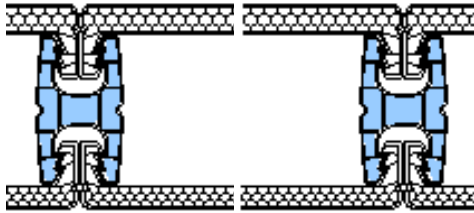
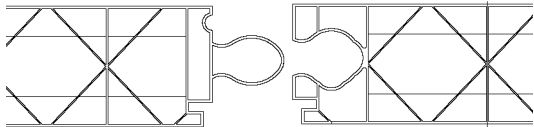

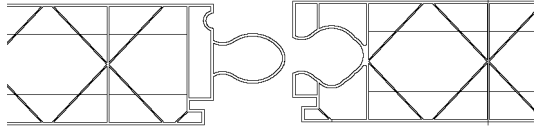
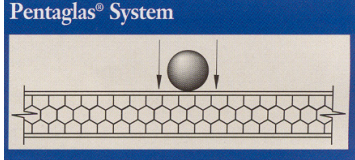
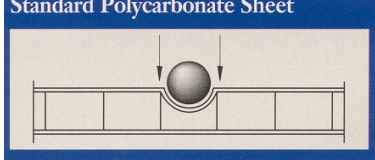


Comparison of Quadwall System to Typical Tongue & Groove 40mm Polycarbonate glazing

Rev 6-2011

	CPI Quadwall Systems	Typical Tongue & Groove Panels
Product Design	<p>70 or 100 mm thick</p> 	<p>40 mm thick</p>  <p>NOTE: Section view of tongue & groove panel may vary by manufacturer – all are wide cell single panel configurations.</p>
General Concept & Performance	<p>A 70mm or 100mm modular assembly of two separate standing seam glazing panels 2' wide. Superior performance provides more value for your construction dollar.</p> <p><u>Quadwall systems have a proven track record of durability and weather-tight performance on the building envelop for over 30 years.</u></p>	<p>A Tongue and Groove 40mm thick single panel product offers comparatively limited performance and value. Typical panel width is 19.7" and does not conform to building construction standards.</p> <p><u>Tongue and Groove panels function well as interior partition systems, but have a limited history for use on the building envelop, with problems of water leaks and unacceptable air / dirt infiltration performance reported.</u></p>
Connector Assembly Design and performance	<p>No silicone caulk is required for performance of the standing seam connector. The standing seam connector passed water penetration test (ASTM E-331) at 15 psf and air infiltration test per ASTM E-283.</p>	<p>Silicone caulk required along the entire seam @ 19.7" o/c to ensure acceptable performance per ASTM E-331 and E-283. The air and water infiltration of the tongue and groove connection between panels is affected by expansion and contraction. Caulk also affects aesthetic appeal and requires maintenance. Failed projects show the seams full of dirt.</p>
U Values & Energy Savings	<p>Insulation 'U' value of 0.24 based on actual tests per NFRC-100 as is required by relevant building & energy codes.</p> <p>U value of 0.10-0.19 is also available with the addition of insulation between the panels.</p>	<p>'U' value of a 40mm single panel is inferior in comparison to a 70mm-100mm panel when properly tested per the North American NFRC-100 building & energy code requirements. Published U Values per European standards are based on different protocols and are misleading.</p>
Double Layer of Protection	<p>The second layer of glazing strengthens the system's capability for protection, durability and longevity. The longevity of the building envelope can be extended indefinitely by replacing exterior glazing without exposing the interior and interrupting the building function.</p>	<p>Single glazed panel systems provide no second defense, no redundancy in the system. If a glazing panel needs to be replaced, the building will be exposed to the elements. It is difficult to disconnect and replace individual panels with a tongue and groove connection.</p>
Building Code Compliance	<p>Complies with IBC building codes per ICC Evaluation Reports # ER 4798 & #94160A</p>	<p>No ICC evaluation report is available for compliance with building codes.</p>
Span Capability Under Load	<p>Built-in structural aluminum H connectors allow great spanning capabilities, reducing the need for many supporting purlins.</p>	<p>The 40mm single panel has inferior spanning capability when compared to the Quadwall structural panels, requiring added structural support and cost.</p>
Fire Performance per ASTM E 108, UL 790 Class A,B,C Roof Construction	<p>The Quadwall system can be configured as a roofing assembly and listed as Class 'A', Class 'B' or Class 'C' Roof Construction.</p>	<p>A 40mm single glazed panel system cannot meet requirements for Class A, Class B or Class C roof construction.</p>

	CPI Quadwall Systems	Typical Tongue & Groove Panels
Panel Extrusion Technology	<p>Nano-Cell technology - Precision Engineered Extrusions for Architectural Designs</p>  <p>Honeycomb Nano-Cell panels. Cell widths smaller than 0.18" provide maximum rib support for the exterior exposed skin and ensure superior performance, durability and system longevity.</p>	<p>Wide-Cell technology</p>  <p>Panel design with cell widths greater than 0.18". This wide cell panel structure has substantially less rib support in comparison to the Nano-Cell design.</p>
Resistance to impact by hail stone	<p>Pentaglas® System</p>  <p>The exposed exterior weathered skin, supported by the Nano-Cell design offers higher resistance to impact from hailstones over time.</p>	<p>Standard Polycarbonate Sheet</p>  <p>Generally, the exposed exterior weathered skin with wide cell spacing design has less resistance to impact from hail stones over time.</p>
Performance of exterior window & walls , after Florida 10 years exposure per ASTM E1886&1996	Weathered panel samples taken from an actual Florida project with 108-month Florida exposure passed wind-loading tests, Impact loading (ASTM E-695), demonstrating the same high performance as new panels.	No data is available for actual panel performance after 108 months of actual exposure in Florida climate conditions.
Anti-Glare Matte Finish	Anti-Glare Matte finish is readily available – especially for vertical and flush-look façade designs.	Anti-Glare Matte finish is not readily available.
Daylighting Performance	The use of double glazed independent panels allows for color combinations, superior solar performance and low-E reflective heat layer on the exterior panels.	Limited options due to a single panel concept.
Diffused Light and Hot spots American Standard IES LM-44-90	Nano-Cell technology panels provide high diffusion with no hot spots. Comparison test per IES LM-44-90 is available from CPI, confirming that Nano-Cell technology diffuses light evenly.	No data is available for the quality of diffused light per IES LM-44-90
Warranty	A single source warranty is provided by CPI for the glazing and framing system.	No single source system warranty is available.