



ADVANCED SMART GLASS TINTS AND CLEARS ON DEMAND

Viracon PLUS Smart Glass powered by Halio is a remarkable leap forward in architectural glass technology, enabling glass to tint automatically or on demand with significantly improved aesthetics and transition speeds compared to legacy tinting glass technologies in the market. By responding to the changing external environment, this façade glass maximizes the amount of natural light transmitted into a building while keeping out excessive heat and glare.

VIRACON PLUS
AND **HALIO**
A PARTNERSHIP IN INNOVATION



VIRACON[®]
GLASS IS EVERYTHING[®]

GREAT BUILDINGS DESERVE GREAT GLASS™

VIRACON PLUS

Viracon PLUS is a strategic partnership program designed to fuel innovative, next generation architectural glass technologies and bring those technologies to market. Viracon is partnering with innovative technology companies to introduce game-changing new products that will shatter the status quo of high performing architectural glass. With its industry-leading glass fabrication expertise, trusted supply chain integrity, and an unrivaled industry network, Viracon provides the platform to deliver state-of-the-art glass technology at scale.

VIRACON PLUS SMART GLASS

"With Halio as our partner, Viracon is redefining tinting glass technology. This marks a pivotal point for insulating smart glass in the industry, taking it mainstream for the first time."

Garret Henson, Viracon's Vice President of Sales and Marketing.

VIRACON PLUS SMART GLASS ADVANTAGE

Best aesthetics from clear through full tint.

Tints through a full spectrum of neutral gray options to block solar heat and glare. No more of the blues or yellows featured in other legacy smart glass products.

Fastest-tinting electrochromic glass.

Full tint change in less than 3 Minutes; 10 times faster than other legacy smart glass options.

Most uniform tinting through transition.

No more splotchy, honeycomb, halo or wavy effects.

Windows in-sync with technology.

Tinting can be fully automated or manually controlled with a mobile app, desktop app, wall-mounted tint selectors, and voice assistants.

Better for you, better for occupants, better for the environment.

With Viracon PLUS Smart Glass buildings are more energy efficient and healthier for occupants and the environment.

PRODUCT SPECIFICATION OUTBOARD LITE

Glass Unit

Size: MAX: 58-3/4" x 119-1/2"
MIN: 24" x 24"

Unit Thickness: 1-3/16" or 1-3/8" or 1-9/16"

Sight Lines: Conventional: 7/8"
Structural: 1-1/4"

Rectangles Only



LAMINATED ELECTROCHROMIC DEVICE

Outboard (EC Laminate)

Lami Thickness: 1/2", 5/8" or 3/4"

Substrate: 2 Plies Optiwhite™ 3/16", 1/4" or 5/16"

Interlayer: 0.060" PVB Clear Only

Heat treatment: Heat Strengthened, Fully Tempered (Heat Soak Option)

Optional Coating: VLO-66 (Vibrant Gray) surface #2



SPACER AND FILL

Spacer: 1/2" Black Stainless Steel

Fill: Argon

INBOARD LITE

Inboard

Substrate: 2 Plies Optiwhite™ 3/16", 1/4" or 5/16"

Coating: VZE-SC (Double Silver Low-E) surface #5

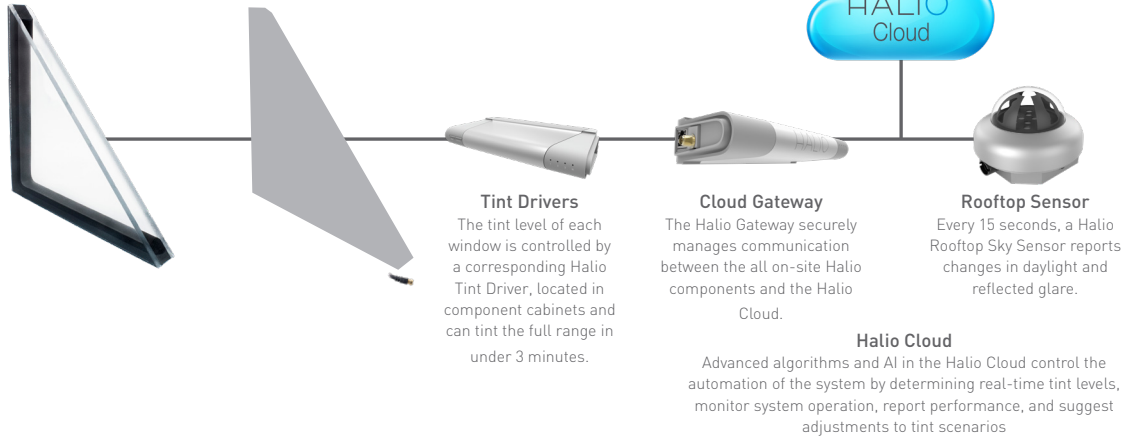
Spandrel: (No #5 Coating if spandrel)



Optiwhite is a trademark of Pilkington.

VIRACON
Insulated Unit

HALIO
Electrochromic Device (EC)



**VIRACON PLUS
SMART GLASS
AND HALIO
AUTONOMOUS
SYSTEM
CONFIGURATION**

Viracon PLUS smart glass units are designed to be powered by HaliO’s autonomous tinting system. The smart glass units are individually wired for autonomous operation and controlled through the iCloud based HaliO System.

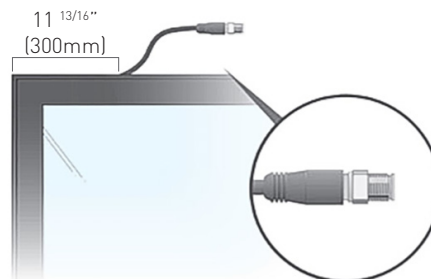


**MANUAL TINTING
OPTIONS**

HaliO autonomous and manual tinting options and components are provided and supported by HaliO, Inc. To discuss tint system options and controls and system options contact your local HaliO sales representative at halioinc.com/contact/.

The pigtail, shown below, is the waterproof cable that runs from the IGU (where it attaches to the EC Device’s Flex Connector) and connects to the HaliO Driver Cable (and out to Control cabinet in the building Utility area).

- Possible pigtail exit locations shown below. The IGU orientation can be rotated 90 degrees from that shown.
- Standard pigtail length is 15 3/4” (400 mm): optional lengths available. Precise pigtail location and size may vary based on the orientation and size of the IGU, and according to considerations of cable routing through the framing system.



**PIGTAIL
INFORMATION**

Product Make-up:

1-3/16" laminated insulating IGU, Viracon PLUS Smart Glass powered by Halio
 Outboard Lite: 1/2" Electrochromic (EC) Laminate
 [3/16" (5mm) Optiwhite; 0.060" (1.52mm) Clear PVB; 0.048" (1.23mm) Halio EC Device; 0.060" (1.52mm) Clear PVB;
 3/16" (5mm) Optiwhite]
 Cavity: 1/2" airspace - Argon filled
 Inboard Lite: 3/16" (5mm) Optiwhite with VZE-SC on #5 surface

Note: Also available in 6/6mm and 8/8mm Optiwhite exterior laminate configurations (in lieu of 5/5mm Optiwhite). Available in a limited number of other configurations based on project requirements, see your Viracon Sales representative.

IGU Performance Data										
Tint Level	Transmittance (%)			Reflectance (%)			Solar Performance			Thermal
	Visible	Solar	UV	Visible Ref-Out	Visible Ref-In	Solar Ref-Out	SC	SHGC	RHG	U-Value
0 - Full Clear	56	27	< 1	15	14	24	0.42	0.36	86	Summer 0.20
18	39	17		13	14	17	0.30	0.26	63	
34	25	10		8	11	11	0.22	0.19	46	
47	16	6		8	11	11	0.16	0.14	36	
60	10	4		6	10	10	0.13	0.12	29	
70	7	2		6	10	10	0.12	0.10	26	
80	5	2		6	10	10	0.11	0.09	25	Winter 0.24
90	3	1		6	10	10	0.10	0.09	23	
100 - Full Tint	2.5	1		6	10	10	0.10	0.09	23	

Product Make-up:

1-3/16" laminated insulating IGU, Viracon PLUS Smart Glass powered by Halio, with VLO-66 Vibrant Gray
 Outboard Lite: 1/2" Electrochromic (EC) Laminate
 [3/16" (5mm) Optiwhite with VLO-66 Vibrant Gray on #2 surface; 0.060" (1.52mm) Clear PVB; 0.048" (1.23mm) Halio
 EC Device; 0.060" (1.52mm) Clear PVB; 3/16" (5mm) Optiwhite]
 Cavity: 1/2" airspace - Argon filled
 Inboard Lite: 3/16" (5mm) Optiwhite with VZE-SC on #5 surface

Note: Also available in 6/6mm and 8/8mm Optiwhite exterior laminate configurations (in lieu of 5/5mm Optiwhite). Available in a limited number of other configurations based on project requirements, see your Viracon Sales representative.

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0 - Full Clear	47	23	< 1	27	19	30	0.36	0.31	75	Summer 0.20
18	33	15		24	15	22	0.26	0.23	55	
34	21	8		22	12	19	0.18	0.16	39	
47	13	5		21	11	19	0.14	0.12	31	
60	8	3		21	10	19	0.11	0.10	26	
70	5	2		21	10	19	0.10	0.09	23	
80	4	1		21	10	19	0.09	0.098	22	Winter 0.24
90	3	1		21	10	19	0.09	0.08	21	
100 - Full Tint	2	1		21	10	19	0.09	0.08	20	

Viracon PLUS Smart Glass powered by Halio insulating glass units are provided and supported by Viracon. To discuss glass options contact your local Viracon sales representative at viracon.com/contact/.