW 2023

Pioneering change for the modern world with MicroLouvre Koolshade®



COMPANY	Page No.
Our History .....	05.
About Us .....	07.
Metal Fabric .....	09.
Solar Shading .....	11.
Applications .....	13.
Project Examples .....	17.
<b>PRODUCT</b>	
MicroLouvre® Product Overview .....	33.
Product Construction .....	37.
Fabrication & Weaving .....	39.
Installation & Finishes .....	40.
Colours .....	41.
Benefits .....	43.
Sustainability .....	39.
Additional Applications .....	43.
Accreditations .....	51.
Contact Details .....	52.

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

/ku:l/

**verb**

1. become or make less hot.  
"we dived into the river to cool off"

## shade

/ʃeɪd/

**noun** [C] UK

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



## koolshade

/ku:l/ /ʃeɪd/

**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"

# 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

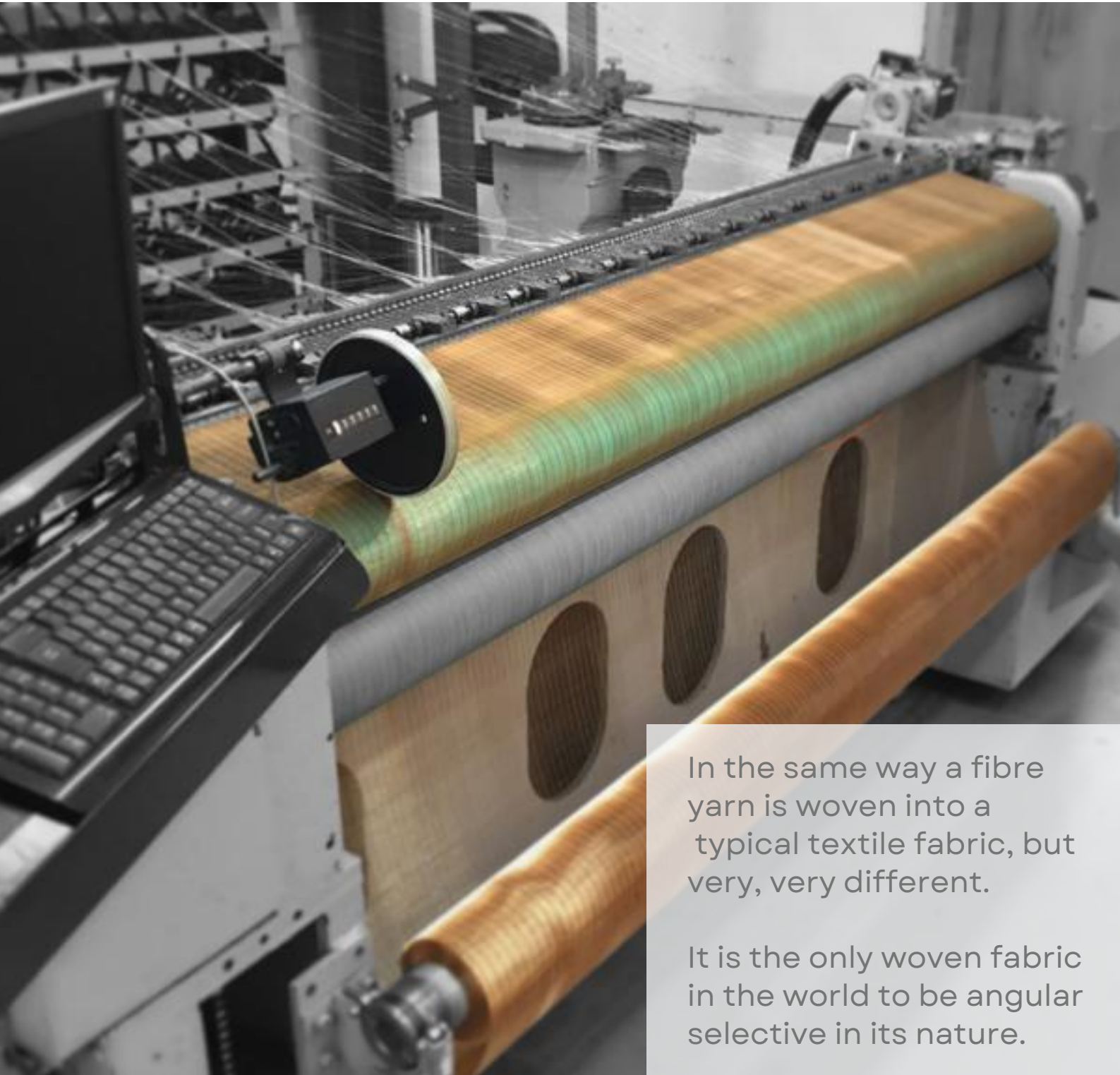
and their health and wellbeing



*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.



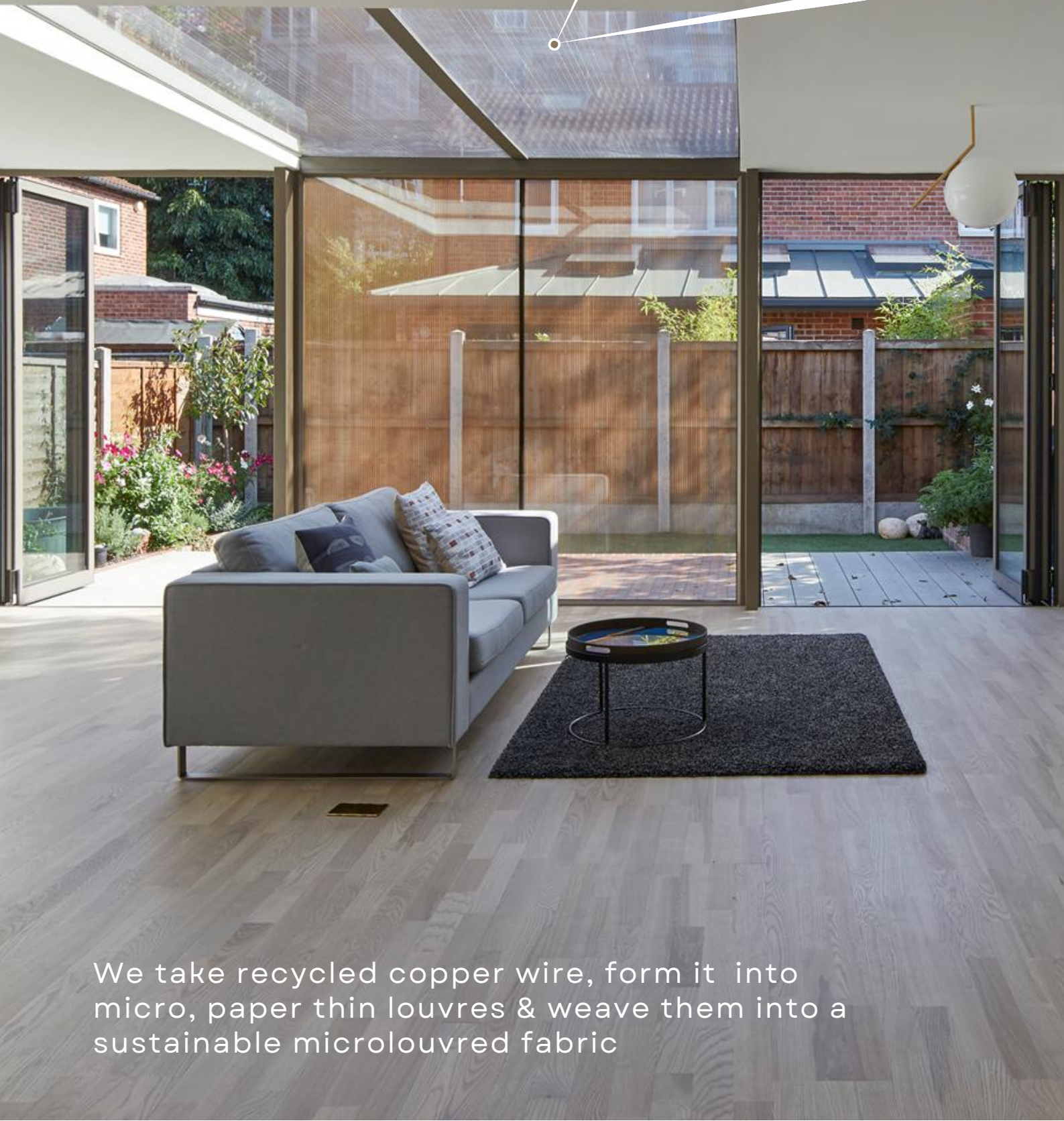
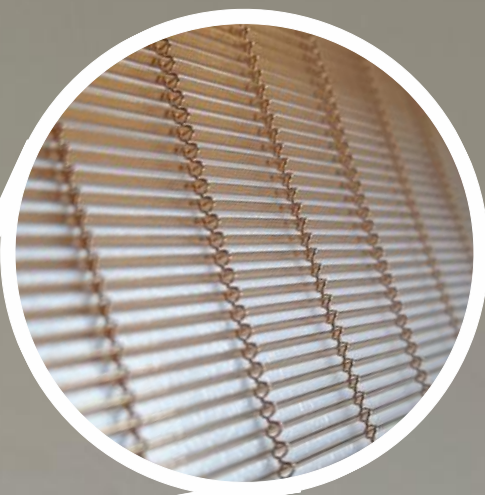
It is still the most efficient modern method of solar shading in the world



Exit full screen (f)

0:36 / 2:39

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 microlouvered 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.



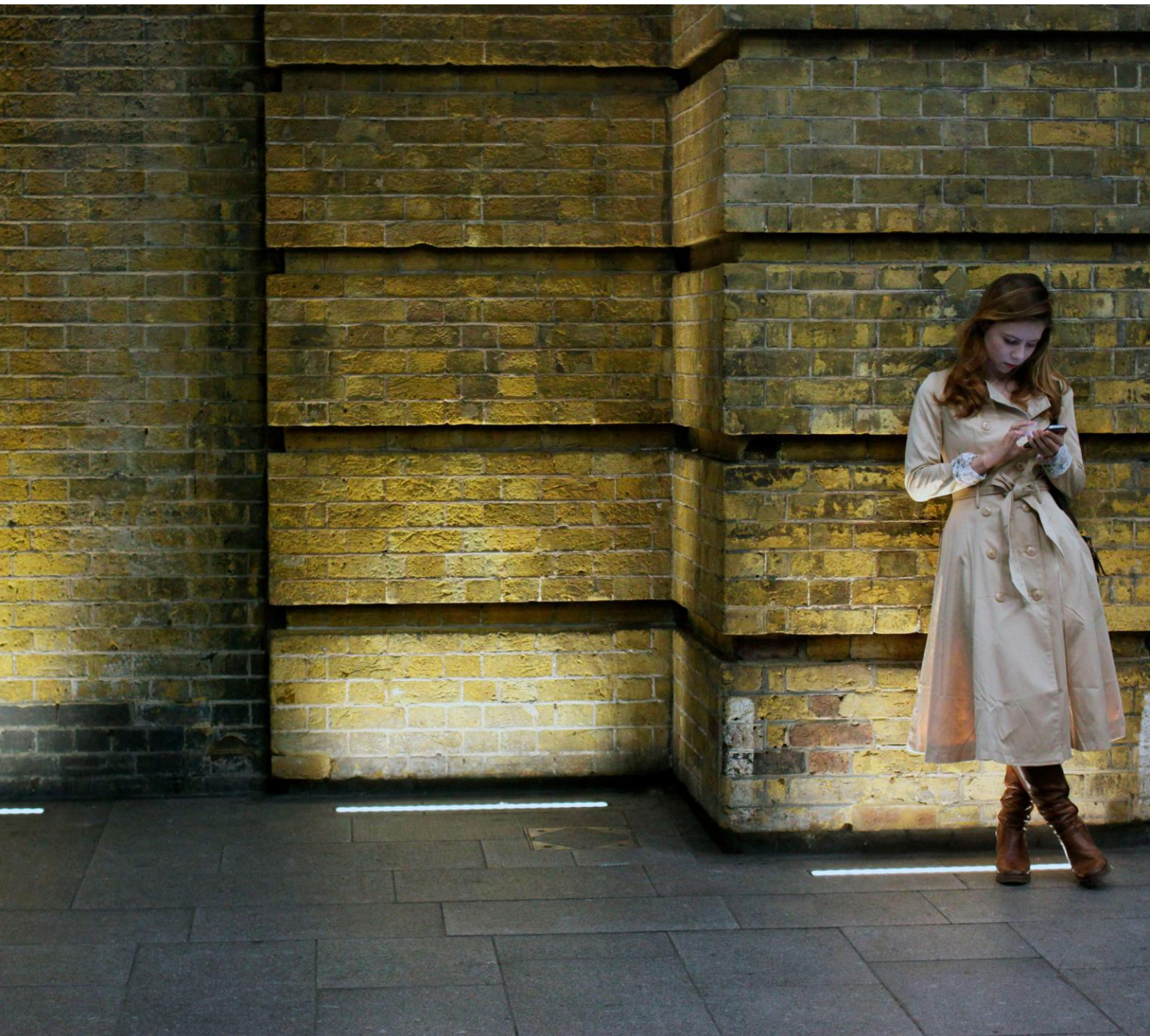
The use of MicroLouvre KoolShade® has added a stylish envelope to a section of the building which brings thermal comfort to those inside.

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

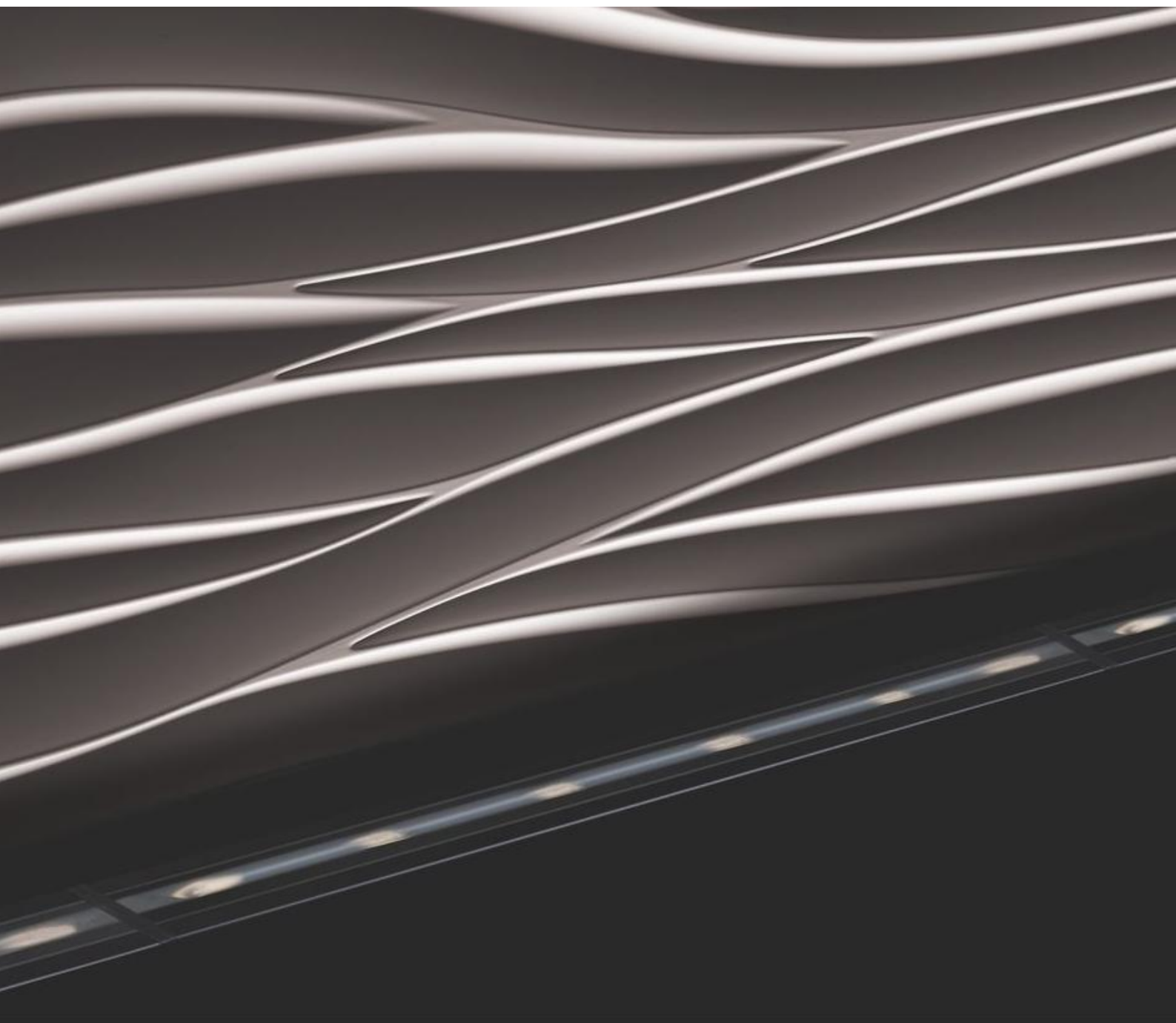


The former Lilian Baylis Secondary School building, a prominent example of 'Brutalist' architecture has been renovated and refurbished to become an award winning residential complex.

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<sup>®</sup>**

## PRODUCT OVERVIEW

Pioneering change  
for the modern world  
with MicroLouvre Koolshade<sup>®</sup>



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



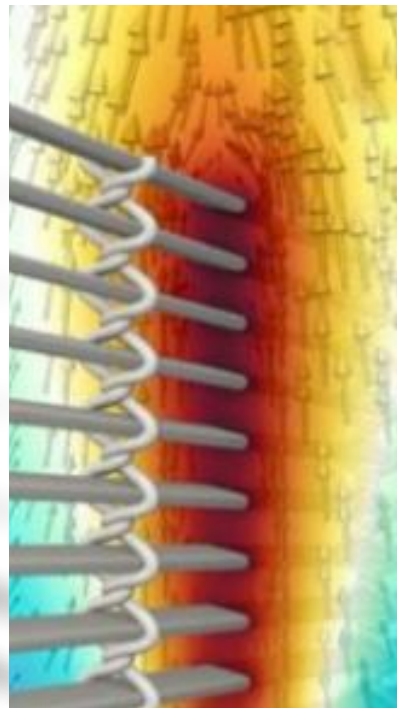
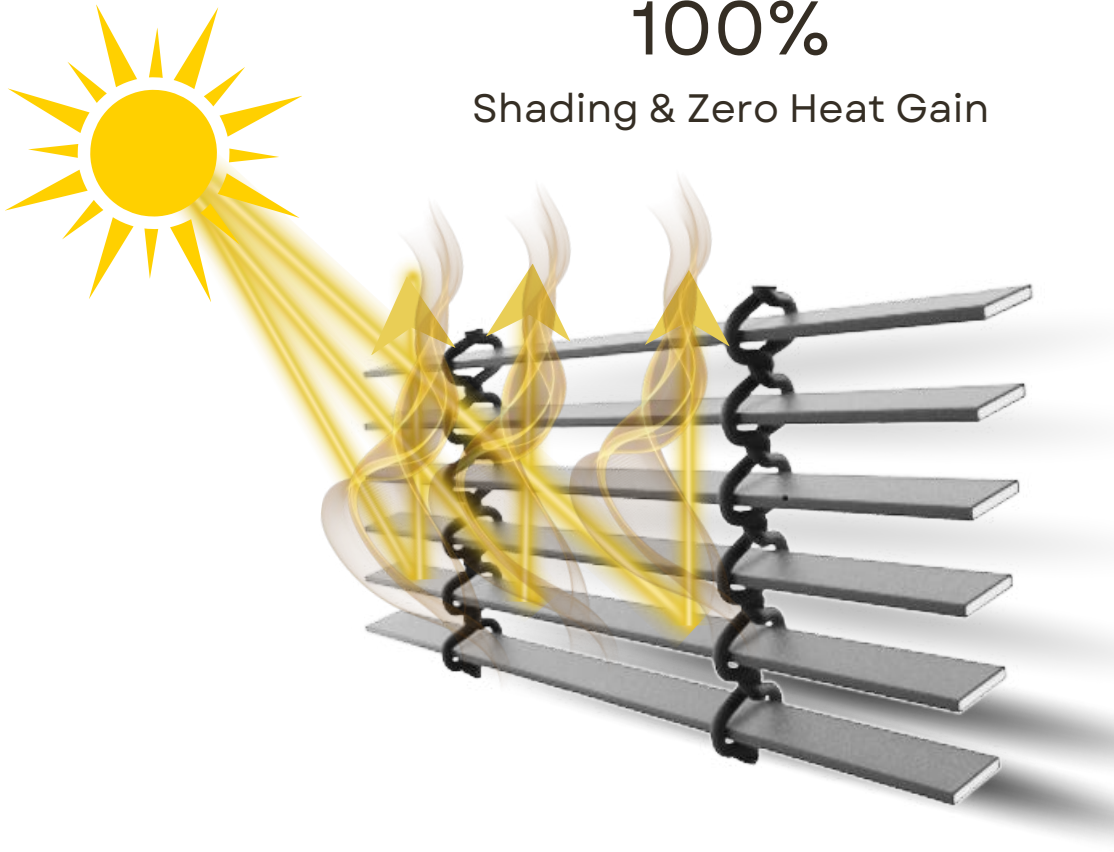
RAW WOVEN FABRIC

# SIMPLY UNIQUE

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

100%

Shading & Zero Heat Gain



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.

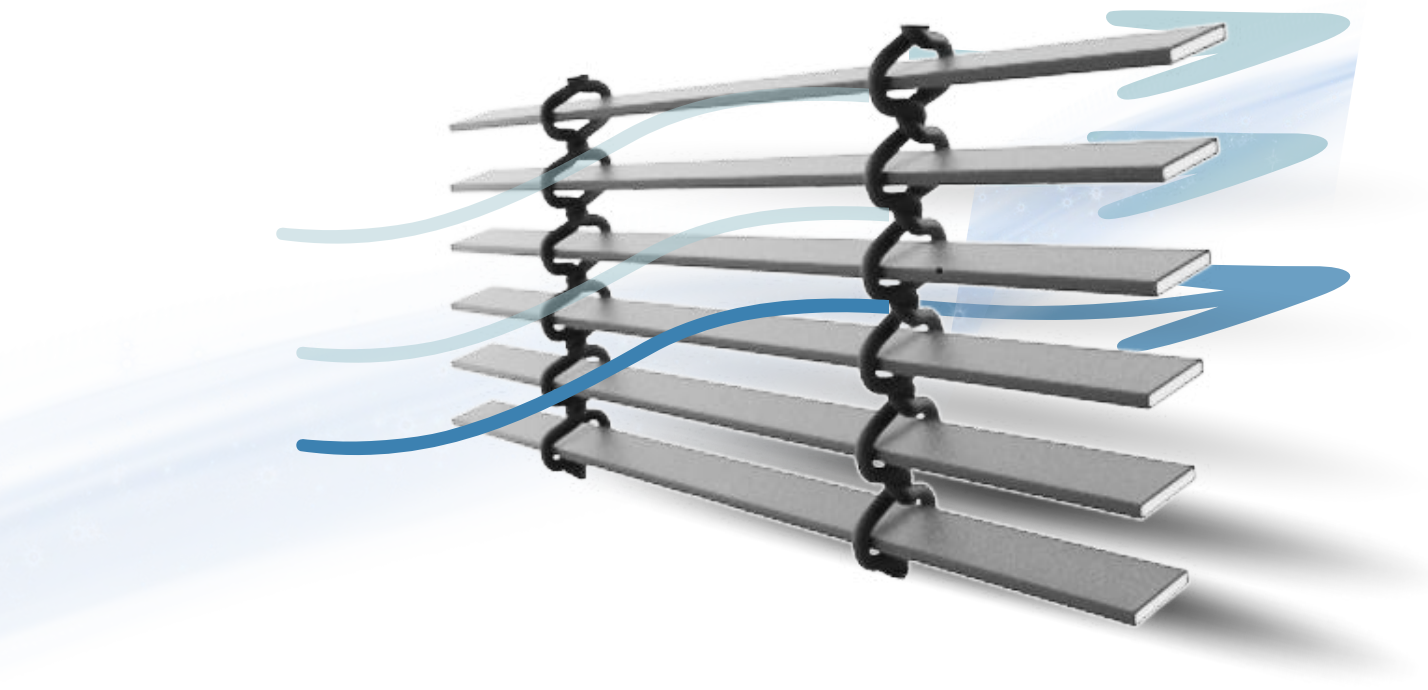
## Effective & sustainable

# 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

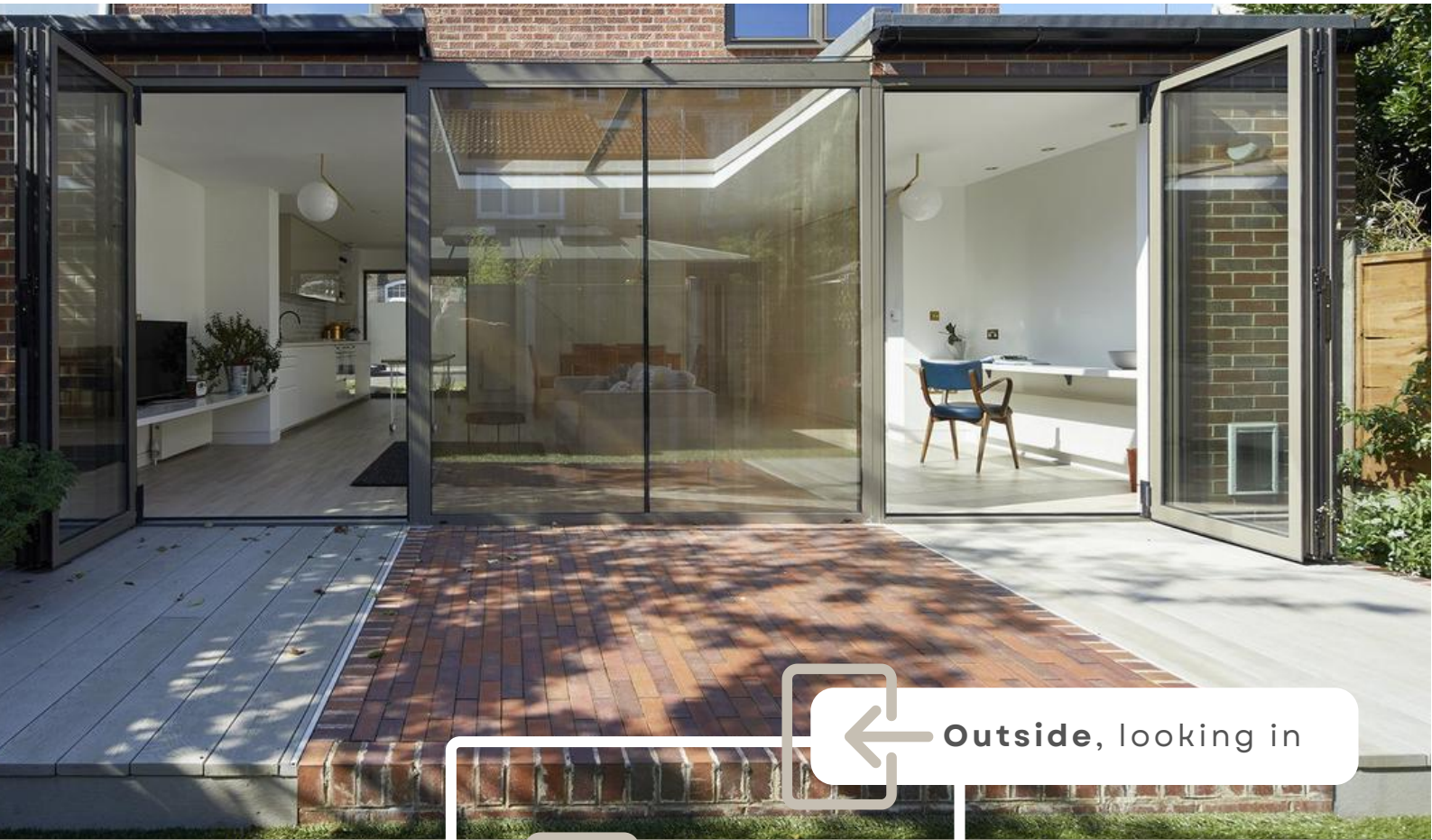
# FIXING



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.

## CREENTIALS



# 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**

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 multThe 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 deterring 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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