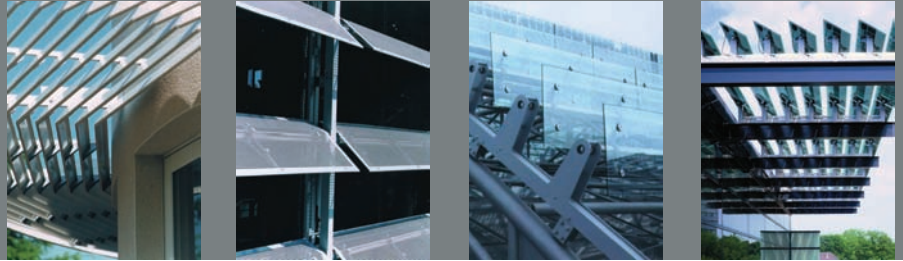




The sun as your partner
Sun protection solar control





- Sun protection solar control
- Good quality of daylight quality
- Solar power generation
- Passive gain from solar energy
- Architectural appeal

INTRODUCTION

Architects naturally like to create buildings that evoke interest and admiration. Owners like to demonstrate that they are making use of natural resources. The problems of the need to provide extensive cooling in summer and insulation in winter inevitably arise with the use of large glazed façades.

Controllable solar shading systems that enable the building to "react" to the changes in the weather and to the sun's position so as to optimise the flows of heat and light energy through the façade can provide a neat solution. This in turn may have a positive effect on reducing the heat load and glare, and enhancing the use of natural daylight, thereby reducing the operating costs of the building.



Colt solar shading devices: high quality, functional yet also aesthetic

SOLAR C

Colt SOLAR C can provide diffused illumination, reduce glare and guard against an excessive accumulation of heat. It consists of extruded aluminium louvres set in a supporting framework and installed either horizontally, vertically or at an inclined angle. It is ideally suited for façades facing between South-East and South-West.



SOLARFIN

Colt SOLARFIN is the best solar shading solution for façades, windows or roofs facing from East through South to West. It consists of extruded elliptical louvres set in a supporting framework and installed either horizontally, vertically or at an inclined angle with a wide variety of pitches and louvre designs. It is available either as a fixed or a movable unit. In order to optimise its performance, it is connected to a control system that is configured to make the louvres automatically track the sun or follow daylight optimising routines.



SHADOMETAL

Colt SHADOMETAL is a solar shading system that consists of either curved or straight metal louvre blades. The amount of light transmission and energy may be accurately defined by perforating the louvre blades to pre-specified hole patterns. It is available either as a fixed or a movable unit. The movable unit can be driven by an automatic controller, such as Colt CCS 2000.



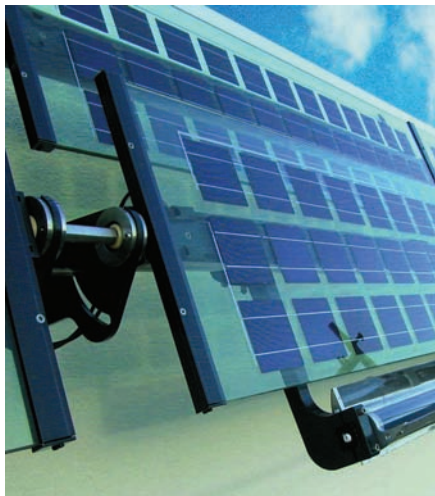
SHADOGLOSS

High daylight quality combined with ideal sun protection - this is what Colt SHADOGLOSS will provide. It consists of glass louvres that may be driven to automatically track the position of the sun. The selected absorptive and reflective qualities of the louvre material determine the internal conditions. A foil with an appropriate printed pattern is either laid on top of or laminated into the louvre, or the glass is etched. This enables the designer to precisely regulate the amount of solar radiation into the building. SHADOGLOSS also provides many opportunities for high architectural impact.



SHADOVOLTAIC

Colt SHADOVOLTAIC replaces the glass louvres found in SHADOGLOSS with photovoltaic ones. With SHADOVOLTAIC we can make the best use of the natural power of the sun's energy. The sun's energy, surely the cleanest form of energy - is directly transformed into electrical power. SHADOVOLTAIC generally incorporates an automatic sun-tracking routine that provides an additional energy yield. The aesthetic effect of the photovoltaic louvres can be individually designed in accordance with the customer's requirements, since cells can be translucent or even transparent.



SHADOTEX

Louvres of all shapes and sizes may also be covered with teflon-coated woven fibreglass, Colt SHADOTEX. This provides the designer with further exciting possibilities to create impressive façades covered with attractive solar shades. SHADOTEX has a lightweight construction which not only significantly reduces its weight but also permits a fine adjustment of the louvres for the precise control of energy and light transmission. These features make SHADOTEX versatile and flexible. SHADOTEX has been installed for the first time on the HQ Building of the Baader Securities Bank in Munich (architects Baader & Schmid).



Control and regulating systems for sun-tracking louvres

THA - Thermo-hydraulic self-powered sun tracking system

Solar shading louvres may also be moved to position by the revolutionary thermohydraulic drive system developed by Colt and ZSW.

Thermohydraulic drive systems require no external power or control system algorithms to drive louvres but make use of the sun's energy. Two absorber tubes detect the position of the sun and move a cylinder that drives the louvres to the optimum position to the sun. Such drives are ideally suited to louvres that are designed for PV power generation.



SOLTRONIC

SOLTRONIC is the new intelligent solar shading control system from Colt. It is an affordable device for small- and medium-sized applications. The brain of the system consists principally of a weather station and a microprocessor control module.

This module calculates the instantaneous position of the sun and adjusts the louvres accordingly. SOLTRONIC incorporates many of the key features of its big brother, CCS 2000.



CCS 2000 SOLAR CONTROL

The Colt CCS 2000 system provides accurate solar control and is ideally suited to medium and large sized projects. The position of the sun is continuously calculated by its microprocessor.

The room temperature and the quality of light are determined by the different operating modes.

These include:

- Standard louvre tracking, where the louvres are moved perpendicular to the sun's rays.
- Optimised tracking for absorption louvres.
- Tracking correction to avoid shading of the Shadovoltaic cells.
- Diffused adjustment for maximum daylight entry.
- Light reflection so as to throw light deep into the internal space.

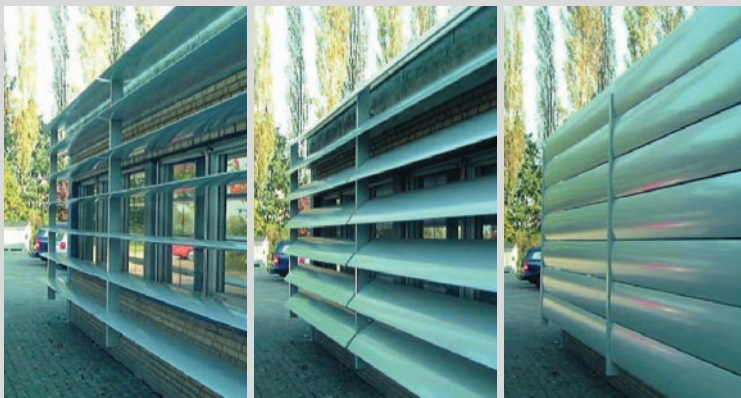
The CCS 2000 control system has many additional features such as parallel control, day/night and weekend programme routines, storm shut-down and cleaning positioning.

The standard version has a modem interface for remote control and the optimising of parameters is easily done.



PIA - A NEW DRIVING TECHNIQUE

Usually, actuators of solar shading devices are clearly visible from the exterior of the building purely for technical reasons. However Colt's new PIA actuation system integrates the actuators within the mullions and obscures them from view. Additionally the louvres can now rotate round 360° to any desired position, which allow greater flexibility in their application, for instance for reflecting light into the building or for cleaning. In addition, the louvres are fixed to their individual pivot points which means that the likelihood of structural failure is reduced, since windloads are not transferred to the drive mechanisms.



MAINTENANCE

Systems require little maintenance. For ventilators, periodic removal of debris from the drainage channels to maintain weather performance is required.

All components of any system should be serviced at least once a year and tested weekly, as recommended by BS 7346 and other relevant standards.

COLT SERVICE

Part of the Colt Group of companies, Colt Service offers a comprehensive range of maintenance packages incorporating the maintenance and repair of all building services equipment including non Colt products.

Colt Service provide a 24 hour, 365 day emergency cover as standard.



Architectural Solutions

Climate Control

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