



illumawall 3500 Tongue & Groove Translucent Wall System

Duo-Gard’s polycarbonate wall panel incorporates a tongue and groove panel connection, offering a clean and seamless aesthetic without mullions. Our translucent polycarbonate wall panels create even light diffusion and high thermal value superior to glass. This façade solution is both durable and beautiful.



40mm Tongue & Groove Panel	U-Value	Light Transmission	SHGC
Standard Opal	0.28	0.30	0.39
Standard Clear	0.28	0.67	0.58
Opal w/1 side Matte	0.24	0.29	0.40
Clear w/2 Side Matte	0.24	0.48	0.48
Opal Bicolor w/IR	0.26	0.26	0.24
Clear w/IR	0.26	0.41	0.35





# illumaWall Testing Data

Test Standard	Test Description	Results
ASTM D1929	Ignition Temperature	896 Degrees Fahrenheit
ASTM D2843	Density of Smoke	71%
ASTM D635	Burn Extent	CC1 Rating: Less than 1" Burn Extent
ASTM E84	Flame Spread	Class A: 15
	Smoke Developed	Class A: 235
ASTM E308	Color Change	4,500 Hours of Exposure
ASTM E313	Yellowness	4,500 Hours of Exposure
ASTM E331	Water Penetration	No Leakage at 7.5 psf
ASTM E283	Air Leakage	Not to Exceed 0.07 at 6.24 psf
ASTM E1996	Small Missile Impact	No Rips, Tears or Penetrations
ASTM E1886	Air Pressure Cycling	No Rips, Tears or Penetrations at 65 psf
ASTM E330	Structural Performance	No Damage at 75 psf
NFRC 102	U-Factor	0.29 on System
NFRC 201	Solar Heat Gain Coefficient	0.39 on System with Opal Panel
NFRC 202	Visible Light Transmission	30% Opal, 49% Clear, on Panel



# Daylight Modeling: Putting Theory into Practice

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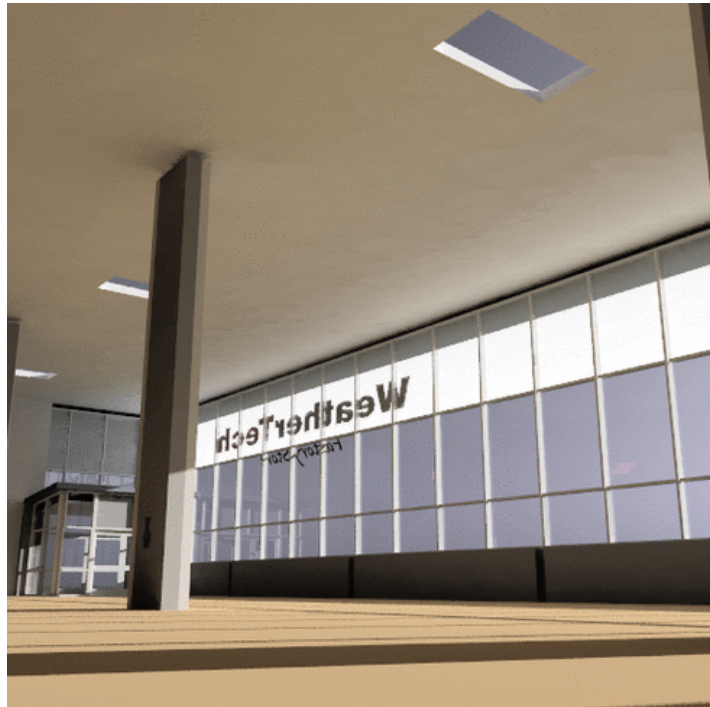


All Translucent

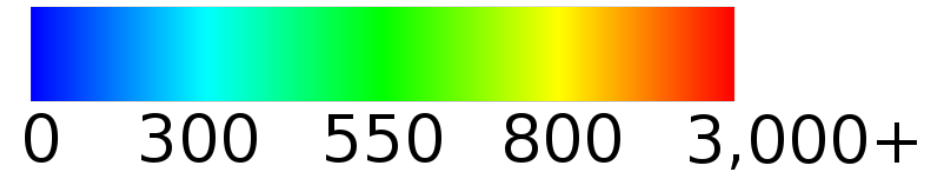
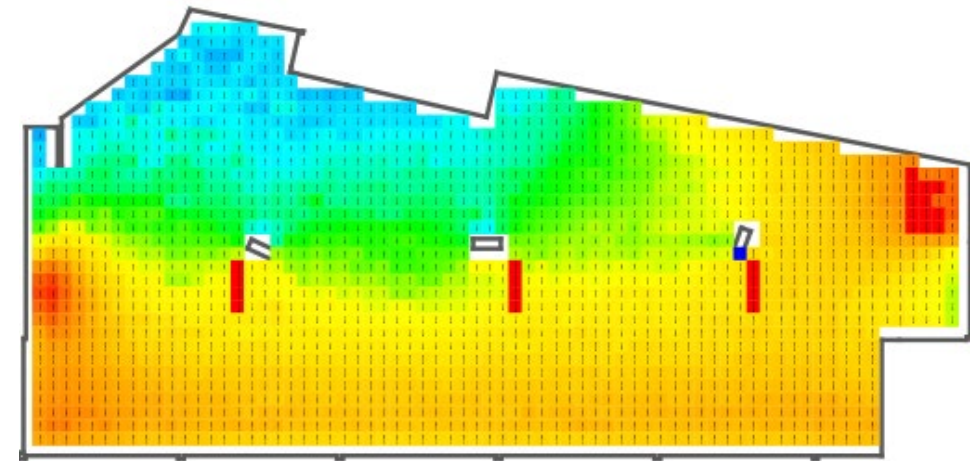
Partial Translucent  
Glass on top

Partial Translucent clear  
Glass on bottom 2/3

# Daylight Modeling: Optimum Daylighting Scenario



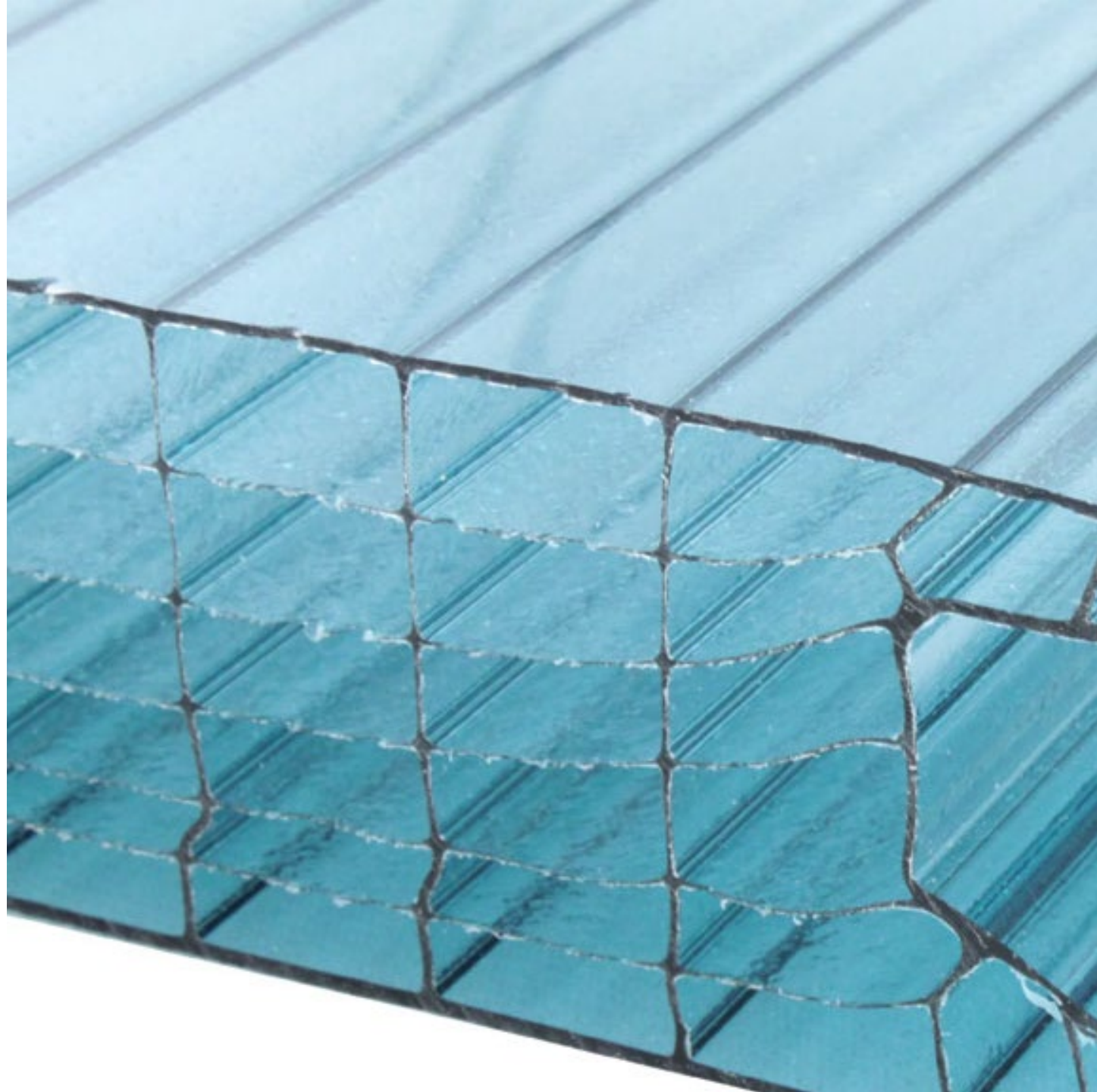
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# Cellular Polycarbonate

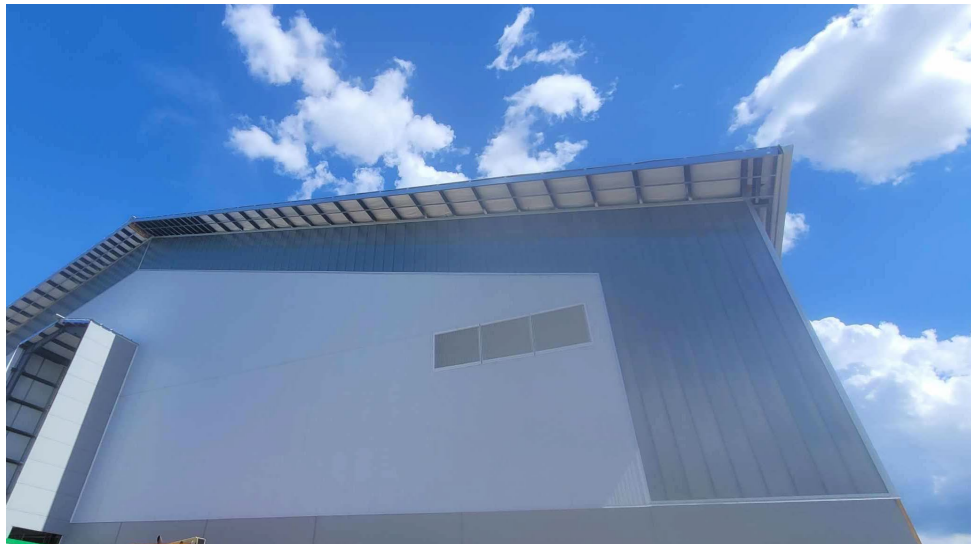
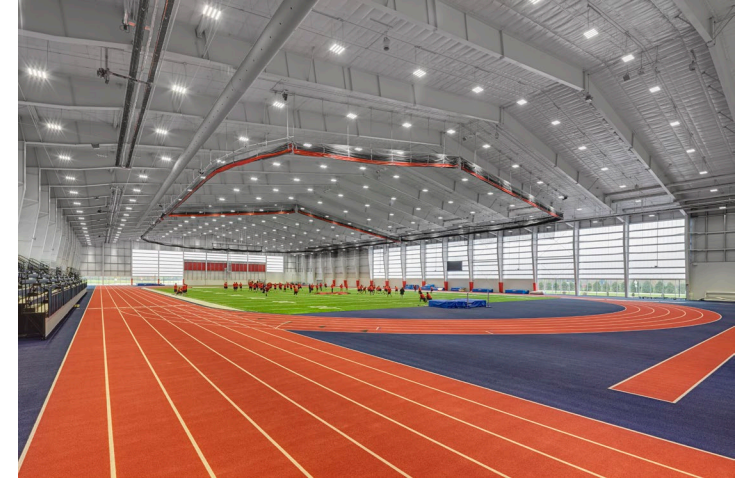
- Hollow cell provides energy efficiency
- Lightweight and durable
- UV stabilization is coextruded into panel
- ASTM-E84 Class A
- ASTM-D635-CC1 self-extinguishing





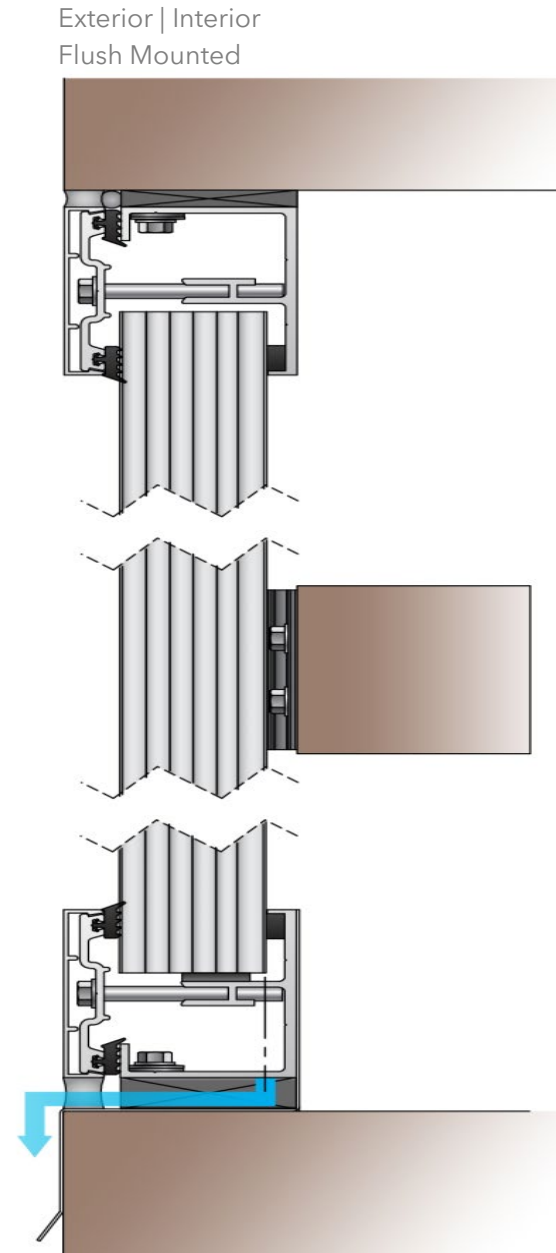
# Inspire | Innovate | Create

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# Glazing System Design

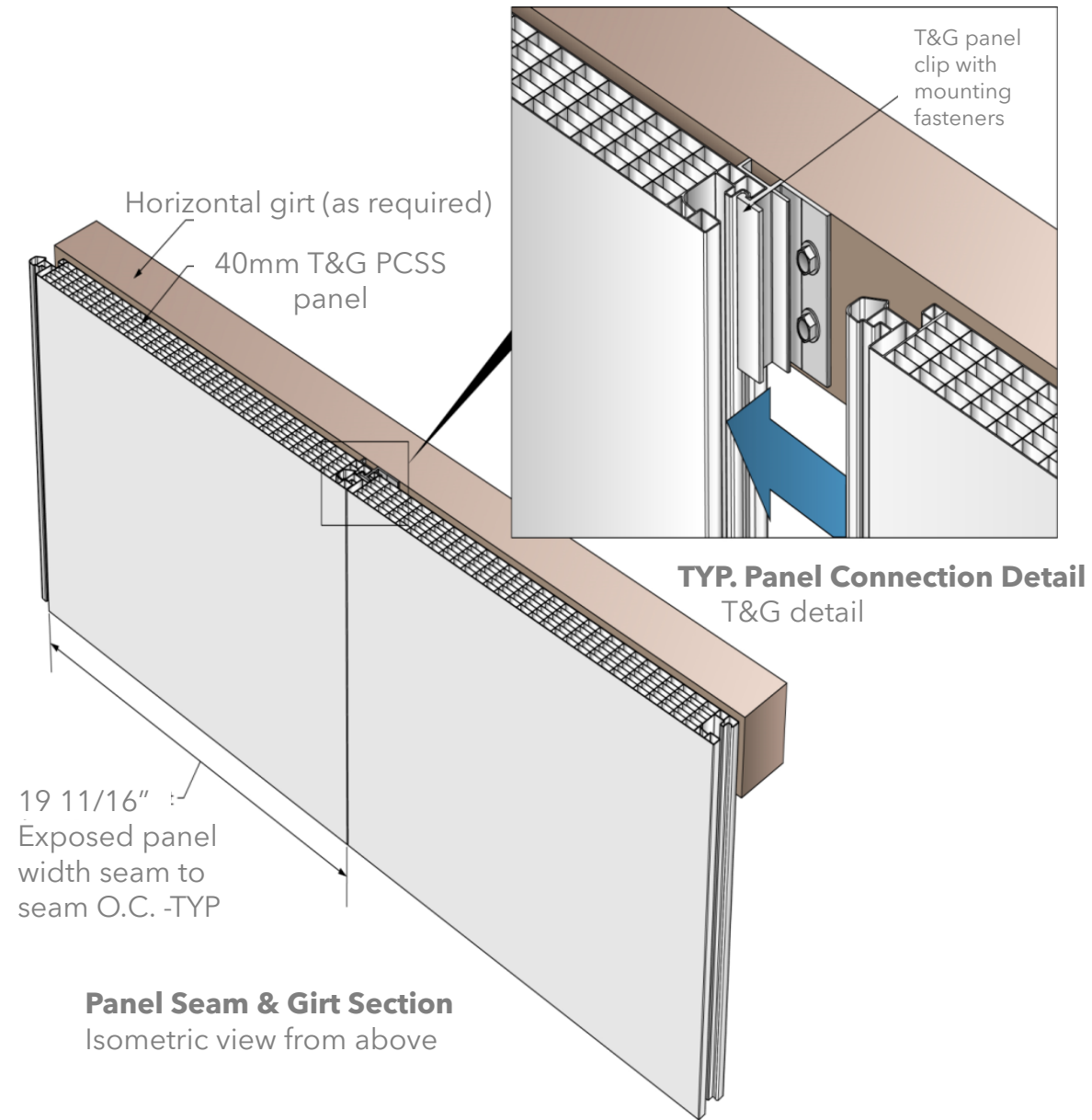
- Accommodate movement
  - Coefficient of expansion and contraction
- Ventilation
  - Panels require slight air movement
- Gasket characteristic
  - Gasket durometer must allow panel movement
  - Glass systems do not work well for polycarbonate





# Tongue & Groove 40mm Panel Systems

- Integrated clip system ties back to support structure
- Air and water tested
- Light transmission and diffusion varies by panel type
- Several light performance levels available
- Multiple polycarbonate technologies can adjust performance



# DUO-GARD

TOGETHER BY DESIGN.™



Duo-Gard is the global leader in design, manufacturing and installation of innovative daylighting solutions and shelters. Discover the difference “together by design” can offer. From vision alignment to advanced design and engineering to total fabrication and installation, you will experience an unmatched level of creativity, trust and partnership.

[www.duo-gard.com](http://www.duo-gard.com)