



RHODESHADE
Solar Control Materials.

HIGH-PERFORMANCE SHADE FILMS

**Engineered solar control for building performance.
Reduce heat. Control glare. Clear views.**



rhodeshade.com

RHODESHADE is a brand of:



Engineered solar control.

Precision-engineered shade films for buildings that demand more.

CONTENTS

INTRODUCTION

WHAT IS RHODESHADE?	3
---------------------	---

PRODUCTS & PERFORMANCE

THE CHALLENGE	4
THE SOLUTION	5
HOW IT WORKS	6
UNDERSTANDING THE DIFFERENCE	7
CORE BENEFITS	8
PRODUCT PORTFOLIO	10
PERFORMANCE AT A GLANCE	11

APPLICATIONS

APPLICATIONS	12
HIGH-RISE & COMMERCIAL	13
EDUCATION	14
HEALTHCARE	15
ATCTs & VCRs	16
RESIDENTIAL	17

SYSTEMS & INTEGRATION

SYSTEM SOLUTIONS	18
INTEGRATION OPTIONS	19

PROOF

PROVEN PERFORMANCE	20
SUSTAINABILITY	21
QUALITY & TRUST	22
CONTACT	23



RHODESHADE
Solar Control Materials.

WHAT IS RHODESHADE?

RHODESHADE is a high-performance solar control material developed by **RHODETEC** — an independent German engineering company specializing in advanced materials for buildings. Designed for integration into interior shading systems,

RHODESHADE shade films reflect solar radiation before it becomes indoor heat. They reduce solar heat gain and glare while preserving daylight and outward visibility — improving comfort and overall building performance.

Inspired by space. Engineered for buildings.

In space, materials must manage radiation, control temperature and protect what lies behind them.

RHODETEC applies this principle to the development of advanced solar control materials for buildings.

RHODESHADE translates this engineering expertise into precision-engineered, multi-layer shade films for

interior shades. The material combines effective solar control with transparency, visual comfort, and energy efficiency.

RHODETEC is the engineering company behind the material. **RHODESHADE** is its high-performance solution for architectural solar control.



AI

PRODUCTS & PERFORMANCE

THE CHALLENGE

Glass brings daylight. It also brings solar load.

Large glazed areas create bright and open spaces. At the same time, they allow solar radiation to enter the building.



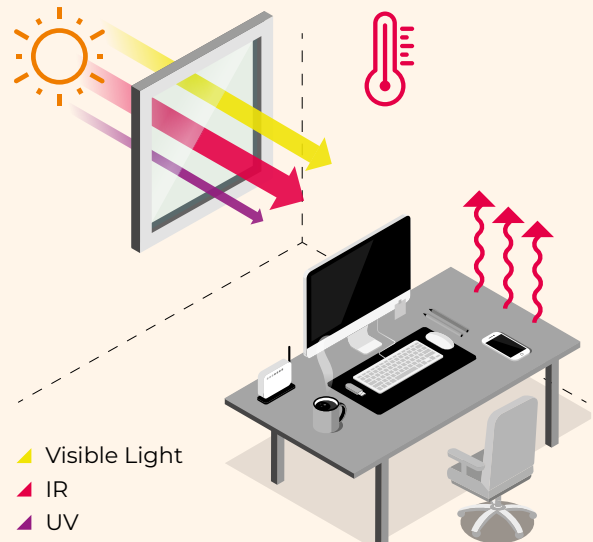
The insight

Solar radiation is not heat.

Indoor heat builds up when solar energy is absorbed by furnishings and conventional shading materials.

Effective solar control starts before indoor heat gain begins.

**Radiation is not the problem.
Absorption is.**



The impact

- Excessive solar heat gain
- Uncontrolled glare
- Increased cooling demand
- Higher operating costs
- Reduced thermal and visual comfort

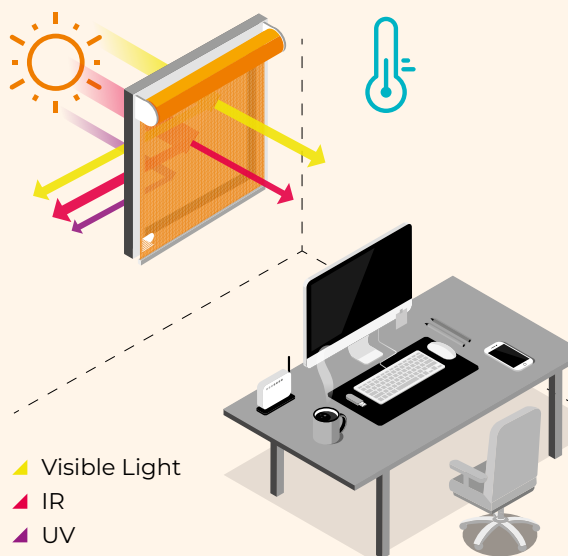
THE SOLUTION

Reflect before heat builds up.

Many conventional shading materials absorb solar radiation. The absorbed energy is converted into heat and contributes to rising indoor temperatures.

RHODESHADE shade films follow a different principle.

Integrated into interior shading systems and positioned behind the glazing, they reflect solar radiation back toward the exterior, reducing solar heat gain before excessive indoor heat builds up.



Results

- ▶ Reduced solar heat gain
- ▶ Controlled glare
- ▶ Reduced cooling costs
- ▶ Preserved daylight and outward views
- ▶ Improved thermal comfort

Performance that pays back.

Up to **90%**

Solar energy
rejection

Nearly **100%**

UV protection

Up to **30%**

Cooling energy
savings

PRODUCTS & PERFORMANCE

HOW IT WORKS

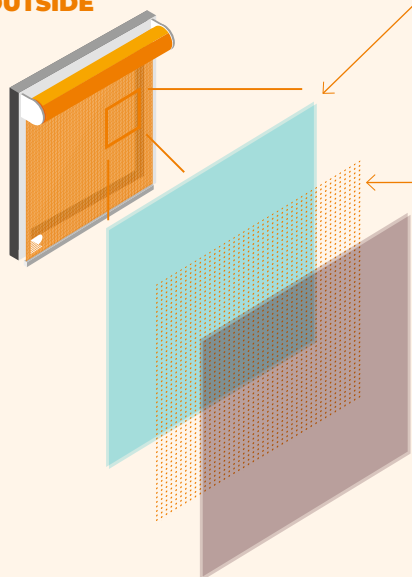
RHODESHADE – the smartest solution to control solar energy.

RHODESHADE is not a conventional textile. It is a precision-engineered multi-layer material designed to manage solar radiation while supporting visual comfort and long-term performance.

Each layer serves a purpose — from solar control and glare reduction to visual comfort and long-term durability. Together, they create full-spectrum solar control behind the window.

Multi-layer shade film

OUTSIDE



Clear PET film

Provides dimensional stability and transparency

Functional metal coating

Reflects solar radiation

Dyed PET film

Provides glare control and visual comfort



RHODESHADE shade film

UNDERSTANDING THE DIFFERENCE

Shading options – an overview

The performance of a shading solution depends largely on where and how it manages solar radiation.

RHODESHADE combines the adjustability of interior

shading with high solar energy rejection, daylight control, and outward visibility.

Not all solar control solutions work the same way.



Exterior shading

Controls solar radiation before it reaches the glazing, but is exposed to wind and weather and typically requires maintenance.



Conventional interior shading

Conventional shading controls glare and daylight but often restricts outward views and releases absorbed solar heat into the room.



Window films

Applied directly and permanently to the glass, these films control solar radiation but also reduce desirable daylight and beneficial solar heat gains during the darker season.



The advantages of **RHODESHADE**

Reflects solar radiation back outside — combining glare control, daylight, and clear views all while remaining protected from the weather.

EXPOSED

ABSORB

FIXED

REFLECT

The RHODESHADE principle

Reflect. Reject. Protect.

PRODUCTS & PERFORMANCE

CORE BENEFITS

The full spectrum of performance.

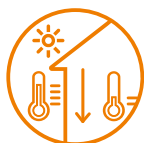
RHODESHADE shade films combine solar heat control, glare and UV protection, clear outward views, daytime privacy, and usable daylight in one high-performance solution. Together, these properties enhance indoor comfort and help reduce building energy demand and operating costs — year-round.



Glare protection

Visual comfort without darkness.

- Filters harsh sunlight and reduces screen glare
- Maintains comfortable indoor light levels
- Preserves daylight and outward visibility
- Creates comfortable work and learning spaces



Heat protection

Less heat gain.
More thermal comfort.

- Reflects solar radiation
- Reduces solar heat gain and overheating
- Maintains indoor comfort
- Lowers cooling demand

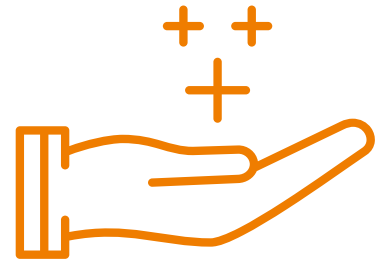


Clear views

Visual connection to the outside.

- Provides clear outward visibility
- Provides daytime privacy
- Supports healthy circadian rhythms
- Maintains visual comfort and transparency





Energy savings

Lower energy demand.
Better building performance.

- Summer: blocks heat, reduces cooling needs
- Winter: adds insulation and slows heat loss
- Cuts HVAC usage across all seasons
- Supports building energy and decarbonization goals



UV protection

Invisible but essential.

- Blocks nearly 100% of harmful UV radiation
- Protects interiors from fading and damage
- Reduces occupants' exposure to UV radiation
- Helps preserve interior materials over time



Natural daylight

Bright, balanced
and comfortable.

- Preserves the full spectrum of daylight
- Balances brightness and contrast
- Keeps the light natural and vibrant
- Improves mood and reduces fatigue

PRODUCTS & PERFORMANCE

PRODUCT PORTFOLIO

Shade films — engineered for different performance needs.

Every building project has different solar control priorities. Some require maximum solar energy rejection, while others focus on daylight, visual comfort, outward visibility, or privacy.

RHODESHADE offers a range of high-performance shade films for different building requirements — all designed to control solar radiation while balancing heat protection, glare control, daylight, and outward views.

Performance priorities

- ▶ Maximum solar energy rejection
- ▶ Balanced daylight and glare control
- ▶ Clear outward visibility
- ▶ Blackout and privacy
- ▶ Printable design options

Beyond solar control

Selected **RHODESHADE** shade films can be printed for branding, visual communication and architectural design concepts — combining solar control performance with creative design possibilities.



PERFORMANCE AT A GLANCE

Compare RHODESHADE films at a glance.

The overview compares key optical and solar performance values to support product selection for different project requirements.

Type	Category	LT	SR	UV	TSER*	SC*	Glare	Heat	Energy savings	Clear view
SiGr01	reflective, transparent	1%	83%	99%	87%	0.15	++	++	++	++
SiGr02	reflective, transparent	3%	73%	97%	80%	0.23	++	++	++	++
SiGr07	reflective, transparent	8%	57%	93%	68%	0.37	+	+	+	++
SiWh00	reflective, blackout	0%	83%	100%	87%	0.15	++	++	++	-
GrGr02	non-reflective, transparent	3%	23%	99%	51%	0.56	++	o	o	++
GrGr08	non-reflective, transparent	8%	18%	100%	43%	0.66	+	o	o	++

(excerpt from the range)

Understanding the performance values

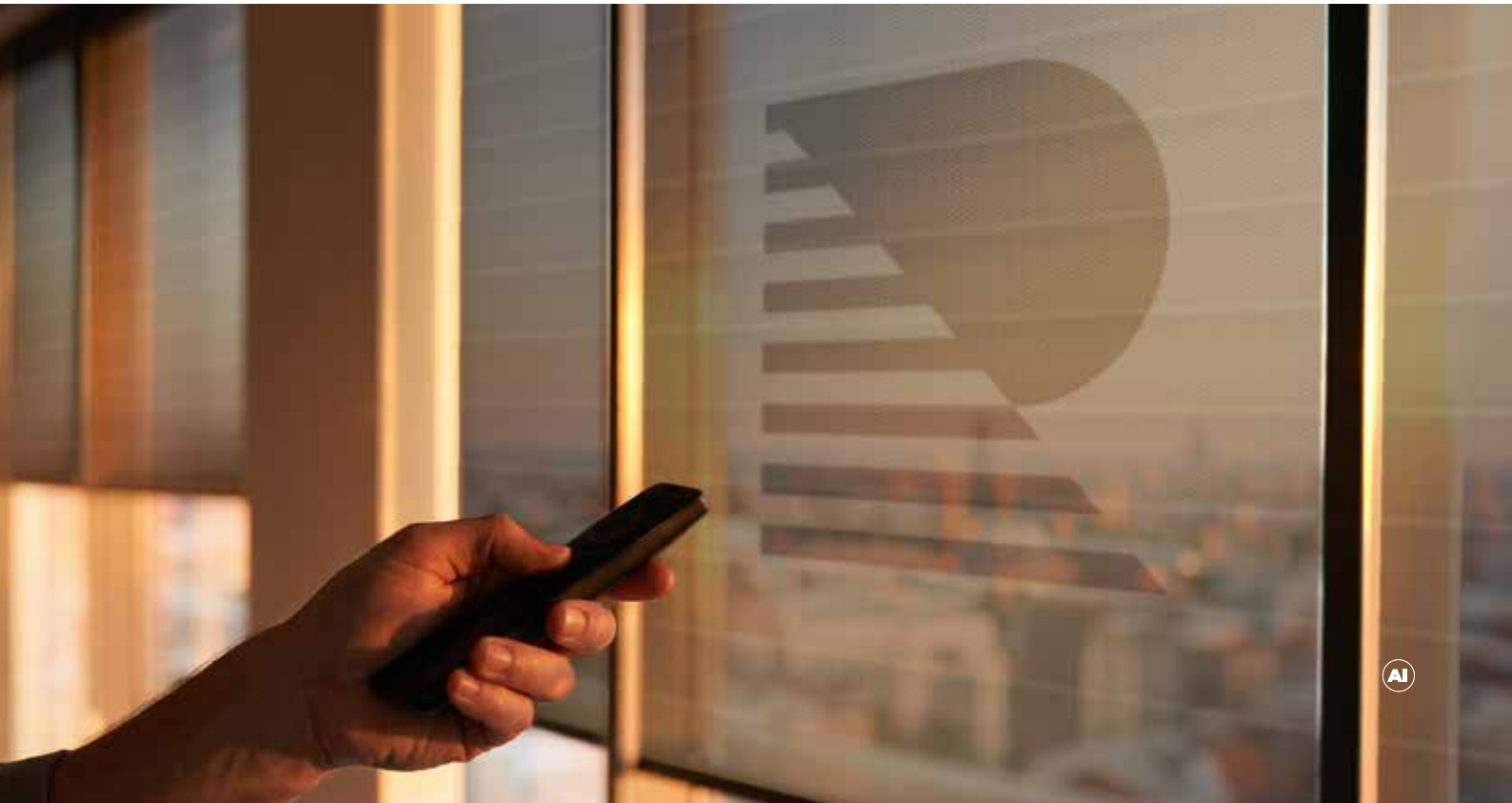
LT	=	Light transmission
SR	=	Solar reflection
UV	=	UV block
TSER	=	Total solar energy rejection
SC	=	Shading coefficient

Performance classification

++	=	Very good
+	=	Good
o	=	Medium
-	=	None

*Values shown are based on use in combination with 4 mm clear glass.
Performance values may vary depending on glazing configuration and installation conditions.
Detailed technical data sheets are available for all **RHODESHADE** shade films.

APPLICATIONS



APPLICATIONS

Solar control for buildings that demand more.

RHODESHADE is designed for applications where daylight, heat, glare, and visibility must be carefully balanced.

From everyday comfort to mission-critical visibility, **RHODESHADE** supports project-specific solar control strategies.

Typical applications

- ▲ High-rise & commercial
- ▲ Education
- ▲ Healthcare
- ▲ ATCTs & VCRs
- ▲ Residential

HIGH-RISE & COMMERCIAL



Better workspaces through better solar control.

Modern workplaces depend on daylight. Yet excessive solar radiation often creates glare, overheating, and visual discomfort.

RHODESHADE helps create productive working environments by balancing daylight, solar control, and visual comfort.

Challenge

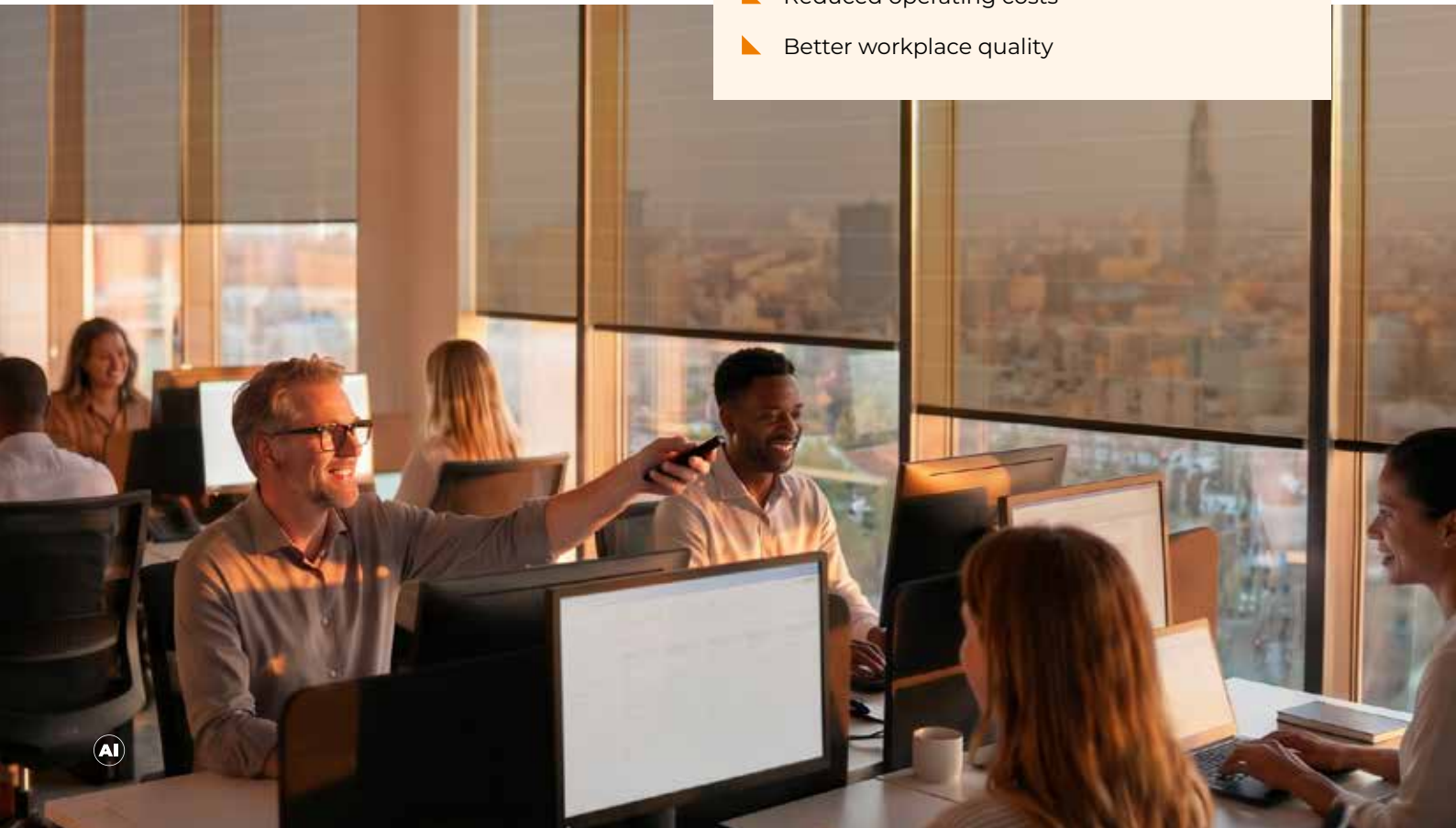
Excessive glare and rising cooling demand.

Solution

Intelligent solar control without sacrificing daylight.

Impact

- ▶ Glare-free workspaces
- ▶ Improved visual comfort
- ▶ Lower cooling demand
- ▶ Reduced operating costs
- ▶ Better workplace quality



APPLICATIONS

EDUCATION



Smart daylight for smarter learning.

The quality of a learning environment directly influences concentration, well-being and performance.

Glare and overheating can negatively affect both students and educators.

RHODESHADE helps create bright and comfortable learning spaces by managing solar energy while maintaining access to natural daylight.

Challenge

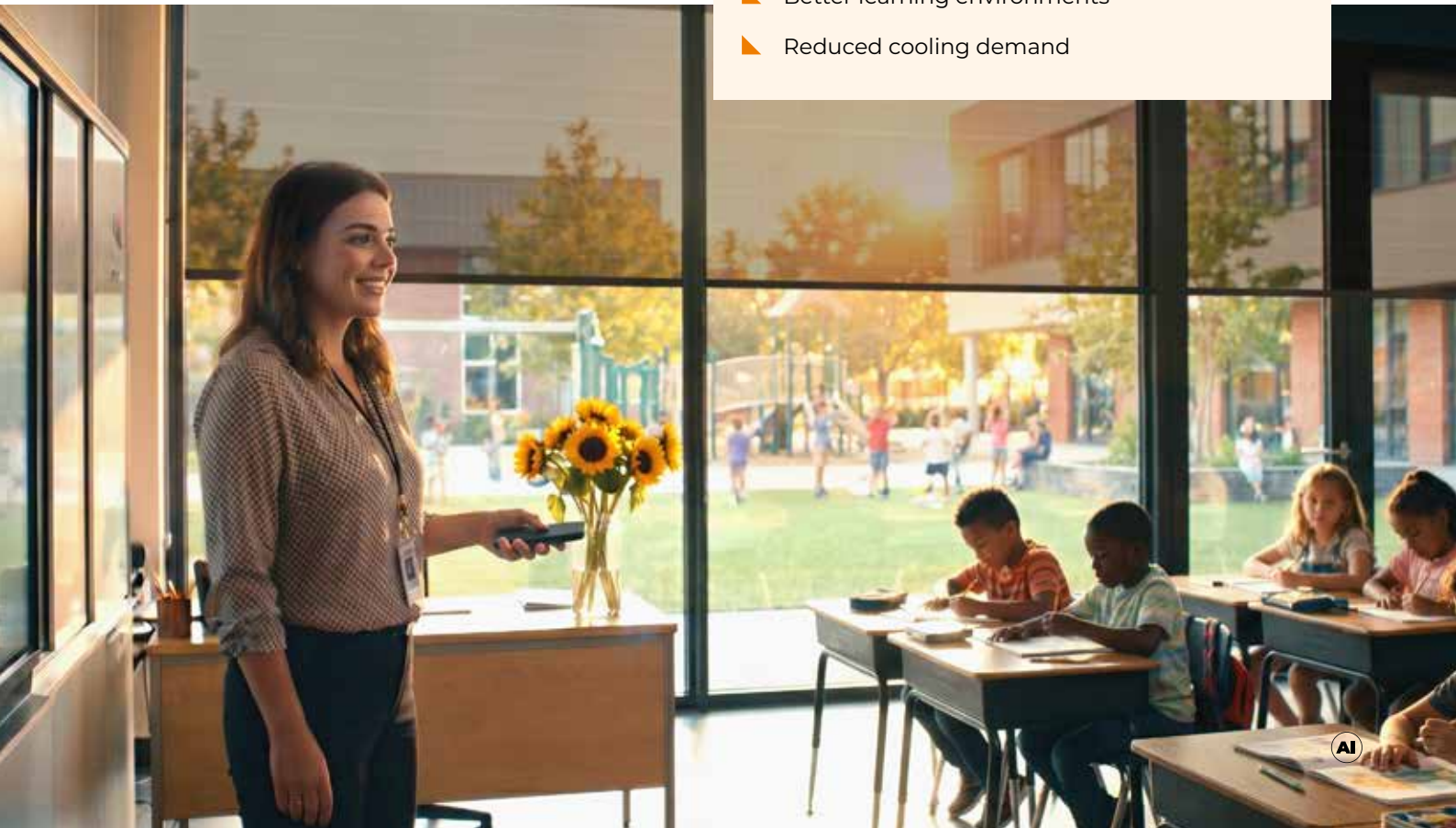
Glare and visual distraction.

Solution

Balanced daylight and controlled solar energy.

Impact

- ▶ Improved concentration
- ▶ Glare-free environment
- ▶ Comfortable classroom temperatures
- ▶ Better learning environments
- ▶ Reduced cooling demand



HEALTHCARE



Natural light. Clean and comfortable.

Natural daylight plays an important role in modern healthcare design.

At the same time, healthcare environments require thermal comfort, visual comfort, and easy-to-maintain surfaces.

RHODESHADE helps create spaces that support patient well-being while improving environmental quality for patients, staff, and visitors.

Challenge

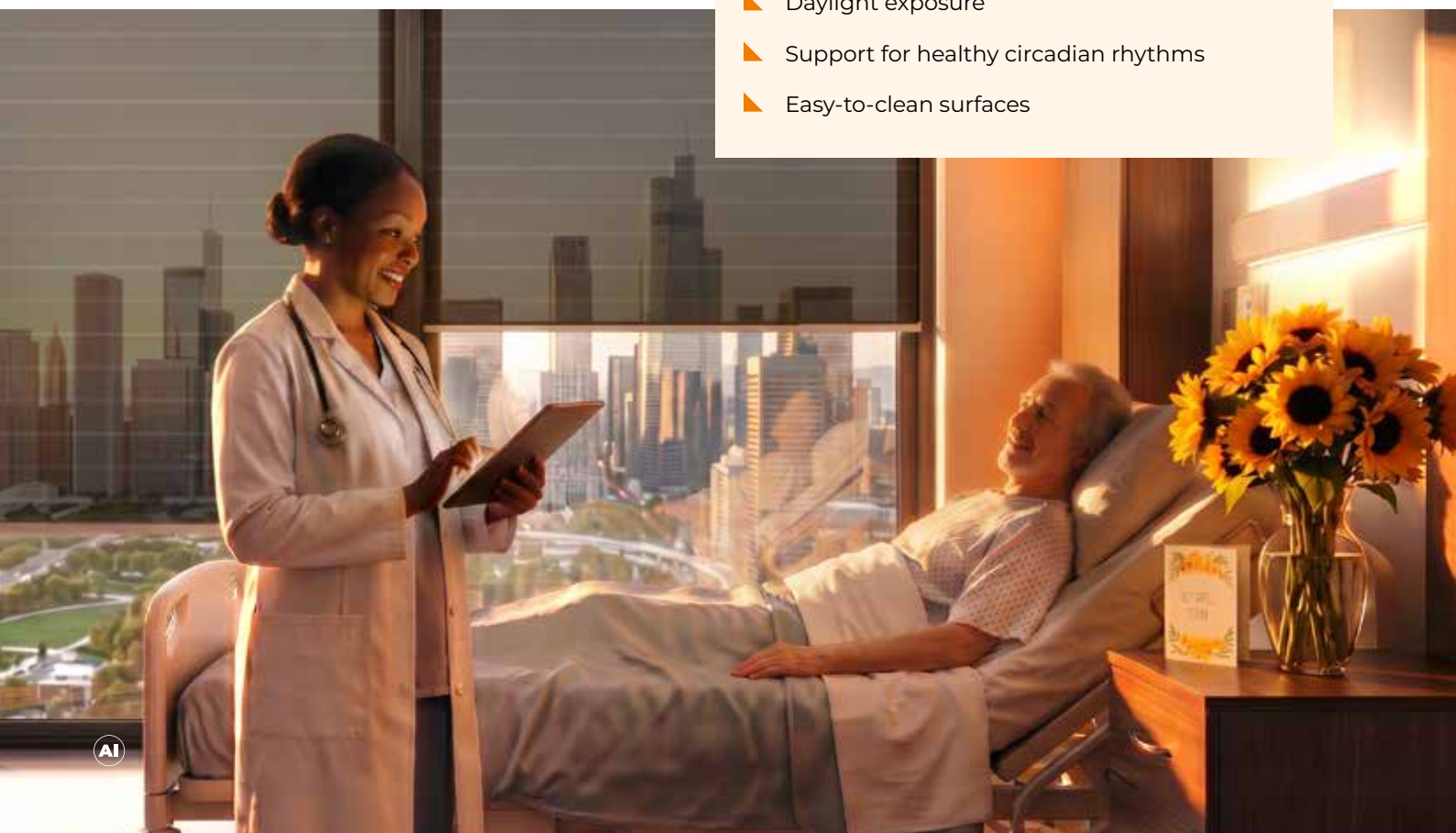
Heat gain, glare and sensitive indoor environments.

Solution

Solar control combined with access to natural daylight.

Impact

- ▶ Improved patient comfort
- ▶ Reduced solar heat gain
- ▶ Daylight exposure
- ▶ Support for healthy circadian rhythms
- ▶ Easy-to-clean surfaces



APPLICATIONS

ATCTs & VCRs



Clear vision. Maximum safety.

Some environments demand more than comfort.

They demand precision.

Air traffic control towers (ATCTs), visual control rooms and other mission-critical facilities require exceptional visibility under constantly changing daylight conditions.

RHODESHADE reduces glare while maintaining outstanding visual clarity and outward visibility.

Challenge

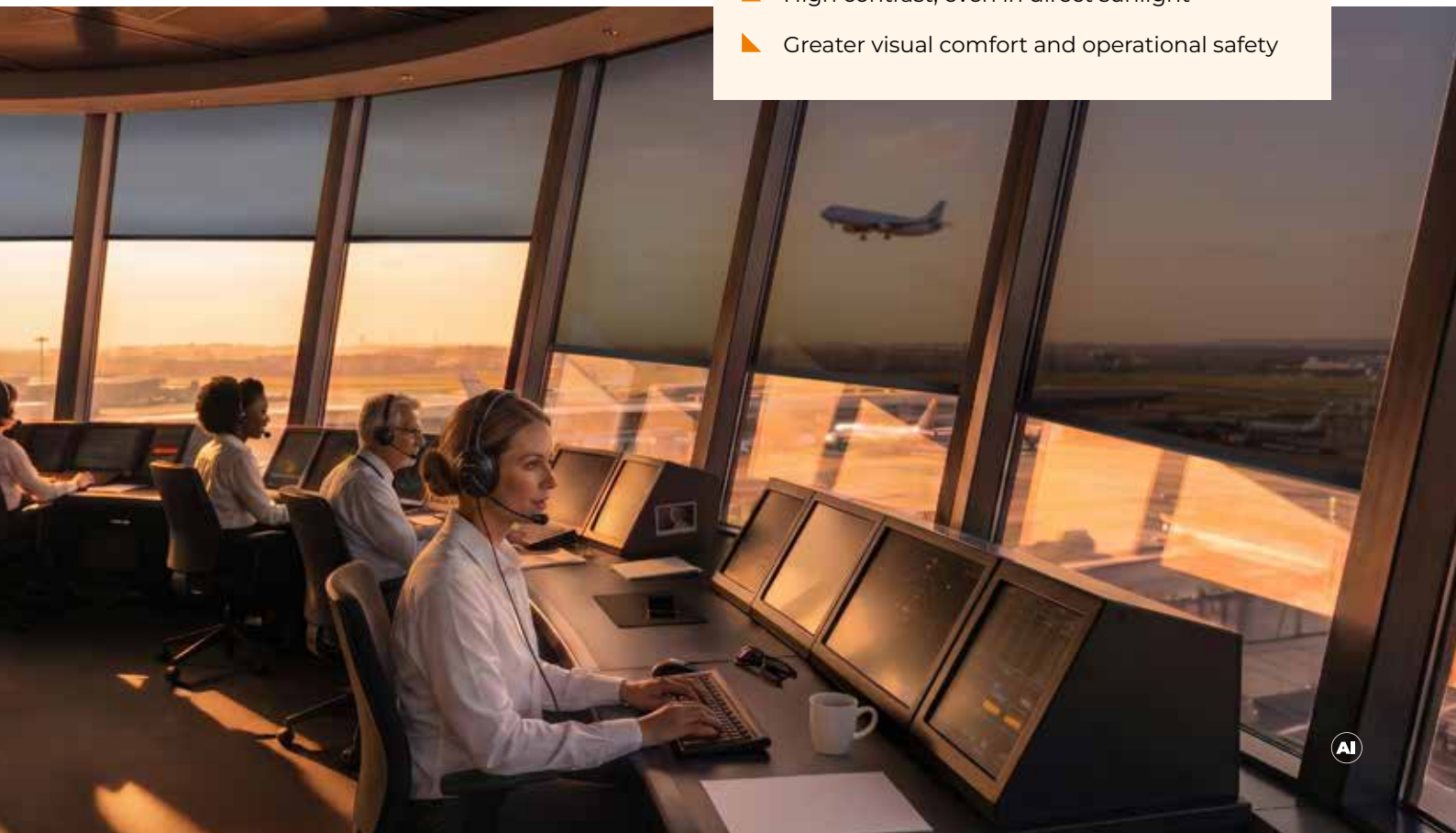
Extreme glare and demanding visibility requirements.

Solution

Maximum visibility with controlled daylight.

Impact

- ▶ Crystal-clear, distortion-free views
- ▶ Uninterrupted sightlines for ATC operations
- ▶ Reliable 360° visibility with reduced glare
- ▶ High contrast, even in direct sunlight
- ▶ Greater visual comfort and operational safety



RESIDENTIAL



Live comfortably. Save year-round.

Homes should feel bright, comfortable and protected in every season.

Excessive solar heat, glare, and UV exposure reduce comfort and affect interior finishes over time.

RHODESHADE creates more comfortable living spaces by managing solar energy while preserving daylight, clear views, and a pleasant indoor atmosphere.

Challenge

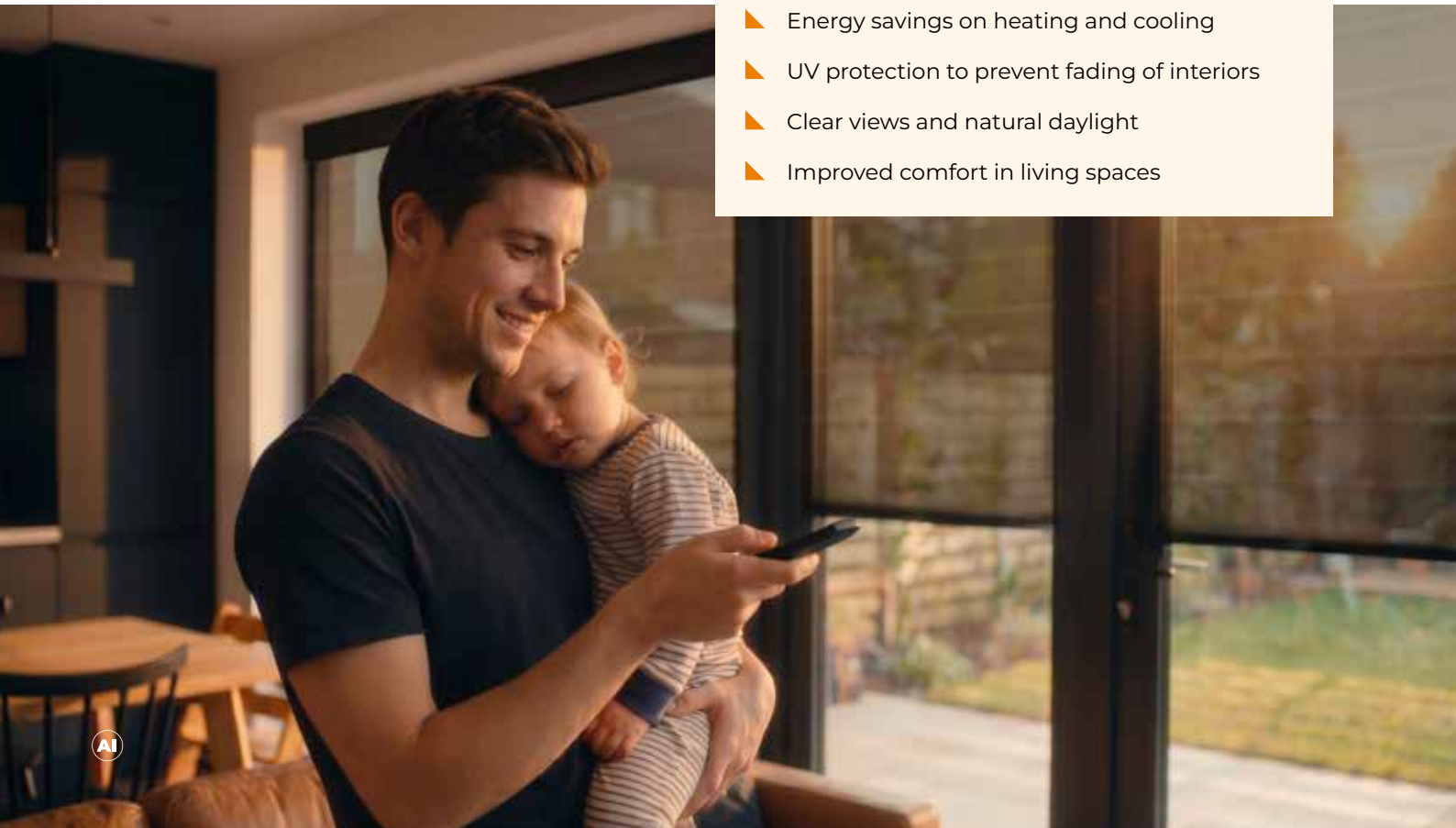
Solar heat gain, glare and UV exposure in living spaces.

Solution

Controlled light and solar energy management for homes and apartments.

Impact

- ▶ Reduced summer cooling demand and improved winter insulation
- ▶ Energy savings on heating and cooling
- ▶ UV protection to prevent fading of interiors
- ▶ Clear views and natural daylight
- ▶ Improved comfort in living spaces



SYSTEMS & INTEGRATION

SYSTEM SOLUTIONS



Flexible integration. From material to complete solution.

The core of **RHODESHADE** is its shade film technology. It can be integrated into different shading systems – as material for system manufacturers, as a retrofit solution for suitable existing roller shades, or as part of a complete **RHODESHADE** system solution.

Different sizes, manual and motorized operation options, and custom-made solutions provide flexibility for specific project requirements.

Flexible solutions

- ▶ Shade films for system manufacturers
- ▶ Retrofit solutions for existing roller shades
- ▶ Complete roller shade systems
- ▶ Manual and motorized operation
- ▶ Custom-made project solutions

From shade film
to complete solution.



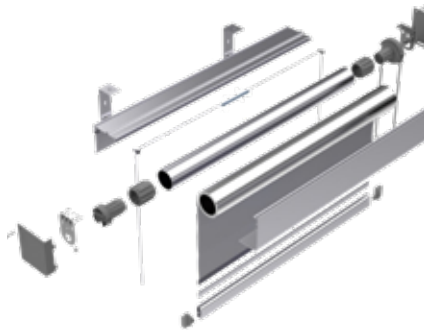
INTEGRATION OPTIONS



Designed to complement architecture.

RHODESHADE supports a wide range of systems engineered for architectural integration. Its slim shade film technology enables discreet integration into compact sun protection systems, skylights, window frames, and facade concepts.

Dimensions, system configuration, and installation details can be adapted to the architectural conditions and performance requirements of each project.



Roller shade systems

For vertical glazing and compact interior shading. Different sizes and configurations support individual window dimensions and installation conditions.



Skylight systems

For skylights, atriums and overhead glazing. Project-specific configurations provide effective solar and glare control under high solar loads.



Window & facade integration

For discreet integration into window frames and sashes, facade systems and architectural glazing concepts while maintaining a clean, low-profile appearance.



Operation & control

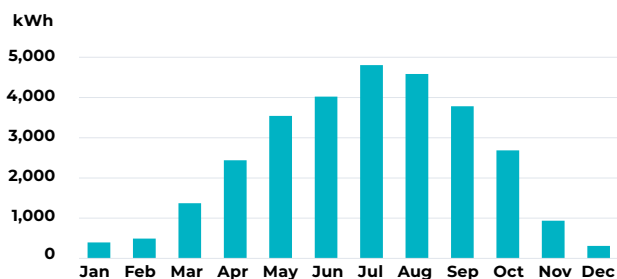
Depending on the selected system, manual operation, motorized control, and integration with wired, wireless, or building automation solutions are available.

PROOF

PROVEN PERFORMANCE

The charts below show the potential annual cooling energy savings calculated with **RHODESHADE** shade film across different locations and climate conditions.

Barcelona, Spain



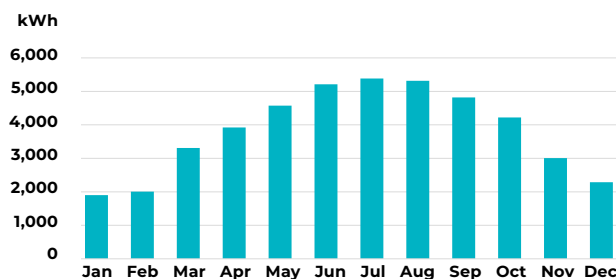
27%

Cooling energy savings per year

26 kWh/m²

8,212 Btu/ft²

Los Angeles, CA



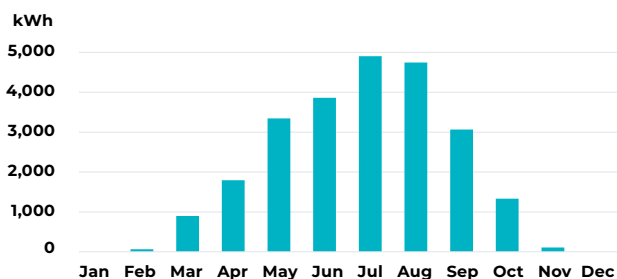
34%

Cooling energy savings per year

41 kWh/m²

12,848 Btu/ft²

Milan, Italy



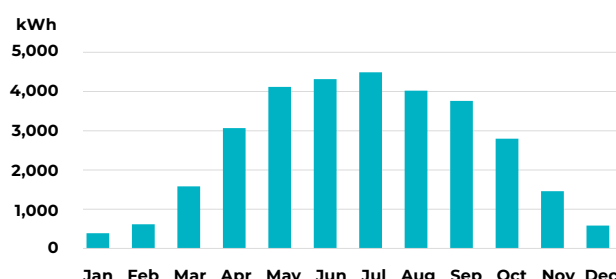
26%

Cooling energy savings per year

21 kWh/m²

6,743 Btu/ft²

Atlanta, GA



22%

Cooling energy savings per year

28 kWh/m²

8,720 Btu/ft²

Calculation / simulation using ESBO software (version 4.2.4)

Office floor size 1,134 m² / 12,206 ft²

Window area 350 m² / 3,767 ft²

Glazing SHGC: 0.40 | U-value: 1.41 W/m²K / 0.25 Btu/(h ft² °F)

Glazing orientation All directions

Solar shade RHODESHADE SiGr01

Shading control Reject heat (summer) + gain heat (winter)



The figures indicate the savings compared with a building without a solar shading system. Complete simulation assumptions, input, and boundary conditions are available from RHODETEC upon request.

SUSTAINABILITY

Sustainability through performance.

Smart solar control for sustainable buildings

By reducing solar heat gain and cooling demand, **RHODESHADE** supports energy-efficient building strategies and reduces operational energy use and associated carbon emissions. Thermal comfort, daylight quality, glare control, and outward views can also contribute to project goals within LEED, WELL, BREEAM, and DGNB.

Potential contributions to LEED v5

- ▶ Integrative Process (IP)
 - Early design synergies
- ▶ Energy & Atmosphere (EA)
 - Energy and emissions performance
 - Decarbonization strategies
 - Peak thermal load reduction
- ▶ Indoor Environmental Quality (EQ)
 - Daylight and quality views
 - Solar glare and color rendering
 - Occupant comfort and resilience
 - Indoor air quality objectives

Efficient. Comfortable. Certified.



PROOF

QUALITY & TRUST

Engineered by RHODETEC. Tested for performance.

RHODETEC develops and manufactures advanced high-performance materials for building performance and sensitive environments.

RHODESHADE performance is validated through recognized test methods and independent laboratory testing.

Independent, certified testing provides reliable performance data for product selection, system integration, and project-specific planning.

What defines RHODETEC



**Material
expertise**



**Independent
testing**



**Made in
Germany**

Standards & testing

- ▶ EN 14500 / EN 410
- ▶ ASTM E 903
- ▶ ISO 52022-3
- ▶ EN 14501
- ▶ EN 13501-1
- ▶ NFPA 701

Certified glare control

RHODETEC SiGr01 was tested and classified by Fraunhofer ISE:

"The tested product achieves the highest possible rating in the 'Glare control' category, being classified as Class 4 according to EN 14501:2021, meaning that its influence on controlling glare is very good. Its effect on an unobstructed view to the outside is moderate, being classified as Class 2 in the category 'Visual contact with the outside' of EN 14501:2021."

For measurements supporting this classification, see Fraunhofer ISE report TLSF-2503-015.

Engineering better building performance.



CONTACT

Let's improve building performance together.

Whether you are planning a new project, upgrading an existing building, or searching for a better approach to solar control, our team is ready to support you.

Our services

- ▶ Technical consultation
- ▶ Product samples
- ▶ Performance data
- ▶ Project & integration support
- ▶ Custom-made solutions



📍 **RHODETEC** GmbH
Annaberger Straße 73
09111 Chemnitz
Germany
☎ Phone: +49 371 270 96 720
✉ Email: info@rhodetec.de

rhodetec.de



Request samples & technical support

Scan the QR code or visit our website to learn more about **RHODESHADE**.





High-performance shade films for buildings that demand more.

By reflecting solar radiation before it is absorbed and converted into indoor heat, **RHODESHADE** supports more comfortable, energy-efficient, and sustainable buildings.

▲ **Made in Germany**

▲ **Tested independently**

▲ **Trusted worldwide**

