MODELING -SERVICES-

153320

SageGlass offers a variety of simulation and modeling services that can provide customers critical insights on their projects and how electrochromic glass can improve performance. We do this through the use of leading software programs like Divafor-Rhino, Grasshopper and Radiance. We also have proprietary capabilities that integrate electrochromic glass into these tools. Finally, we are one of the few companies in the world that can use UC Berkley's Advanced Thermal Comfort model to simulate the thermal comfort impact of electrochromic glass.

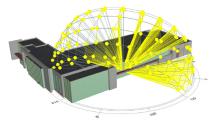
GLARE

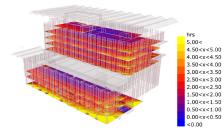
SageGlass[®]

We can provide different levels of glare simulation for customers' projects based on specific needs. These simulations can show locations and severity of glare risk that simple orientation-based assessments often miss.

SINGLE LOCATION: Glare risk can be quickly assessed for single viewpoints within a building by evaluating a sun path diagram.

COMPREHENSIVE: A color coded heat map can show both where glare will be present in a building and for how many hours of a typical day, whether looking at a single month or averaged over an entire year





"Daylight and Glare modeling was helpful for us to determine if SageGlass was the right fit for our project."

Jason Olive RA, LEED® AP ADM Group



sageglass.com / info@sageglass.com / 877.724.3321



DAYLIGHT

We simulate how the dynamic properties of electrochromic glass can help balance daylight in a space. This helps designers understand the impact of daylight on their buildings, and occupants, and can help support daylight credits through LEED.

Light levels are depicted for a single room at single point in time with SageGlass at different tint states, showing how its dynamic VLT range can balance light levels based on need.

ENERGY

We can model the energy impact of electrochromic vs. traditional static glass solutions to create estimates of the energy savings SageGlass can deliver. In addition, we can support more detailed energy modeling by creating projected tint schedules which can be used as inputs to load calculation programs such as Trane TRACE and Carrier HAP.

The SHGC of electrochromic glass is dynamic, so by simulating tint patterns for a calendar year we can derive building-specific SHGC figures that can help with accurate load estimation

THERMAL COMFORT

Thermal comfort is typically hard to quantify, but UC Berkley's modeling tool allows us to do exactly that. We can use this simulation program to evaluate the thermal comfort impact of electrochromic glazing vs. traditional glazing solutions. This modeling allows us to visualize, for specific projects, how electrochromic glass can improve occupant comfort in a quantifiable way.

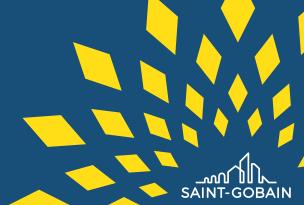
Thermal comfort can be quantified and visualized, with green indicating comfort and yellow, orange and finally red indicating escalating levels of discomfort for building occupants

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 0.41	SageGlass Tint Schedule													
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		0.10	0.10	0.10	0.15	0.15	0.15	0.15	0.15	0.10	0.10	0.10	0.10	

	Multi -Zon	e EC Glazing	Low E Glazing+Overhang			
Date &Time	Comfort& Sensation	Solar Load & Skin Temperature	Solar Load & Skin Temperature	Comfort& Sensation		
Dec. 21'st 8 am.	Comfortable 0.70 Slightly warm 0.24	[]	1	Slightly comfortable 0.09 Slightly Warm 0.36		
Dec. 21'st 9 am.	Comfortable 1.08 Neutral 0.17	F	7 🗖	Uncomfortable -1.93 Hot 2.56		
Dec. 21'st 10 am.	Comfortable 1.10 Neutral 0.15	_	1	Uncomfortable -1.89 Hot 2.52		
Dec. 21/st	Comfortable		4	Uncomfortable		



SageGlass will make its Technical Solutions experts available to help you determine if any of these services are right for your project. Your <u>local SageGlass sales representative</u> will be happy to help you set up this consultation.



Sol 2108 2007 2021 2031 2030 290 1000 2077 2000 2014 2000 290 1000 2077 2000 2017 2020 2010 2010

Static Glass

Avg. Illuminance: 3,200 Lux

VI T. 60%

SageGlass

Avg. Illuminance: 430 Lux

VI T· 1%

11

620

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