MicroShade®
Redefining Solar Shading
Newest technology based on simple principles

MicroShade® is intelligent solar shading technology that provides the simplest yet most effective form of heat reduction: natural shade. By significantly reducing the effect of the sun in creating excessive, unwanted heat in buildings, MicroShade® guarantees a temperate and pleasant indoor climate throughout the year, with minimal or no use of air conditioning.

A new generation of green technology

MicroShade® consists of 0.2 mm thick, transparent metal bands that are placed in the cavity between the glass panes of two- or three-layer energy windows. A large number of perforations in the metal form a patented micro lamella structure. The perforations are angled so that the sun’s radiation is shielded but visibility remains unrestricted. On a typical summer day when the sun is highest in the sky, energy from sunlight is reduced by up to 92%. In winter when the sun is low the micro lamella structure allows up to 35% of solar energy to come through the glass.

A sustainable contribution

MicroShade® is constructed from pure steel and an organic bonding material. All materials used are readily available and fully recyclable.
Unbeaten g-value: 0.1 with unrestricted view and 100% natural daylight

MicroShade® has set the standards for effective solar control for over 10 years and its efficacy is well documented. Unwanted solar energy is significantly reduced and natural daylight in the building is preserved. This means it is never necessary to block the view from building completely, which is often the case with comparable solar shading solutions.

MicroShade® provides an unrestricted view from inside the building all year round. The combination of clear views, natural light in the building and a g-value of less than 0.1 puts MicroShade® in a class of its own.

Passive and progressive

Because MicroShade® is fitted between the glass panes of the thermo glass unit, it is completely protected. The solution will live as long as the glass and there is no need for servicing or maintenance. The technology is 100% passive without any mechanical functionality. MicroShade® delivers optimum, stable performance that is independent of any change in user behaviour.

MicroShade® technology progressively adjusts to the shifting angles of the sun. Its solar shading effect is always optimised regardless of the time of day, the season, or even the geographical location of the building.
Powerful technology that pays for itself

MicroShade® is a simple, efficient and flexible solution that is perfect for all complex projects where glass is an element. MicroShade ® sets the benchmark for the relationship between solar shading and daylight transmission.

Know your ROI before starting your project

Because MicroShade® is static it is possible to accurately predict its effect. ROI, TCO and potential energy savings can be calculated for overall lifetime of the window before commencing on the project.

Savings can be documented through calculations and building simulations with software developed specifically for MicroShade ®. It is possible to carry out precise calculations of the effect both on existing and projected building from data about the building and its location – wherever it is placed in the world.

No maintenance costs

As MicroShade® is a passive technology fully encapsulated and with no moving parts, it delivers trouble-free functionality over the complete lifetime of the building. Absolutely no operating or maintenance costs occur. This factor is also significant in the project’s overall economy.

Providing a smaller CO2 footprint

By reducing the need for cooling, MicroShade® contributes significantly to improving a building’s energy balance and reducing CO2 emissions. The result is a more profitable, greener building.

Effective
Keeps unwanted heat out in the summer

Progressive
Lets energy through in the winter

Transparent
Allows natural daylight

Measurable
Creates a better indoor climate
• Best overall economy within solar shading products
• Improvement of the building’s operational expenditures from day one
• No maintenance, no service, no override
• Fast improvement of indoor climate
• Easy and seamless installation
• Predictable and documentable results
Facade renovation – for less energy consumption and a better indoor climate

Facade renovation

MicroShade® is ideal for energy renovation projects that aim to reduce the total energy profile of a building.

MicroShade® can be installed together with any choice of glass type in almost all types of two- or three-layer windows. Because MicroShade® is supplied pre-installed in the insulating glazing unit there is no costly or time-consuming additional installation process. Once the glass is fitted, so is MicroShade®.

Fewer hours in overheated offices

MicroShade® is a simple and effective way to achieve the desired energy rating and a better indoor climate. The graph below shows the effect of various solutions in an average Scandinavian office environment with a south-facing façade.

[Bar chart showing working hours over 26 °C per year for different solutions: Low energy glass, Solar control glass, Low energy glass with external solar shading, MicroShade®.]
A better indoor climate

MicroShade® is designed to work in harmony with the movement of the sun in the sky. In the summer when the sun is high, unwanted solar energy is kept out. In winter, at lower sun angles more energy is allowed into the building. MicroShade® is the only product of its kind to admit natural daylight into the building, while still retaining optimal shading preferences.

MicroShade® is both effective and environmentally friendly. There is a reduction of the energy used for cooling, ventilation and heating. Direct sunlight is blocked and indoor climate is significantly improved by the creation of a comfortable temperature and a soft light deep into the room. These improvements are reflected in the total economy of the building, employee satisfaction and overall productivity.
Wherever you can use glass you can use MicroShade®

Traditional solar shading technology has a number of technical challenges. It is vulnerable to wind and weather, maintenance is expensive and the desired results are not always achieved. This is partly because control or configuration of the systems allows for improper use. Other potential problems can be actual implementation and subsequent maintenance.

Many buildings are not suited for traditional solutions because they are too high, exposed to extreme weather conditions, have large glass areas or are designed with inaccessible glass roofs or skylights. None of these challenges affect MicroShade®, which delivers excellent stable results regardless of whether it is a new build or renovation of an existing building.
Freeing architectural creativity

The optimal solution for complex architecture

Contrary to traditional solar shading, MicroShade® does not require a particular shape of window and supports technical complexities that often characterize high-rise buildings, glass roof constructions or large glass facades. Architects can use glass in their designs in any way they want because MicroShade® will always deliver effective, maintenance-free climate control. Simple, flexible, effective.
MicroShade® works where traditional solar shading does not work or is too costly. Since the solution is maintenance-free, the difficulties associated with maintaining solar shading technology on high-rise buildings or in locations with permanent winds are avoided. In addition, the lightweight of the product reduces the challenges engineers and architects face in relation to building statics.

MicroShade® is also a possible replacement for the solar control glass often used in high-rise buildings. MicroShade® is documented to be 2.5 times more effective than the finest solar control glass on the market. This corresponds to a 60% saving on energy used for cooling, which is on top of all the other energy and economic benefits MicroShade® brings.
Off-the-shelf or custom design? You decide

MicroShade® can support the creative work of architects, who can now choose from a wide range of off-the-shelf solutions. They can also develop custom solutions in collaboration with the qualified MicroShade® development team. Dialogue with architects makes it possible to develop designs that fully meet the project’s architectural ambitions and helps to create a truly unique look for the building.
Redefining Solar Shading

A breakthrough in solar shading technology, MicroShade® is integrated in the glass elements of the façade or roof. With its provable effect, MicroShade® creates a significant reduction in energy consumption in buildings and a better working environment.

MicroShade® was developed in collaboration with leading institutes and universities. MicroShade® has an ongoing collaboration with the Technological Institute of Denmark, SP Swedish National Testing and Research Institute, IFT Rosenheim and the Fraunhofer Institute in Germany.