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Solar Shading, Blocking 100% of Solar Heat Gain

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Shading the planet, not costing the earth

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Bringing comfort and cool to all internal spaces

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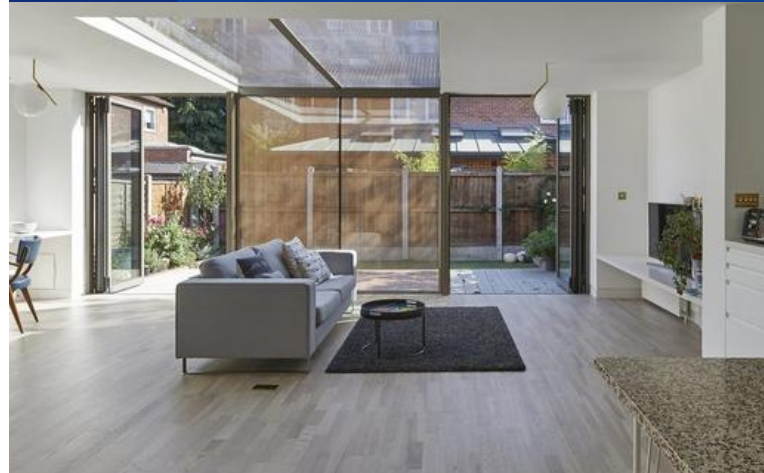
KOOLSHADE FABRIC & SCREENS ARE FULLY



COOL BUILDINGS



SUSTAINABLE HOMES



USABLE VENUES



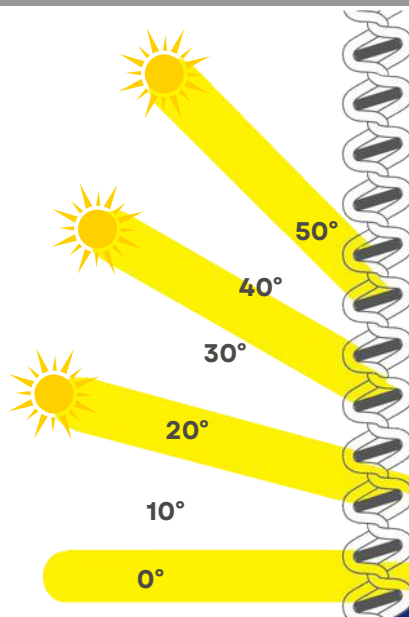
HOW DOES KOOLSHADE® WORK?

The micro louvres **stop** the hot solar radiation getting through.

ONLY EXTERNAL SHADING ACHIEVES THIS

Even with temperatures well **in excess of 40°+** no direct solar heat gain will reach the inside of the building. Zero heat gain, reduced glare but with perfect vision out.

**WITH SUMMER SUN,
TOTAL SHADING IS
PROVIDED**



Internal Blinds **allow solar heat** into your room.

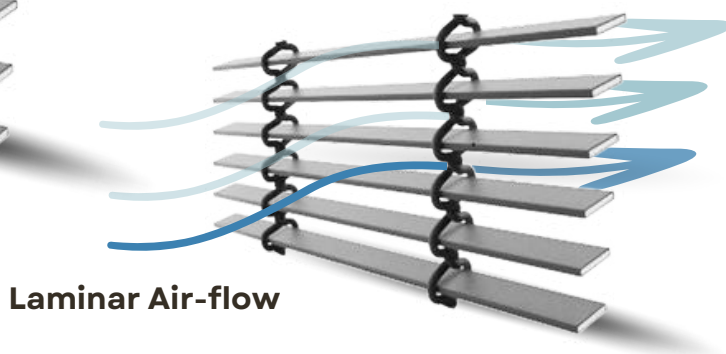
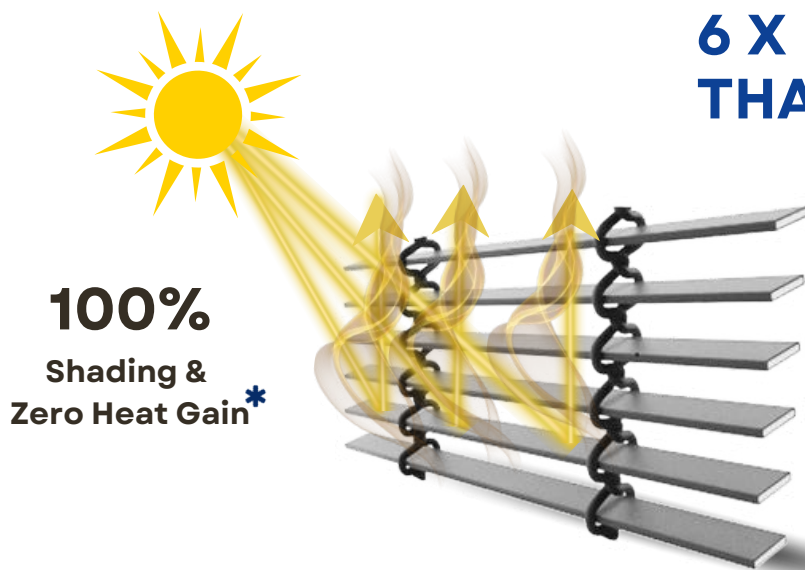
KoolShade stops it before it reaches the glazing.

KoolShade Fabrics, Low Sun Angle (LSA) & K17

% Shading *		
Sun Angle	LSA	K17
50°	100%	100%
40°	100%	100%
30°	100%	100%
20°	86%	68%
10°	68%	55%

Internal temperature reduced by over 50%

**6 X BETTER VISION OUT
THAN FABRIC BLINDS***



**LIGHT & AIR PASS THROUGH, KEEPING
ROOMS WELL LIT & COMFORTABLY COOL***





MULTI-FUNCTION FRAMED SOLAR SHADING



KoolShade's® most popular systems are screens. These are made to measure and can be used on **any** building, **any** size and fitted to **any** shape.



OPTIONS

Sizes

Width Min/Max
100mm to 1,800mm

Height Min/Max
100mm to 3,000mm

Standard Colours

Frames



Black White Anthracite

Fabrics



Black White Bronze

Optional:
Any RAL Colour



Frame Widths

FE51

51mm



FE38

38mm



FE25

25mm



Durability

Cat 2 Hurricane proof to 100+mph

Operation

Hinged
Removable
Sliding
Cable

Suitability

Residential	✓
Commercial	✓
Industrial	✓
New build	✓
Retro-fit	✓
Fire-safe	✗

 **MADE IN BRITAIN**®

CABLE FACADE SYSTEM



Creating a stunning architectural facade, the use of cables to suspend KoolShade® frames enables large areas of glazing to benefit rapidly from the most efficient solar shading.



OPTIONS

Standard Colours

Frames

Black

White

Anthracite

Fabrics

Black

White

Bronze

Optional:

Any RAL Colour

+

Fixings

Residential Commercial Industrial



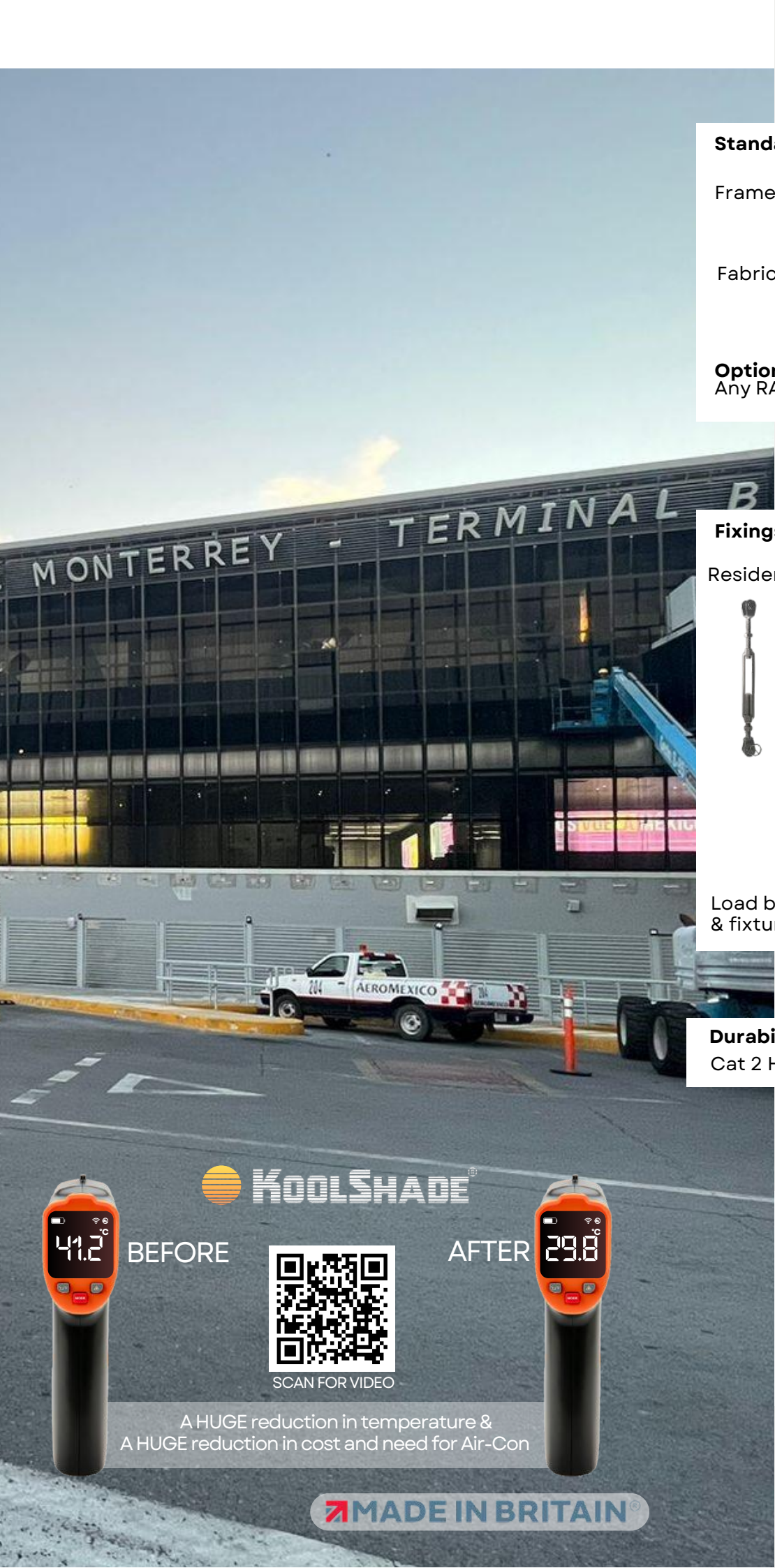
Load bearing values & fixtures calculated at quotation

Durability

Cat 2 Hurricane proof to 100+mph

Suitability

Residential	✓
Commercial	✓
Industrial	✓
New build	✓
Retro-fit	✓
Fire-safe	✗



BEFORE



SCAN FOR VIDEO

AFTER



A HUGE reduction in temperature &
A HUGE reduction in cost and need for Air-Con

MADE IN BRITAIN

ROOFLIGHT SYSTEM



Roof glazing can bring light and openness to a variety of spaces, but they can also be the cause of severe overheating. KoolShade® stops the heat before it reaches the inside.



OPTIONS

Sizes

KoolShade screens are built to fit all of the most popular brands of rooflight and custom built to any bespoke sizes.



Frame Widths

FE51

51mm



FE38

38mm



FE25

25mm



Durability

Cat 2 Hurricane proof to over 100mph Protection against hailstones.

Suitability

Residential
Commercial
Industrial
New build
Retro-fit
Fire-safe



 **MADE IN BRITAIN**

MOVABLE & ROLLING SOLAR SHADING



This listed building suffered from fierce solar heat gain. Even the thickest curtains didn't help. KoolShade® was made to order and fitted within 2 days. Heat gain problem solved!



OPTIONS

Sizes

Width Min/Max
100mm to 1,800mm

Height Min/Max
100mm to 3,000mm

Standard Colours

Frames



Black

White

Anthracite

Fabrics



Black

White

Bronze

Optional:
Any RAL Colour



Frame Widths

FE51

51mm



FE38

38mm



FE25

25mm



Durability

Cat 2 Hurricane proof to 100+mph

Operation

Hinged
Removable
Sliding & Rolling
Cable

Suitability

Residential	✓
Commercial	✓
Industrial	✓
New build	✓
Retro-fit	✓
Fire-safe	✓

MADE IN BRITAIN

GABLE END & DOOR SOLAR SHADING



OPTIONS

Sizes

Width Min/Max
100mm to 1,800mm

Height Min/Max
100mm to 3,000mm

Durability

Cat 2 Hurricane proof to 100+mph

Frame Widths

FE51

51mm



FE38

38mm



FE25

25mm



Standard Colours

Frames



Black



White



Anthracite

Fabrics



Black



White



Bronze

Optional:
Any RAL Colour



Operation

Hinged
Removable
Sliding & Rolling
Cable

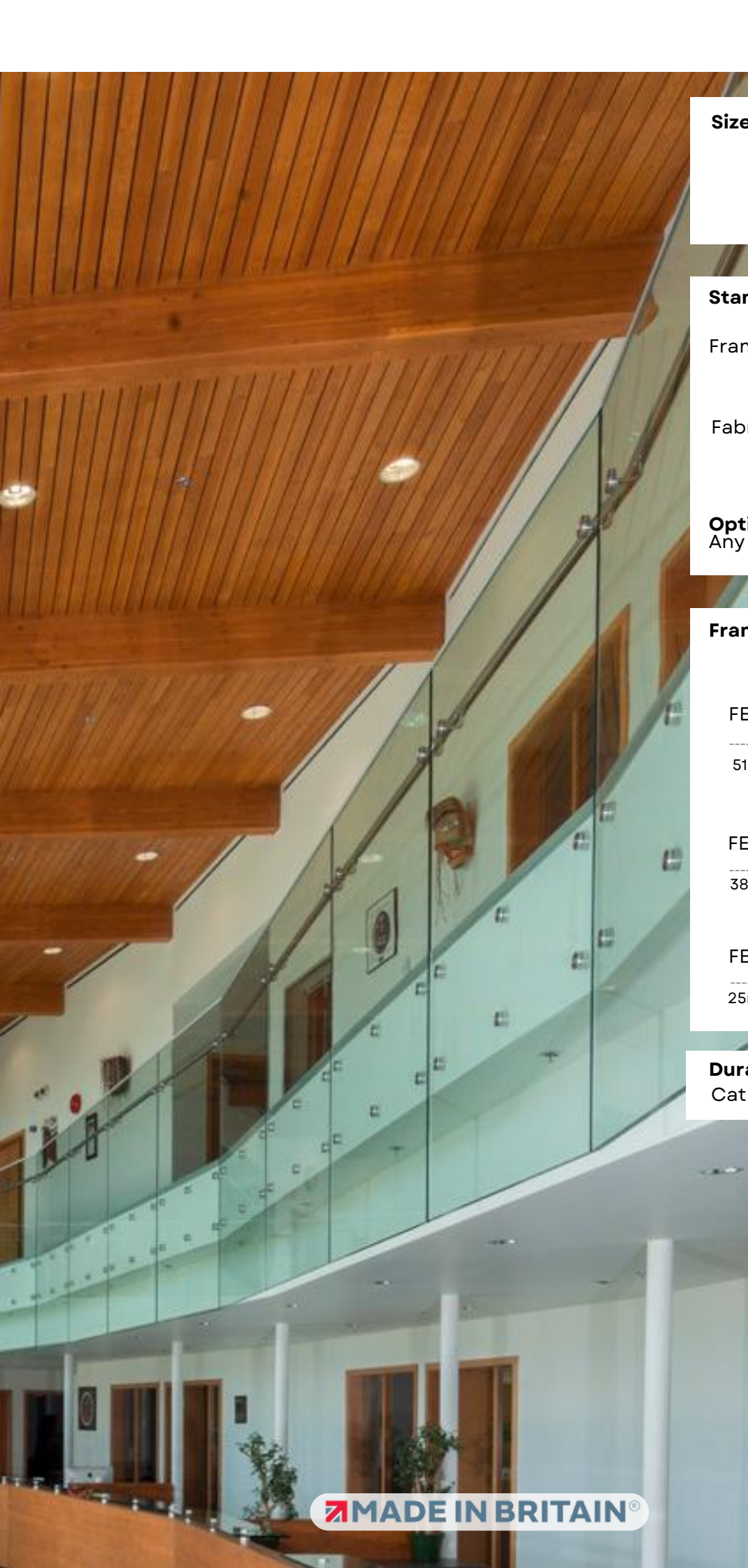
Suitability

Residential ☒
Commercial ☒
Industrial ☒
New build ☒
Retro-fit ☒
Fire-safe ☒

 **MADE IN BRITAIN®**

STRATEGIC SOLAR SHADING





OPTIONS

Sizes	Width Min/Max
	100mm to 1,800mm
	Height Min/Max
	100mm to 3,000mm

Standard Colours

Frames			
	Black	White	Anthracite
Fabrics			
	Black	White	Bronze
Optional: Any RAL Colour			

Frame Widths

FE51

51mm



FE38

38mm



FE25

25mm



Durability

Cat 2 Hurricane proof to 100+mph

Operation

Hinged
Removable
Sliding
Cable

Suitability

Residential	
Commercial	
Industrial	
New build	
Retro-fit	
Fire-safe	

ROOFLINE SOLAR SHADING



OPTIONS

Sizes

Width Min/Max
100mm to 1,800mm

Height Min/Max
100mm to 3,000mm

Durability

Cat 2 Hurricane proof to 100+mph

Frame Widths

FE51

51mm



FE38

38mm



FE25

25mm



Standard Colours

Frames



Black



White



Anthracite

Fabrics



Black



White



Bronze

Optional:
Any RAL Colour



Operation

Hinged
Removable
Sliding & Rolling

Suitability

Residential ☒
Commercial ☒
Industrial ☒
New build ☒
Retro-fit ☒
Fire-safe ☒

 **MADE IN BRITAIN**

IN-GLASS SOLAR SHADING



KoolShade® can be encapsulated or laminated into glazing. The benefits of the solar shading screens remain, whilst delivering a beautiful and unique appearance to any building.



OPTIONS

Sizes

Width Min/Max
100mm to 1,800mm

Height Min/Max
100mm to 3,000mm



Suitability

Residential	✓
Commercial	✓
Industrial	✓
New build	✓
Retro-fit	✓
Fire-safe	✓

 **MADE IN BRITAIN**®

SHAPED SOLAR SHADING



OPTIONS

Sizes

Width Min/Max
100mm to 1,800mm

Height Min/Max
100mm to 3,000mm

Cat 2 Hurricane proof to 100+mph

Frame Widths

FE51

51mm



FE38

38mm



FE25

25mm



Standard Colours

Frames



Black



White



Anthracite

Fabrics



Black



White



Bronze

Optional:
Any RAL Colour



Suitability

Residential ☒

Commercial ☒

Industrial ☒

New build ☒

Retro-fit ☒

Fire-safe ☒



KOOL-KLIP



Simply position & fit the the bottom and top clips to your surface



Locate frame into bottom clips and move the fix-clips to the middle



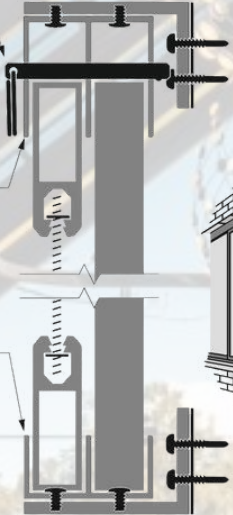
Push the fix-clips outward and into the top clips & you hear them snap into place

LIFT-IN LIFT-OUT

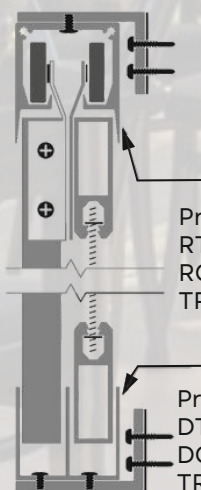
Detent ring-pin to lock down the panels.

Profile:
DT-34
Top Track

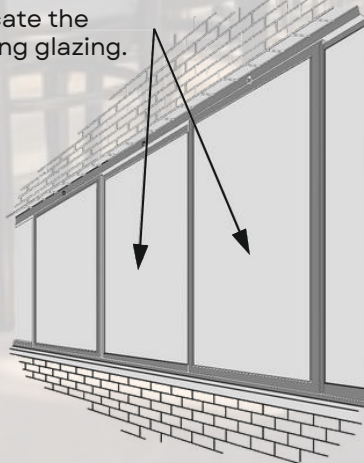
Profile:
BT-32
Bottom Track



ROLLER TRACK INSTALLATION

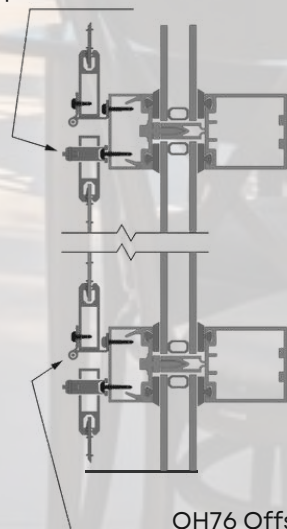


Alternating overlapped KoolShade® Solar Screens replicate the existing glazing.



OFFSET HINGE

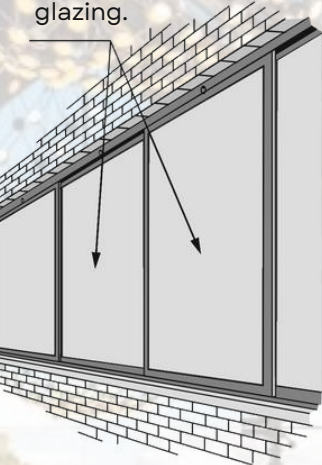
DN28/V Drop Nose Latch provides a secure hold with a quick release.



OH76 Offset Hinge provides access for v

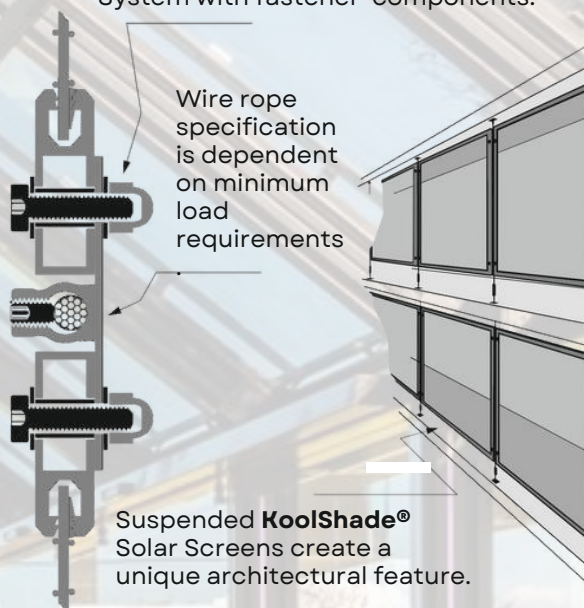
T INSTALLATION

Alternating overlapped KoolShade® Solar Screens replicate the existing glazing.



CABLE FIX INSTALLATION

Bespoke 316 Stainless Steel Cable Mounting System with fastener components.



INSTALLATION

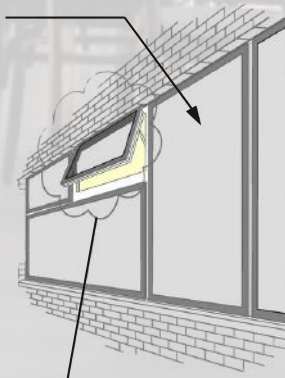
KoolShade® Solar Screens fix seamlessly to existing windows & mullions to complement the original glazing.



But Hinge Mounting allows for easy window maintenance.

DIRECT FIX INSTALLATION

KoolShade® Solar Screens fix seamlessly to existing windows and mullions to complement the window array.



The Screens fixed to opening lights will not impede the window's function.



KOOLSHADE® METAL FABRIC: THIS IS WHAT WE WEAVE.

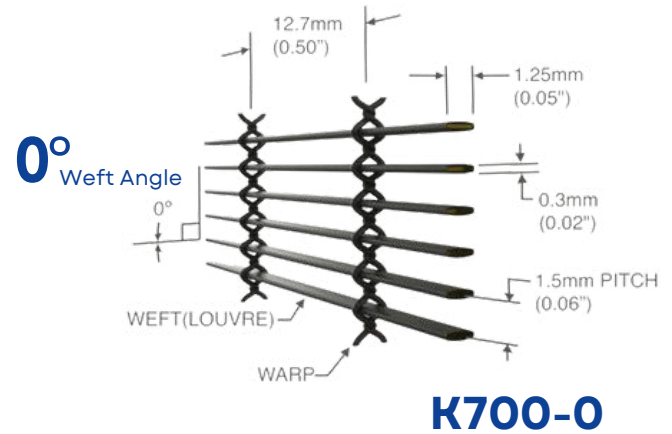
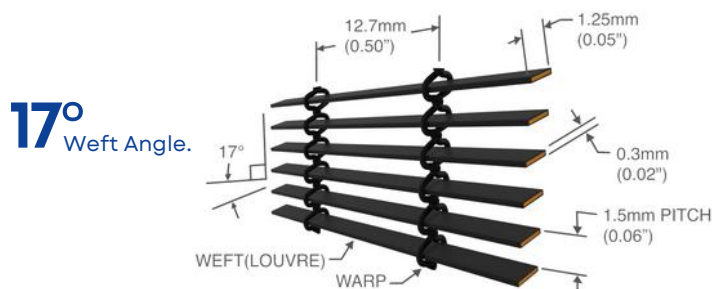
First created in the 1940s SmartLouvre Technology has brought this **solar shading technology** into the 21st century. With computerised weaving machines, a range of angular selective* fabrics has been developed to further combat solar heat gain.

K700-17

Fabric Weight: 1.10 kg / m²

Clear open area: 80%

Fabric composition: 90% CuZn15 (C230) commercial bronze and 10% CUSi3Mn1 (C655) silicon bronze



Fabric

Finishes:

Polyester powder coat in any RAL colour (with the ability to create designs on the fabric which are directionally visible)

Fire Safe:

Class A1/A2-s1,d0 in accordance with BS EN 13501-1:2007+A1:2009 BAL & Burning Ember Attack

Resistance to wind:

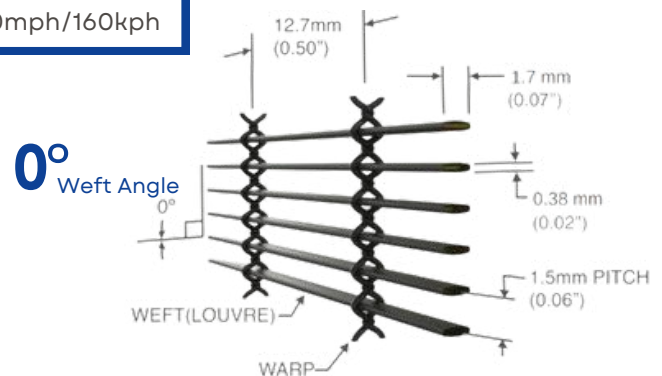
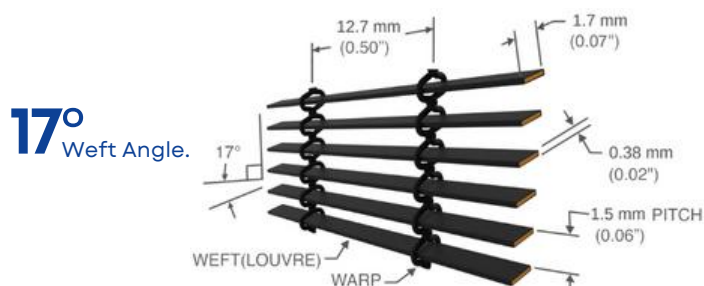
Hurricane proof: 100mph/160kph

K700-17-LSA

Fabric Weight: 1.35kg / m²

Clear open area: 80%

Fabric composition: 90% CuZn15 (C230) commercial bronze and 10% CUSi3Mn1 (C655) silicon bronze



K700-0-LSA

Vision out ➡

⬅ **Daylight in**

KoolShade® has achieved top Class 4 classification for Thermal Comfort, Daylight Utilisation and Contact with the Outside, with **100% daylight quality Colour Rendering Index (CRI)**.



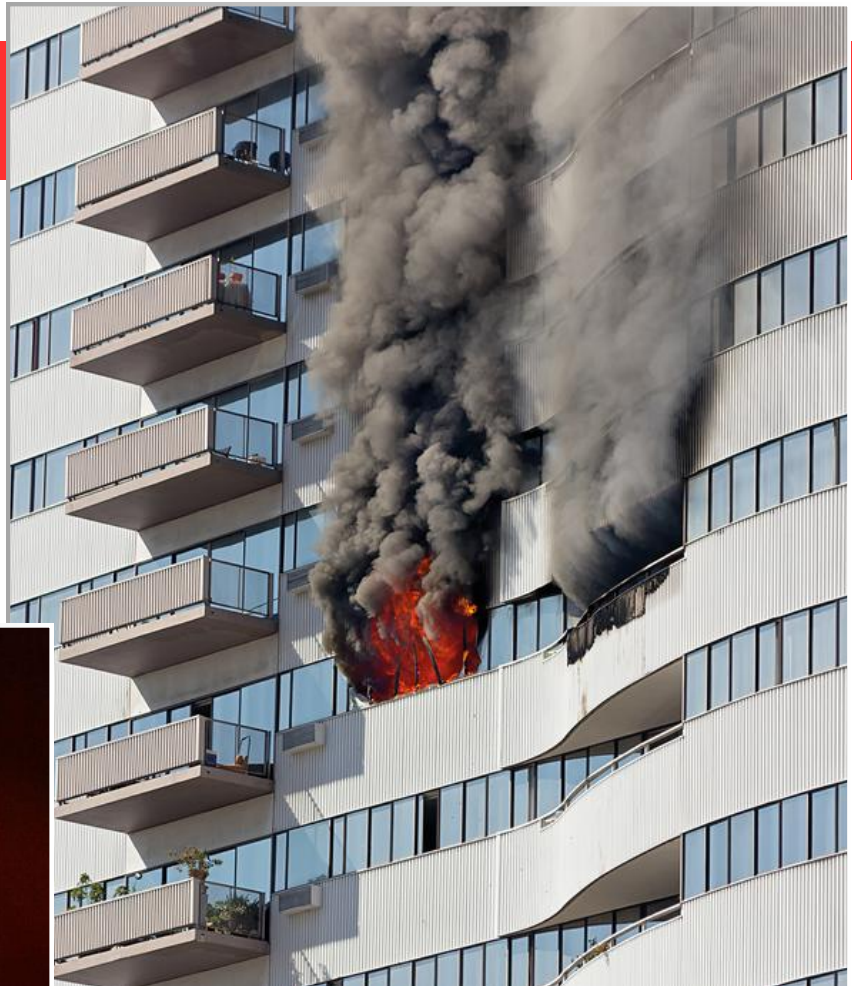
Fires in residential buildings are becoming increasingly commonplace and more & more regulations are demanding **EN 13501 A1/A2** etc Reaction to Fire/Fire Resistance for external attachments like sun shading devices.

Koolshade is a multi-function, all-in-one shading system. It maximises natural ventilation and daylight and is **fully A1/A2 -s1,d0 to EN 13501 compliant**. **Fire safety: Approved Document B.**

ARE YOU FIRE-SAFE & LEGAL?

The amended guidance for solar shading devices can be summarised as follows:

- External shading devices greater than **4.5 metres above ground** level are included in the definition of a specified attachment.
- Components whose primary function is to provide shade or deflect sunlight must achieve class **A2-s1, d0 or better**.



- Fire-safe
- Non-combustible
- Burning Ember Protection
- Heat Flashover Protection
- Spread of Flame



KOOLSHADE[®]
fire protection



A = Combustibility

'A1/A2': Top Classifications

's' = Smoke & Toxic Gases

's1': Top Classification

'd' = Burning Droplets

'd0' = Top Classification

BAL - FZ - 49.4 Heat Attenuation

BAL - 40 Whole window protection

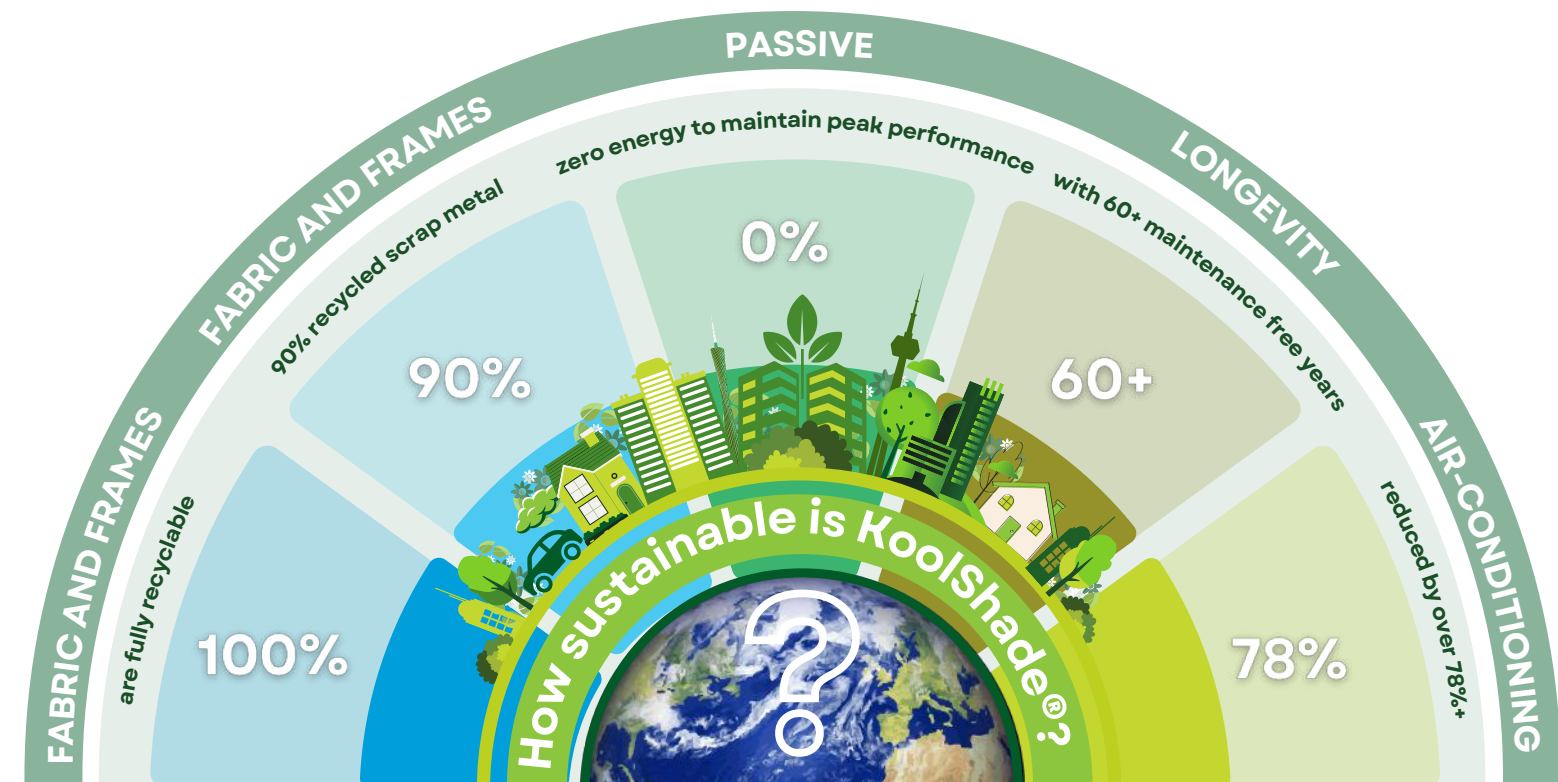


- Made from 90+% recycled material
- Maintenance free
- NO plastic or vinyl

- Over 78% saving in air-con costs
- 100% Recyclable
- 60+ year life span

SUSTAINABILITY

shading the planet without costing the earth



UNITED NATIONS “the ability to exist and develop without depleting natural resources for the future”

EXTERNAL	TESTER/BODY	TEST NAME	TEST SUMMARY
	AkzoNobel	AkzoNobel Coating Testing for MicroLouvre™ K700 Metal Fabric Test Summary	
	AkzoNobel	AkzoNobel Fire Propagation and Flame Spread in Powder Coatings	Fire Safe & Salt Water Testing
	AkzoNobel	AkzoNobel Salt spray test - Original	
	BRE	BRE - Certificate Of Test	
	BRE	BRE - High Speed Wind Integrity Test	
	BRE	BRE - Smartlouvre solar modelling report - Final	Wind Resistance & Shading
	BRE	BRE Light diffusion tests in white KoolShade - Coopers datasheet	Performance
	BRE	BRE MicroLouvre Screens Wind Tunnel Testing BRE	
	CSIRO	CSIRO Raidant Heat & Burning Ember Protection Report	Fire Protection
	Fraunhofer	Angle-dependent light & solar transmittance measurements report 2	
	Fraunhofer	Fraunhofer Test Report - Black	
	Fraunhofer	Fraunhofer Test Report - With Watermark	
	Fraunhofer	Fraunhofer ANTU EEB3-UA-2106-E02_EPP	Angle Dependent Light & Solar
	Fraunhofer	Fraunhofer CLEAR COAT EEB3-HRW-2210-E15_smartlouvre_221011	Transmittance
	Fraunhofer	Sikkens	
	Fraunhofer	Tasliq	
	IFC	IFC MicroLouvre FHA Test Certificate Metal Fabric-1a	
	IFC	IFC A1 A2 Test Summary	Fire Safe
	IFC	IFC Official Letter	
	Interpon	Interpon D - Fire Test Compilation	Fire Safe
	ISO	ISO Certificate	Quality
	LBNL	LBNL ORIGINAL TEST RESULTS lbnl-2001051	Cooling Load Reduction
	LBNL	LBNL TECH ASSESSMENT OF HIGH PERFORMANCE BUILDING ENVELOPES	
	O.Lof	O.Lof Decibel Traffic Sound Test	Noise Reduction
	SIMSCALE	SIMSCALE Smartlouvre MicroLouvre Modelling User Guide v6	Finite Element Analysis Thermal
	TAIT	TAIT - SOLAR OPTICAL PROPERTIES Black	Heat Transfer Coefficient
	TAIT	TAIT - SOLAR OPTICAL PROPERTIES White	
	Yellot	Yellot	Energy Conservation



INTERNAL	TESTER/BODY	TEST NAME	TEST SUMMARY
	SmartLouvre	KoolShade MicroLouvre light diffusion test	Light Diffusion
	SmartLouvre	Heat Comparison chart 2	
	SmartLouvre	Heat Gain Heat Lamp Comparison charts	Heat Gain
	SmartLouvre	Peak Cooling in kWh - CDG	Cooling
	SmartLouvre	Pressure Test Greene Fire	Fabric Pressure Resistance
	SmartLouvre	Pressure washing ML on building	Washing
	SmartLouvre	Static Load Test Paper	Fabric Load
	SmartLouvre	Tensile Load Test Paper	
	SmartLouvre	Tensile Test	Tensile Load
	SmartLouvre	Wind Loading Test Report Summary	
	SmartLouvre	Wind Test - MS angles w smoke	Wind Load

RELEVANT REPORTS	Milano D.O.E	Angular dependency of optical TESI_2004-057	ANGULAR EFFECT
	BRE	BRE - Study On Energy Use By AirConditioning Final Report	AIR-CON USAGE
	Uni. Of Florence	Transparent Building Envelope Windows	BUILDING ENVELOPES

CERTIFICATES	FHA	FHA MicroLouvre FHA Test Certificate Metal Fabric	FIRE
	Interpon	Interpon MicroLouvre Test Certificate Metal Fabric Fraunhofer	FIRE
	LBNL	LBNL MicroLouvre LBNL Test Certificate	PASSIVE SOLAR SHADING
	SmartLouvre	SLT MicroLouvre Test Certificate Screens Wind Load	WIND LOAD

45%	45% <i>back of room</i> daylight transmittance. BRE Daylight and Solar Transmittance of KoolShade.
100 mph	Cat 2 Hurricane Proof 100mph+winds. No damage witnessed at BRE wind tunnel test - certified.
92%	92% Solar radiation rejected. Mid-pane Glass D (Best number) , London UK.
89%	89% Solar radiation rejected. External Glass D (Best external) , London UK.
12%	12% Solar heat gain co-efficient (g-value). Calculation of summertime solar shading performance for KoolShade.
12%	12% Solar transmittance or Ts. Calculation of summertime solar shading performance for KoolShade.
3%	3% Solar reflectance or Tr. Calculation of summertime solar shading performance for KoolShade.
85%	85% Solar absorption or Ta. Calculation of summertime solar shading performance for KoolShade.
60+ years	60+ years service life. Ref City County Building - Indianapolis, Indiana.
49%	49.4% fire attenuation. Compliant screening for bushfire up to BAL-40 (Australia).
80%	80% Free air flow ventilation Proprietary Testing - Physical measurement.
A1	Fire Rating - Class A1. In accordance with BS EN 13501-1:2002
78%	78% Reduction in cooling loads. LBNL FlexLab - 48hrs Oct.21-22, 2015.
52%	52% UV Transmittance. TAIT: UV transmission regardless of sun angle.
100%	100% Solar shading. YELLOTT: Sun angle above 40deg.
52%	51.5% Daylight transmission or Tvis or Tv. YELLOTT: Daylight transmission regardless of sun angle.
100%	100% Solar radiation rejected. YELLOTT: Sun angle above 40deg.
NaCl +H2O	Salt Water Testing. Akzo Nobel.

ABOUT US

Smartlouvre Technology is the sole, global manufacturer of Koolshade® metal fabric, the ultimate in shading from solar heat.

The fabric was invented by two senior research members of Dow Chemical and first manufactured in conjunction with the Borg-Warner Corporation.

Fabric screens were being mass produced for commercial building application across the US, and later throughout the globe by a distributor network.

WE ARE A WEAVER OF A TOTALLY UNIQUE METAL FABRIC USED FOR SOLAR HEAT CONTROL

Under SLTechnology the manufacturing has been brought into the 21st century, by computerising the machines.

Whilst continuing to invest in manufacturing Smartlouvre focused on providing unique apprenticeships and training, supporting our young engineers of the future.

The production volumes have increased and new weaving machines are producing fabric that is being used on the most sustainable buildings in the world.

As our climate changes, there is a fast growing 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 a modern challenge.



Our vision.

Our core business lies in the manufacture of a totally unique, tried and tested high-performance heat blocking and glare reduction shading system that creates better working and living environments for people in commercial, public, and residential buildings, whilst dramatically reducing air-conditioning running and equipment costs.

We, at Smartlouvre, are committed to providing sustainable and innovative solutions that reduce energy consumption, protect the well-being of occupants and maintain superior comfort levels.

Koolshade® provides 100% shade and 100% heat block, saving over 78% of air conditioning costs. It also allows perfect vision and outperforms all other external solar shading systems.

The ideal Passive House shading material.

We serve diverse fields of Solar Shading, Daylighting, Thermal, Visual and Environmental Comfort, Fire Protection, Privacy and Security, Night Sky Pollution, Anti-Glare Lighting, Light Trespass, and even Insect Screening and Bird-Strike Protection.

In short, there is no other product as versatile, or effective, as Koolshade®.



SLTechnology Ltd. Global Manufacturers of MicroLouvre KoolShade Fabric
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