

Exceed Commercial Codes with One Simple Product Selection

The commercial construction industry is learning more every day about how to design and build structures for energy efficiency, air and water-tightness, and general occupant wellness.

As a group, states are coming around to this way of thinking as well through increased adoption of more stringent building codes. As of June 2020, 22 states have adopted at least IECC 2015/ASHRAE 90.1-2013 for commercial buildings, with more than a quarter of those using IECC 2018/ASHRAE 90.1-2016. In terms of air and water management, builders will see these changes as more stringent codes are adopted:

- About a 2% increase in energy efficiency with adoption of IECC 2018/ASHRE 90.1-2016
- Mandatory air barrier use beginning with IECC 2015/ASHRAE 90.1-2013
- Renewed focus at the state level to show compliance with weather-resistant barrier (WRB) use called for in the IBC International Building Code and other state codes.
- 2021 IBC Code – drainage on exterior side of WRB in moist or marine climates

As more commercial builders are compelled to adhere to advanced codes, more building products manufacturers are pushed to create innovative solutions to meet those new needs.

Building Standards & Building Solutions

Knowing the importance of water management in the building envelope, WRBs are required in commercial building codes. States like Oregon go further, requiring drainage cavities in addition to WRBs. When wall assemblies incorporate these additional layers, builders and their engineering teams must pay close attention to product selection.

“When you add drainage mats or use suspension systems for wall assemblies, you have to make sure you’re getting good quality control where those materials interface with the WRB,” says John Chamberlin, Director of Product Management for GP. Anticipating that building code adoption will begin to happen faster than in previous years, Chamberlin says builders and building product manufacturers will be driven to develop new systems to address those needs.

GP’s DensElement® Barrier System is a prime example. As a gypsum-integrated WRB-AB sheathing system, DensElement® Barrier System combines water management and air control in one product and works behind almost all types of cladding. The result satisfies even the most rigorous codes, and the designers and engineers

working towards achieving them.

Solving for Air and Water

Beyond water management, DensElement Barrier System also shines as an air barrier, thanks to its air-tight installation process.. This may be especially attractive for areas incorporating higher air-tightness requirements into their building codes, such as Washington state where whole-building air-tightness tests are required.

“When a certain level of air-tightness is a requirement, and your building doesn’t hit it, building owners aren’t granted their occupancy,” Chamberlin says. “Then you have to go have someone find the leaks and fill them before you get your occupancy allowance.”

Even in areas where air-tightness requirements are lower, commercial builders are always looking for ways to improve building performance, efficiency, and the bottom line. When all of this can be achieved with a single product, everybody wins.

Thanks to its high-performing product attribute combined with easy installation and built-in quality control, Chamberlin says the DensElement Barrier System often hits air-tightness levels far beyond the original target for commercial buildings. “We had been trying to hit normal best-practice levels of air-tightness, and found we were accidentally getting to Passive House levels,” Chamberlin says. This achievement comes down to the simplicity of installation. After installing the panels, crews use liquid flashing at all gaps and fastener locations to completely seal the exterior against both air and water in one pass around the building. It’s easy for installers to see where that liquid flashing needs to be applied, and even to step back and spot areas that were missed, Chamberlin explains. That built-in quality control element helps ensure great performance. “The benefit here is that it becomes easier to achieve air-tightness and water management, all at an overall lower labor investment. We’re solving a bunch of problems all at once.”

When commercial builders have the stress of higher code requirements added to their plates, manufacturers need to step up and help make the construction process easier. With the DensElement Barrier System, and a long history of building science ingenuity, GP is doing that for its customers every day. Working together, the right builders and the right building product manufacturers will create the country’s best-performing buildings.



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