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BASF



Support for building appealing, affordable homes

Collaborative Construction. Optimum Opportunity.

Always looking for ways to further advance their commitment to green building, innovative builder Tim O'Brien Homes recently collaborated with BASF to put the chemical company's groundbreaking BEYOND.High Performance® approach to work on a residential project that was still in the design phase.

Working collaboratively, the experts at the BASF Center for Building Excellence and the team at Tim O'Brien Homes were able to effectively evaluate costs and systems on the home, and ultimately, optimize the value for the builder and customer alike.

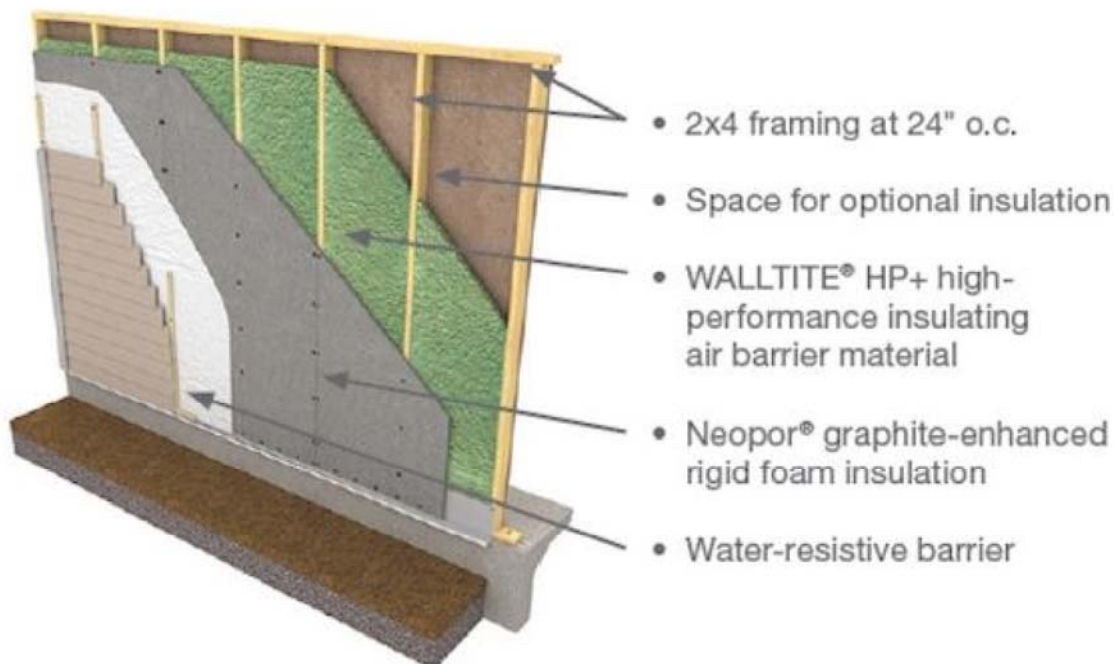
Location and Client Name: Tim O'Brien Homes, Milwaukee and Madison, Wisconsin

Turning Insight into Innovation.

As part of the BASF innovative HP+™ Consultative Solutions, BASF put its team of building scientists, architects, engineers and sustainable construction experts from the BASF Center for Building Excellence to work on the project. Bringing an array of multi-disciplinary skillsets to the table, BASF's experts collaborated with the builder's team to look at the home's design and construction holistically, reducing lumber and heating costs, lowering HERS® scores and reducing the heating load.

"Leveraging our comprehensive HP+ Consultative Solutions, we were able to get a more holistic view that would allow us to effectively address the specific needs of this particular builder and this particular opportunity," recalled Rick Davenport, director of sustainable construction for the BASF Center for Building Excellence.

A cornerstone of the plan was the builder's adoption of BASF's HP+ Wall System, a breakout construction solution that aggressively addresses thermal, air and moisture control and provides structural strength with fewer framing members, allowing the builder to downsize the mechanicals installed in the home.



By implementing the wall system into the plan, the builder was also able to utilize many advanced framing techniques on the project, including:

- Removing redundant jack and cripple studs
- Installing right-sized, insulated box headers
- Placing ladder framing at interior wall intersections
- Aligning load path

How was it solved, including design objectives and economic benefits?

The implementation of BASF's BEYOND.High Performance approach and its HP+ Wall System resulted in:

- An 18% reduction in the home's heating load
- A 4% reduction in the heating and cooling operating costs
- An additional 20% reduction in energy usage from the adoption of an efficient lighting package and duct testing that the consultative solutions process recommended
- The builder's HERS index scores moving from a 62 score to a 49, with the efficient lighting package and duct testing, plus added foundation insulation suggested through the consultative process
- An advanced framing approach that used 36% less wood compared to the builder's previous practices, and 56% less wood than other builders in the area who build with 2x6 walls and do not practice advanced framing
- Reduced infiltration to 2 ACH50

Reduced HERS scores, improved heating and cooling loads, reduced operating costs and less lumber = an affordable solution to constructing a home that is more durable, more comfortable and more energy efficient for today's savvy homebuyers.

[Click here to learn more.](#) ^[1]



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Links:

[1] <http://www.construction.basf.us/resources/project-profiles/title/beyond-high-performance-case-study-tim-o-brien-homes>