WHITE PAPER

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Using Green Building Products and Techniques Saves Time and Money

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Some builders tend to focus on energy efficiencies and sustainable initiatives that benefit the homeowner after the home is completed. However, more builders are now realizing that green efforts during the construction phase can save time, money and reduce environmental impact.

For example, sheathing specifically manufactured in lengths from 108" to 145 ⅛", such as Norbord's TallWall and Windstorm, reduces installation time and trips to the site. This longer sheathing requires vertical installation, resulting in fewer seams to seal. When this type of sheathing is incorporated with raised "energy" trusses, it also enables easier installation of energy efficient insulation. Full depth insulation to the outside of the top plates eliminates cold spots at the top corners where walls and roof meet, an area that is susceptible to ice dams.

Longer sheathing also means fewer cuts and less waste, translating to more labor savings and less waste having to be deposited in area landfills. Builders are always looking for ways to save money, and waste reduction has a significant impact. The cost associated with transporting waste containers, combined with rising landfill fees, can be mitigated with a construction plan that uses efficient building materials. Reducing workload on area landfills also adds an environmental benefit.

Using longer sheathing reduces the amount of waste at the jobsite. Less waste means fewer trips to the landfill.

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 without the cost of hurricane clips.

Wall cavities are fully open because TallWall and Windstorm install vertically, eliminating mid-wall horizontal joints and the need for blocking. This adds up as less materials and less cutting means fewer chances of error. Without lumber blocking in the way, wall cavities can be completely filled with insulation quickly and easily. Installation of mechanicals, such as electrical and plumbing, is also faster and easier, meaning fewer trips by the trades to the site.

Faster framing is realized because there is less cutting and handling of material. If a framing crew can complete a house in 2 days instead of 2 ½ days, it results in less travel time for framers. This can translate into hours of saved power or gallons of gasoline used in a generator.

TallWall and Windstorm eliminate joints. Testing showed there can be up to 60% less wall air leakage. It is easier and less costly to reduce air leakage at the framing stage than trying to find where the leaks are and having to seal them later. This means meeting blower door test is easier.

Windstorm can eliminate the metal stud-to-plate connectors and floor-to-floor straps. That eliminates all the fasteners and their associated time and material. Fastener raw material and the energy consumed in their manufacture are eliminated.

Another energy saving product is Solarbord® radiant barrier sheathing for the roof. Up to 97% of radiant heat from the sun is reflected by Solarbord, so the attic will be as much as 30° cooler. This means the rest of the house will certainly be cooler too. Cooler attic. Cooler house. That can translate into less AC tonnage and less usage. As it is said, less is more: Lower attic temperatures means less demand on the AC unit and fewer trips for the maintenance personnel.

Pinnacle sub-flooring by Norbord is designed to eliminate the sanding of joints. This important product benefit means less labor, faster cycle times and less energy used running sanders and other finishing needs.

Even in the manufacturing of sheathing there are efficiencies. The production of OSB uses 100% of the log, with the bark used in the energy systems to heat the oil for the press.

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 on Norbord's website. In addition, The Florida Green Building Certification (FGBC) program has accepted, as an innovative idea, TallWall's reduction in air leakage. These efficiencies when accompanied with other energy may enable the contractor to use a smaller furnace, resulting in less energy

"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."

Claude St. Hilaire
Home Energy Group

consumption and pollution.
The more efficient the application of building materials and other trade installations such as HVAC, electrical and plumbing, the fewer trips these trades have to make to a site. Fewer trips equate to lower costs and emissions.

There are many innovative construction initiatives providing significant energy and cost savings while minimizing the impact on the environment. Collectively they are substantial: substantial in the bottom line of the construction phase, while providing long-term benefits for the homeowner.

Norbord Inc. is an international producer of wood-based panels based in Toronto, Canada with assets of $1.0 billion and 13 plant locations in the United States, Europe and Canada. Norbord manufactures OSB in the United States, Canada and Europe and MDF, particleboard and furniture in Europe. Norbord has 1,950 employees.

Norbord's technology group of scientists and engineers support their US, Canadian and European operations, contributing to their competitive strength in process and reliability improvement, product development and technology transfer. Norbord's technology staff is often found at various production facilities working as a team with mill personnel.