

IntelaSun® - Controlled Daylighting

The SolaBlade® Technology



SolaBlade - The Heart of the System

Intelligent SolaBlades within the glazing panels gauge the sun's position in the sky, and then dynamically manage the desired sunlight, solar heat, and sun-shading inside the space.



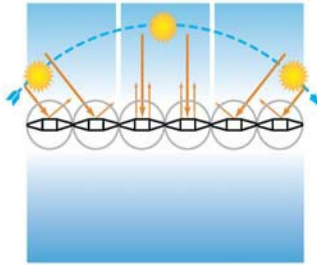
SolaBlades® consist of banks of unique light controlling blades mounted onto a single controlling shaft.

The angle of the SolaBlade is adjusted by the rotation of the controlling shaft to maintain the desired daylight, shading and comfort level—any time of day, any time of year.

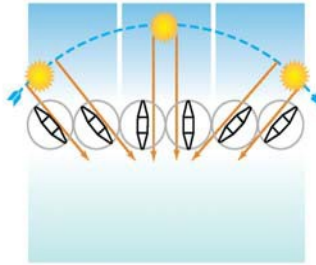
The ingenious design of the SolaBlade® system requires only small rotational steps to control a wide range of light and shading levels.

Various designs for the SolaBlades® are available to achieve the desired solar control, ranging from half-cylinder translucent polycarbonate with co-extruded opaque face to special reflectors and specular blades.

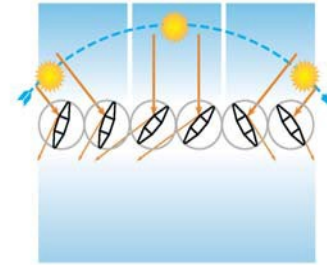
SolaBlade® Sun Tracking Options



Minimum light transmission and solar heat gain



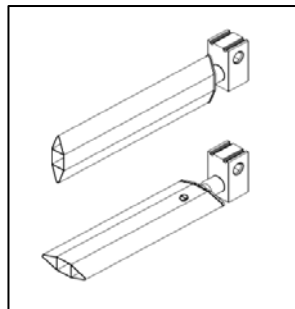
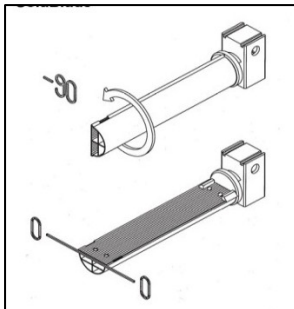
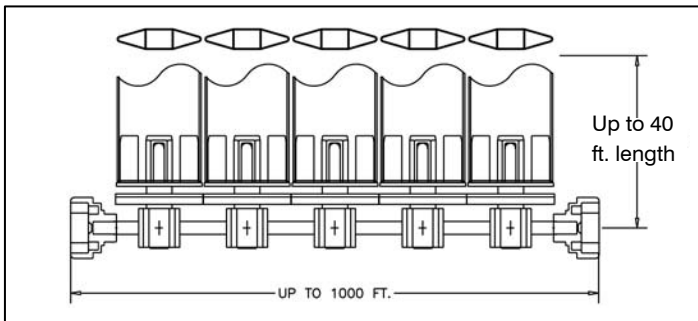
Maximum light transmission regardless of the sun's angle



Angled to diffuse light transmission to suit user preference

The SolaBlades can be set to deliver direct or diffused sunlight. By angling the sunlight that penetrates the space, the SolaBlades make use of the physical fact that light hitting at an angle delivers less energy per square foot than direct sunlight. A sun-tracking sensor also allows alignment of the SolaBlades to an optimal position in relation to the sun's position in the sky, to harvest daylight that would otherwise be lost due to the low incident angle of the sun early and late in the day.

SolaBlade – The Technical

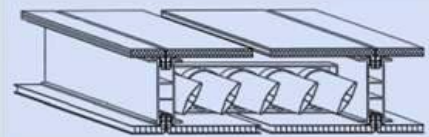


- SolaBlades rotate 360 degrees
- SolaBlades can extend up to up to 40' long in banks of up to 1000 ft., eliminating interrupting horizontal purlins and extra mechanical complications and wiring connections
- Free floating SolaBlade allows for uninterrupted expansion, contraction and movement as needed
- No constraints associated with mechanical synchronizations, alignments, out of square issues, sensors, cables, actuators, etc.
- The controlling shaft provides a single point of control for automated or manual control of a large glazed area, allowing uniform diffused light or shade into the space
- No special maintenance required

Glazing System – Design Option

IntelaSun Glazing Systems

SolaBlades® can be mounted into various glazing materials and panels creating an advanced dynamic daylighting system that intelligently adjusts shading and sunlight transmission.



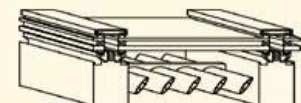
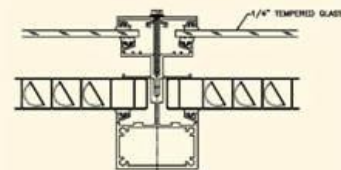
SolaQuad™

The SolaBlades® are built in between a 4" panelized Quadwall polycarbonate glazing system.



Controlite®

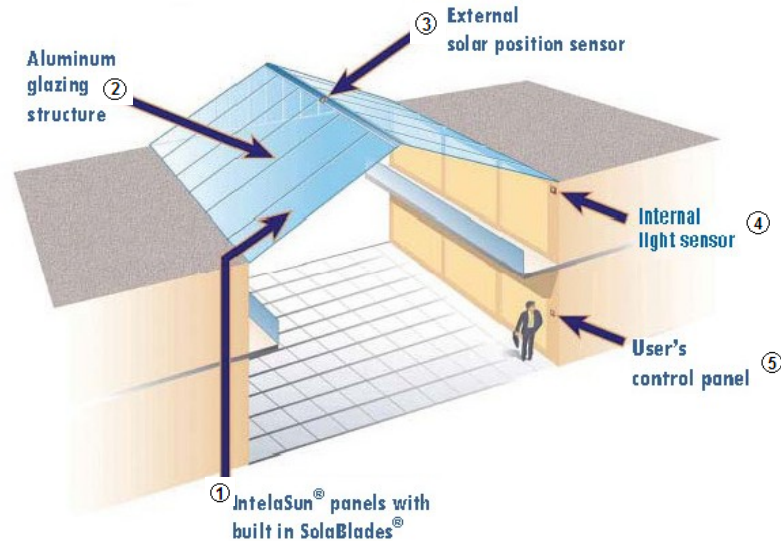
The SolaBlades® are built in to 30mm translucent polycarbonate glazing panels.



IntelaGlas™

The SolaBlades® are built in below a glass skylight system.

IntelaSun - Overview of Controlled Daylighting System



The IntelaSun Control Features

Wall Controller

- The user-friendly Wall Controller is the interface between the user and the dynamic controlled daylighting system, allowing for easy operation
- Automatic or Manual control built-in options
- Quick Dim button will darken the room in 45 seconds or less
- Single Zone or multi-zone controls via single wall controller
- Lock-keys
- Can be integrated with building controls
- Can be controlled by 0-10Vdc input
- PC diagnostics – local or remote over the internet



Occupancy Sensor Option

- IntelaSun - Controlled Daylighting system senses whether people are in the space below
- If the IntelaSun system senses that the space is not occupied, it will then minimize sunlight penetration into the space-reducing solar heat load and providing significant savings on cooling costs of unoccupied spaces
- IntelaSun will resume automatic sun-tracking control to deliver daylighting when the space is occupied

For a complete technical data sheet [click here](#).

Reliability of SolaBlade Technology

- Ingenuity in simplicity
- No extraordinary maintenance required
- Requires only small rotational steps to control a wide range of light and shade
- Typical movement is only 3-8 minutes per day, or 350-950 hours over 20 years
- Modular design allows easy access
- Very low voltage (28vdc) design
- State-of-the art SolaBlade technology eliminates possible malfunctions associated with traditional shading systems that rely on mechanical synchronization, alignments, cables and actuators
- Successful cyclic testing of the system completed—exceeds a 30 year life cycle
- Intelligent Daylighting systems can always convert to perform as a traditional fixed skylight
- Backed by manufacturer warranty that meets or exceeds current passive daylighting warranties

SolaBlade Systems vs. Alternative Systems - A Quick Summary:

	SolaBlade Systems	Alternative Systems
Comfort – Light Adjustment Levels	Gradual adjustments with uniform daylight and shade distribution across the space	Predetermined fixed light levels – typical add-on shadings cannot provide gradual and uniform shading across the space
Tinting & Shading Colors	SolaBlades have a white opaque face – provides neutral ceiling reflection into the interior space	Systems that rely on dark tints for managing daylight transmission may create a dark ceiling reflection that produces an unpleasant, depressing environment
Glare Control	Incorporates a matte glazing surface under the solar blades to eliminate glare and maximize pleasant diffusion	No effective glare control, specifically for the unshaded areas
Dynamic Control	Dynamic continuous daylight adjustment for a range of 2% to 70% based on the sun position in the sky	Control is limited to open/closed, or in predetermined measures. No correlation to the sun’s position in the sky
Reliability	SolaBlade technology eliminates possible malfunctions associated with traditional shading systems	Systems that rely on mechanical synchronization, cables, alignments and actuators are prone to malfunctions