



## Proper Framing Leads to High Energy Efficiencies for Home

By Barry Shultz  
Contributing writer,  
ProudGreenHome.com

Sponsored by:



Contractors know that “Energy Savings Start with the Framing” and a home’s energy efficiency is significantly dependent upon proper framing. Over the past several decades Norbord, a world leader in OSB sub-floor, wall and roof sheathing has communicated with contractors across North America to learn of in-the-field concerns to create high quality products offering increased efficiency. Two wall sheathing products that have been developed through such extensive efforts are Norbord’s TallWall and Windstorm.

TallWall and Windstorm OSB wall sheathing, when used with raised heel trusses, sometimes called energy trusses, have several positive impacts in home construction. They are the perfect team for builders wanting to reduce labor and material costs while minimizing air leakage and energy expense. They make a great partnership with raised heel trusses.

### Reduced insulation requirements

TallWall and/or Windstorm sheathing used with raised heel trusses allow full depth attic insulation to the outside edge of the top plate without being compressed. In climate zones 3 and higher, energy codes allow lower R-value

attic insulation under those circumstances. The panels act as the blocking for the insulation and the lower R-value insulation means reduced costs without compromising efficiency. Often times a less costly blown insulation can be used while maintaining the R-value requirements.



*When used with raised heel trusses, TallWall and Windstorm sheathing allows full depth attic insulation to the outside edge of the top plate.*

Tests completed at the Innovation Research Lab (formally the NAHB Research Center) and the APA Product Report PR-N133 indicate that most areas of the country can eliminate the need for hurricane clips when the tall panels run to the underside of the top chord of a raised heel truss. These long panels can provide a continuous load path.

Wall cavities are fully open because TallWall and Windstorm install vertically eliminating mid wall horizontal joints and the need for blocking. This allows the wall cavity to be completely filled with insulation plus installation of mechanicals is much faster and easier.

### Reducing air leakage

The quality of indoor air is influenced by several variables. Seams in wall sheathing allow air movement, dust, allergens, airborne pollutants and moisture into a home. These seams collectively add up to substantially decrease home comfort by allowing cold drafts in the winter and heat in the summer to enter the living areas driving up HVAC energy costs and gaps allow outside noise into the home.

To address the structural and air leakage issue TallWall and Windstorm are installed vertically with all edges falling on solid framing. TallWall comes in nine and ten foot lengths to accommodate nearly all construction. Windstorm OSB provides the same benefits should plans require other lengths. Longer lengths of sheathing mean fewer horizontal seams.

Controlled studies completed at the Innovation Research Lab have shown that TallWall and Windstorm reduce wall air leakage up to 60% dramatically reducing annual utility costs while improving resale value. The report can be reviewed [here](#). In addition, The Florida Green Building Certification (FGBC) program has accepted, as an innovative idea, TallWall's reduction in air leakage.

**Claude St. Hilaire of Home Energy Group in South Carolina says:**

*"Builders using the TallWall OSB wall sheathing will see a significant reduction in air leakage into the home. By minimizing the sheathing joints, we have seen blower door testing on homes using the TallWall system with fiberglass batt insulation approach the air leakage rates on homes using spray foam insulation."*

### Reduced metal in High Wind Markets

Norbord's highly efficient wall sheathing, Windstorm, provides measureable incentives in home construction in high wind coastal areas and many other interior regions of the country experiencing chronic high winds. Uplift and shear wind forces are not limited to hurricane-prone areas. Windstorm comes in lengths from 97 1/8" all the way up to 145 1/8" to accommodate design requirements. Installed vertically all joints are on framing members.

Windstorm can provide the continuous load path combined with a design professional's fastener schedule. It eliminates the gable end hinge-joint when the sheathing extends beyond the trusses' bottom chord. The method Windstorm utilizes has been in the building codes as far back as the SSTD 10-99 and is in the most recent codes in effect today. Savings translate easily up to \$1,000 per house in high wind zones. Read how a New Jersey builder saved over \$70,000 using Windstorm in a high wind zone project while facing a tight schedule and strict building codes. [Read more here](#).



Labor costs and construction time are reduced because there is less handling, cutting and fastener installation. Less cutting reduces chances of error and waste. When Windstorm is used in conjunction with raised heel trusses in the parts of the country that are not high-wind, hurricane clips required by code can be eliminated, saving time, labor and material costs.

Norbord's longer structural panels create a tighter, stronger, stiffer and flatter wall and can reduce call backs for nail pops and drywall cracks.

Both TallWall and Windstorm Sheathing Panels are Home Innovation NGBS Certified and SFI CoC.

Building codes vary tremendously from region to region, and even among localized communities. Refer to your local building inspector for requirements in your area. Also, visit [norbord.com](http://norbord.com) and review the comprehensive Solution Builder for state energy code and climate information. Also visit the "Green Building" section in Norbord's "Resources" section for more details on practices available when using Windstorm and TallWall.

***About the sponsor:** Norbord is an international producer of affordable, sustainable, and durable wood-based panels. Pinnacle premium T&G sub-flooring panels are just one of the many high quality products offered by Norbord. Visit [www.norbord.com](http://www.norbord.com) to learn more about Norbord and its family of products.*