

BRING DAYLIGHT INTO BUILDINGS

It's free, it's sustainable,
it saves energy, it's responsible

CREATE
THE
DIFFERENCE



LIGHTING



**It's free, it's sustainable,
it saves energy, it's responsible**

Daylight

Natural daylight can have many positive effects, from health to a reduction in energy consumption. With daylight solutions, we can all benefit from these positive effects.

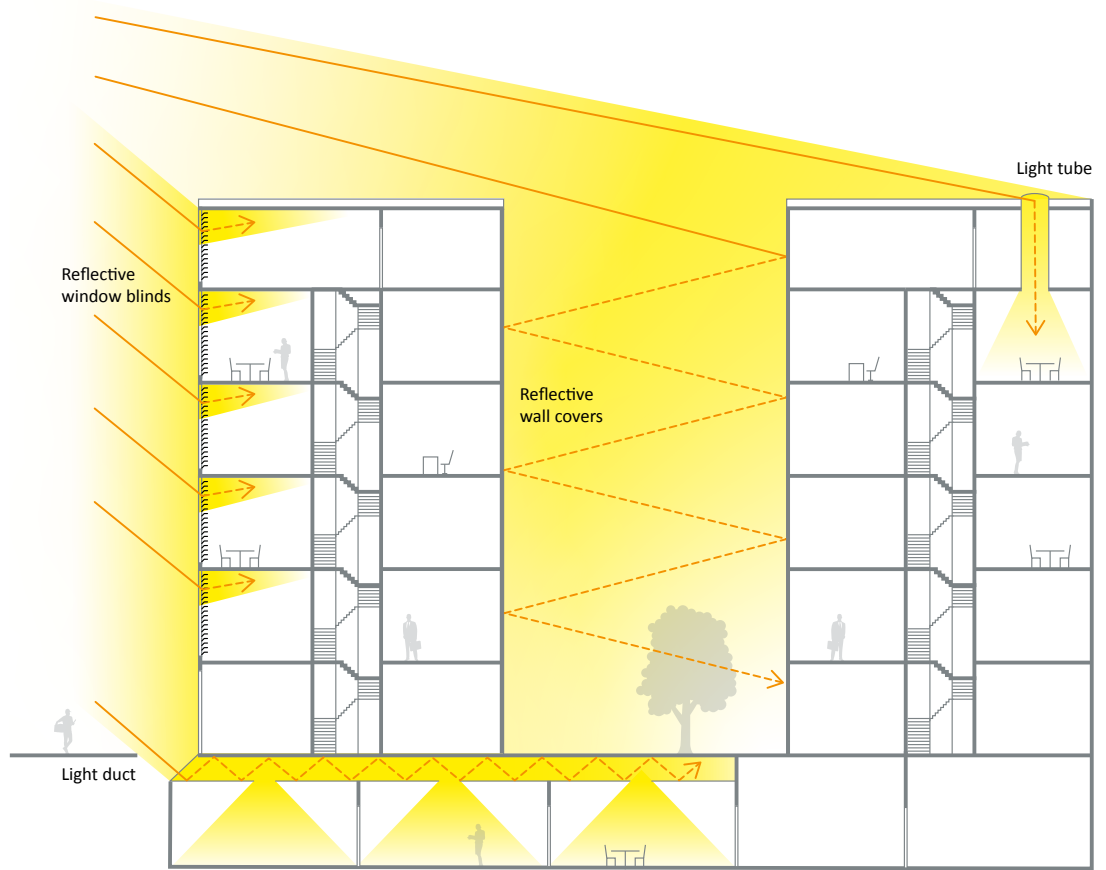
Alanod's highly reflective surfaces are the ideal instruments to carry daylight into buildings via:

- Light ducts
- Light tubes
- Reflective wall covers
- Reflective window blinds
- Skylights in factories and warehouses

To make the most of the free light source, Alanod has developed MIRO® and MIRO-SILVER® reflective surfaces. Reflection values of 95% and 98% achieve efficiency in bringing daylight to where it is needed.



Augsburg City Library;
Photo: Peter Bartenbach



There are several options to introduce natural daylight into buildings



Save energy through Daylight Systems

In times of higher energy costs, daylight can be one of the most powerful elements to improve your building's energy efficiency.

Sunlight comes for free and it can replace the demand for artificial light by up to 60%. Studies show that using simple daylight solutions can reduce your electricity bill by up to 20 kWh/m² annually.



Positive effects on health and work

As daylight helps create the hormone melatonin in the human body, one of the many benefits are a more balanced sleep/wake rhythm to an enhanced immune system. In medical studies, daylight exposure has been associated with a reduction in symptoms of seasonal affective disorders (SAD) and other depressive conditions.¹⁾

Moreover, a sunny workplace is a happier workplace. In schools and office environments, daylight has been found to improve concentration and productivity.²⁾

1) Golden, R. N., Gaynes, B. N., Ekstrom, R. D., Hamer, R. M., Jacobsen, F. M., Suppes, T., ... & Nemeroff, C. B. (2005). The efficacy of light therapy in the treatment of mood disorders: a review and meta-analysis of the evidence. *American Journal of Psychiatry*, 162(4), 656-662.

2) Heschong Mahone Group. (1999). *Daylighting in schools: An investigation into the relationship between daylighting and human performance*. Pacific Gas and Electric Company.

Use sunlight for powerful architecture

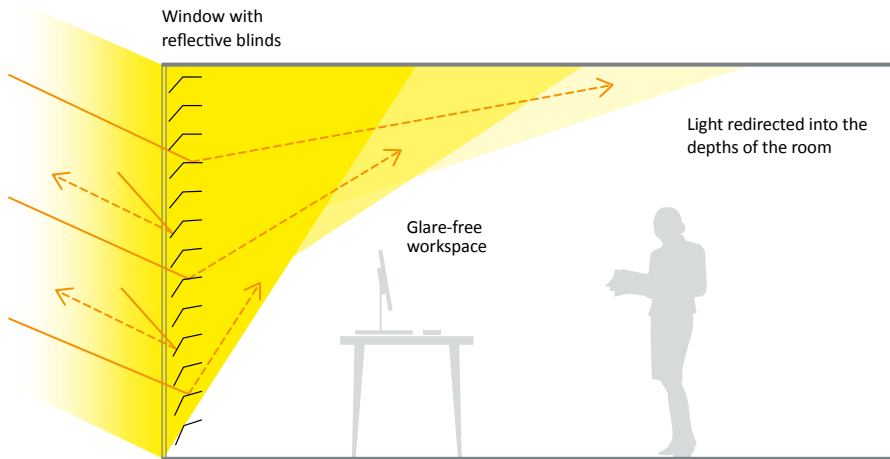
Logic has it that every building has a northerly-facing side, without the benefit of direct sunlight. With atriums and reflective walls, daylight can be brought into north facing rooms.

Window blinds, on the other hand, are usually needed to inhibit glare. However, with the right profiles using reflective surfaces, it can direct parts of the daylight into rooms while keeping out glare and reducing heat ingress.

With solutions like these, modern architecture becomes much more energy-friendly, using the sun for the benefits of all.



Fulton Center, New York City



The upper section of the blinds directs the light into the depth of the room.
The lower section enables glare-free light redirection to the ceiling.

Reflective blinds help you guide the light

Reflective blinds have been developed specifically to guide daylight into rooms without glare. The combination of a reflective surface, specific blind profiles optimise the result.



Reflective blinds
Photo: Köster Lichtplanung, Integral design
for daylight and artificial light



Stafa Tower Wien, Photo: Bruno Klomfer

Reflective wall coverings chase away the shadows

Large office buildings, educational or healthcare buildings can provide access to natural light via skylights or atria. With reflective wall coverings, you can boost the reflected sunlight and increase the effect, even on gloomy days.

Let daylight flow inside

Rooms without access to an outside wall lack natural light. With light tubes and light ducts, daylight can be brought into the most dark rooms, and even underground spaces and car parks. Even during renovations, retrofitting such systems can be readily achieved.

Light tubes – a spotlight from the sun

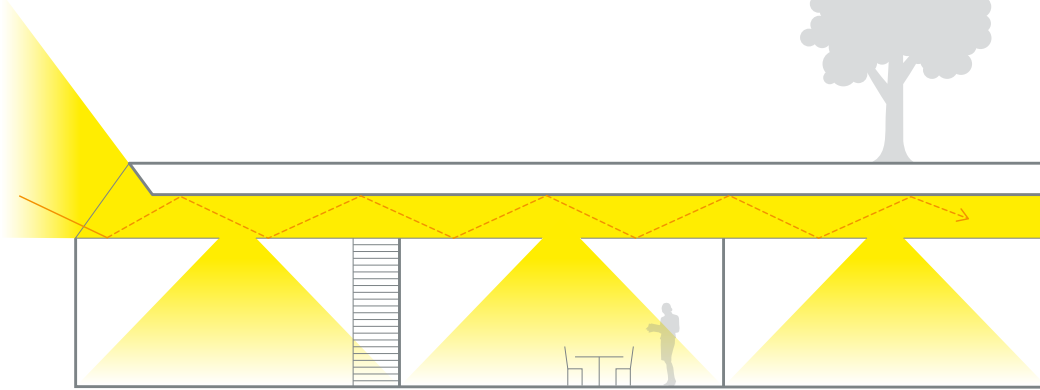
The idea of a light tube is centuries old. A reflective tube to the outside carries the daylight into interior rooms and corridors. With today's highly reflective materials, this works like magic. Even on cloudy days, light tubes add a source of daylight in rooms that otherwise don't have access to daylight.

Skylights at Klinikum
Garmisch-Partenkirchen;
Photo: Peter Bartenbach



Light ducts reach deep inside the dark

Light ducts reflect daylight around corners like a periscope. As they use highly reflective interior walls, their channels can transport natural light over large distances without losing light power. With this technology, you can bring natural light into basements of underground stations and car parks.



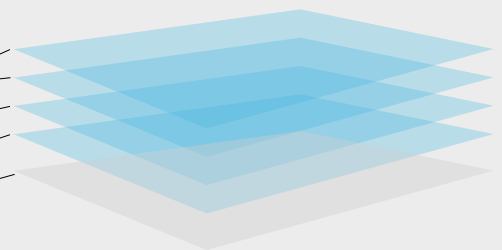
OTA Techno CORE, near the Haneda Airport, Japan

The materials of choice

To carry as much of the daylight into your building as possible, reflection is key. MIRO® was developed to achieve 95% total light reflection, MIRO-SILVER® even achieves 98% total light reflection. They help reducing the amount of energy needed for lighting and air-conditioning in buildings.

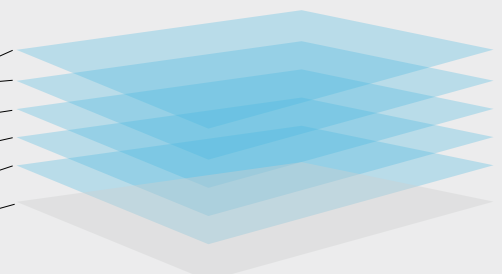
MIRO®

- Reflection enhancing oxide layer system
- Purest aluminium 99.99%
- Anodised layer
- Base material



MIRO-SILVER®

- Reflection enhancing oxide layer system
- Purest silver
- Bonding layer
- Anodised layer
- Base material



Care for the Environment

Conserving natural resources has been part of our corporate philosophy ever since our company was founded in 1975. Today, Alanod is a climate-neutral, sustainably run company. Due to the excellent recycling properties of aluminium, our materials use up to 90% recycled aluminium. This consumes up to 95% less energy compared to primary aluminium production.

Our cutting-edge post-combustion technology enables production of all of our materials without the need for excessive energy input. All our electricity needs are met using “100% green” energy sources.



Made in Germany

Our high-tech materials are all manufactured at our sites in Germany.

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