Daylight and Dynamic Solar Shadings

Introduction

The Solution

Good Examples

Why not... Static or Manual?

Showing the way
Daylight and Dynamic Solar Shadings
Introduction

for visual comfort

1:3:10

North versus South...
Cortisol level
Melatonin level
for visual comfort
North versus South...
So where do we go?
Why not...

Static or Manual?

But what about all the ones we already have?

New buildings are easy

Had to add interior shades

Low sun in March...

Extremely costly Ceramic slat construction...

No matter the weather...

Stays the same >90% of the time

This is where we need to find the missing 11% to the 20-20 target!
The weather changes all the time... often within the same day.
No matter the weather...

Stays the same
>90% of the time
Had to add Interior shades

Low sun in March...

Extremely costly Ceramic slat construction...
New buildings are easy
But what about all the ones we already have?

where we need to find the
11% to the 20-20 target!
This is where we need to find the missing 11% to the 20-20 target!
Showing the way...
solar gain is calculated by its “G value”, which measures the fraction of radiation allowed in. The average double-glazed office has a G value of about 0.34. The Shard’s is lower, at 0.12, meaning it lets in less radiation and so needs less airconditioning. Triple-glazed windows are about 50% more expensive than normal ones.

Jack Carter at Renzo Piano Building Workshop said: “The key thing is the intelligent system [that operates the blinds]. If the building didn’t have that active element, it wouldn’t work.”
- Dynamic daylight factor
  - 2% of outside at all times
  - g-value of 0.15
  - can not be achieved by glass alone
  - 45 to 315 degrees

The only way to manage this is
- less coated glass + dynamic Solar shading
Good Examples

Before: Manual

After: Automated

Dynamic + local control
Dynamic + local control
Before: Manual

After: Automated
Conflict of interests

Thermal comfort

Daylight

Visual comfort

View outside
One of Swedens most energy efficient offices today!
No need for artificial light in neither situations!

Glass only

Mid Grey Interior Screen
No need - Extra daylight

Adjusted
Combining dynamic solutions for
• Solar shading
• Light
• Ventilation (cooling)
is the Key to success!
Holistic approach
Combining dynamic solutions for
• Solar shading
• Light
• Ventilation (cooling)
is the Key to success!
Welcome to add me on LinkedIn!

Anders Hall
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Current: European Solar Shading Organisation, Guest Speaker, Somfy Nordic AB
Previous: Galaxsystem AB, Hunter Douglas, Hall Collection AB
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Anders Hall is now connected to Markus Selin, Business Development na EQUA simulation AB
2 hours ago