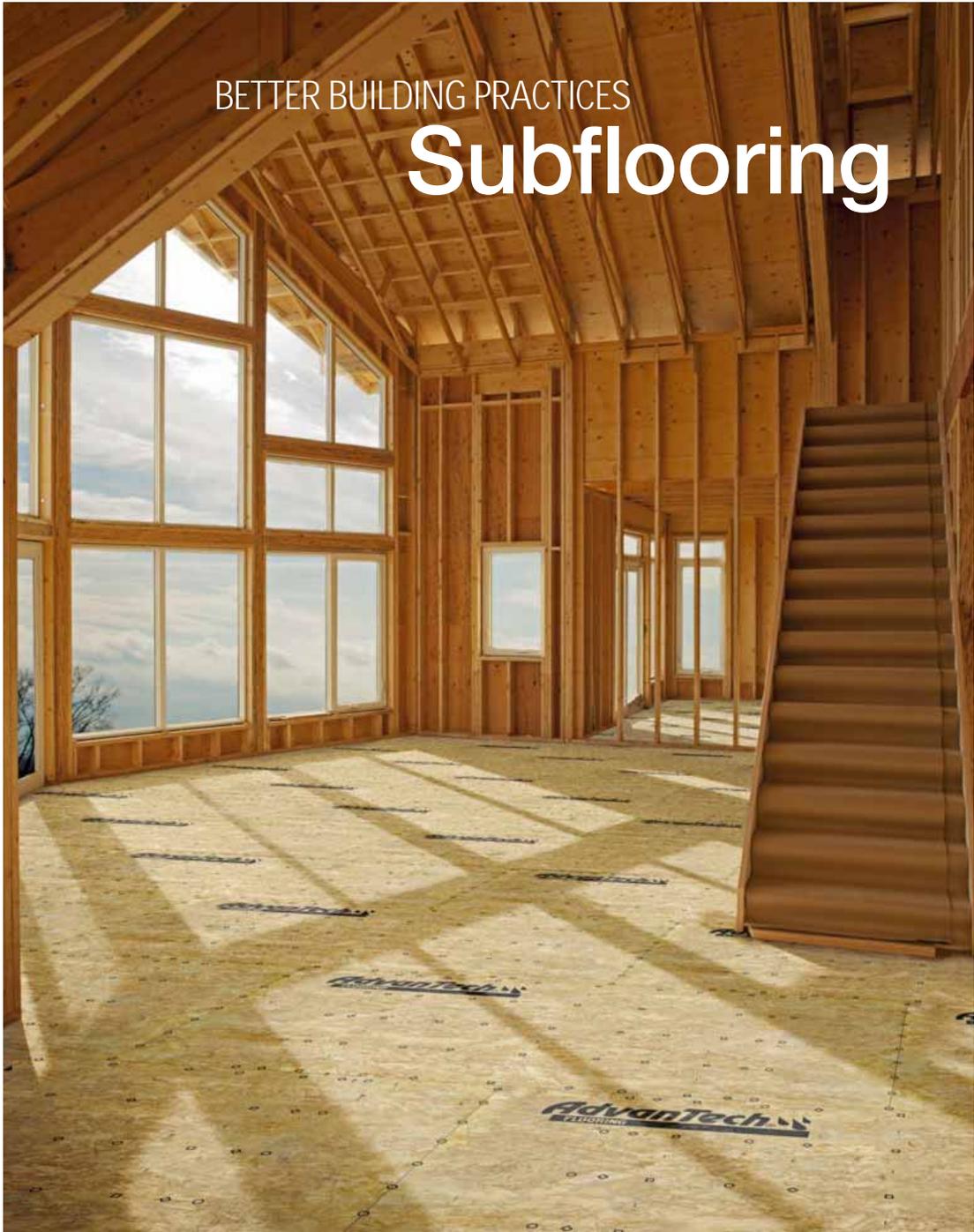


ProSales

BETTER BUILDING PRACTICES

Subflooring



BETTER BUILDING PRACTICES: Subflooring

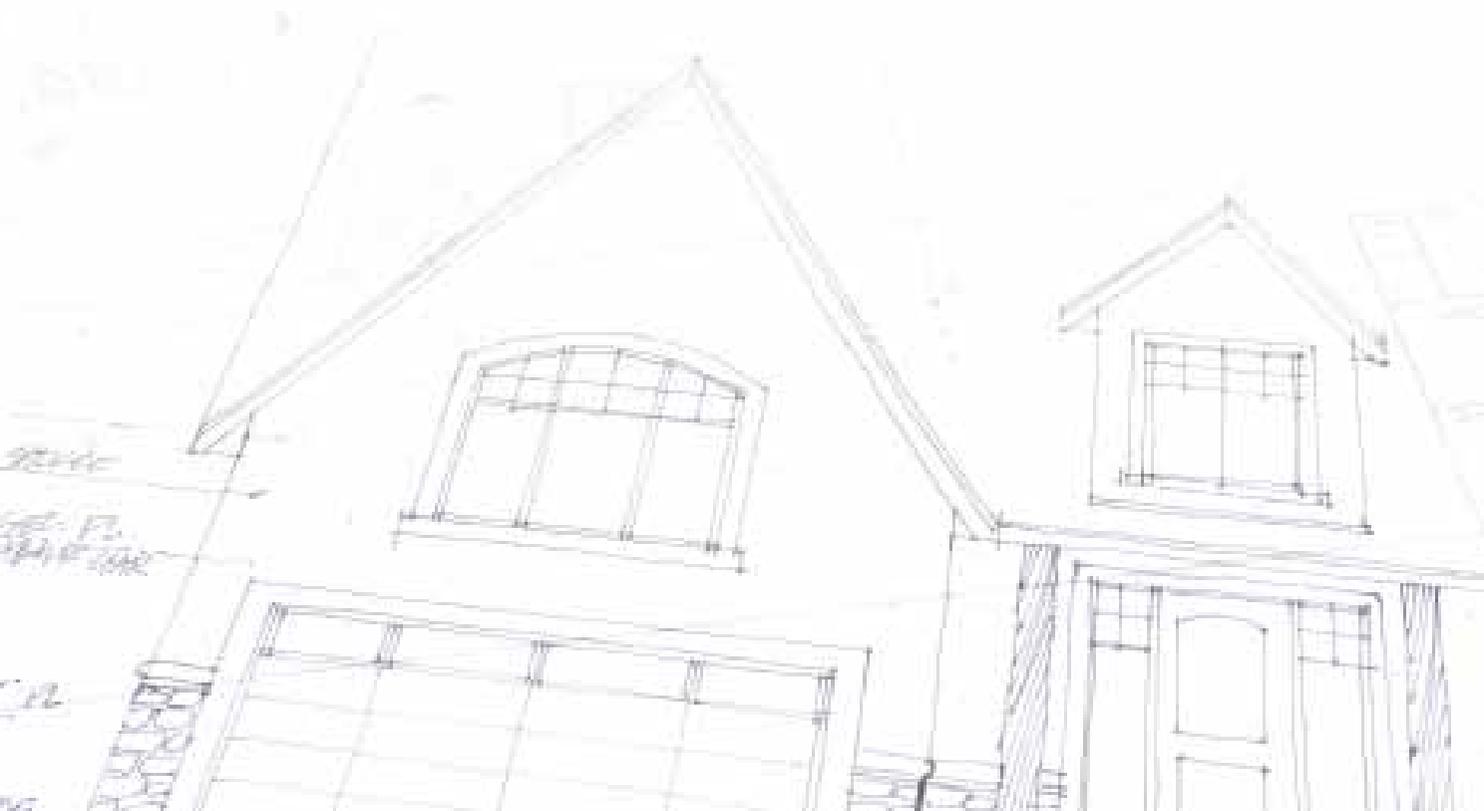
While the subfloor may be overlooked, its importance cannot be overstated. Quality-driven builders reduce callbacks and improve customer satisfaction by using subfloor panels that exceed minimum standards. Demand more from your subfloor—your customers certainly do!

No builder can afford service callbacks or nagging problems that take profits out of his pocket and weaken his reputation. It's simply bad business to build to minimum standards when better building practices and products exist in the market. Leaky windows, cheap faucets, and floors that squeak or bounce, undermine confidence in a home's craftsmanship and quality.

The bottom line? Builders must weigh the upfront costs of higher-quality products that are guaranteed to last versus costly callbacks and the damage to one's reputation incurred by homeowner dissatisfaction, or outright product failure.

Smart builders understand the need to balance costs across the entire project. By doing so, builders are able to spend more on the materials that matter, while spending less on materials that don't. The result is a better built home with favorable profit margins.

Market-savvy building product manufacturers recognize they have to up their game to meet the demand for improved housing performance. Plumbing products that employ durable ceramic disc valves, windows with thermally efficient panes and frames, and HVAC equipment with superior efficiency ratings are among a growing number of products that have responded to the demand for better-built housing.



“AdvanTech® is one of the most trouble-free products we use... The product is always square and flat. With plywood we’ve had sheets 1/8" out of square. My finished flooring people are very happy with it also. No high seams or delamination. The nailing grid is a great idea. Saves time on fastening.”

— Tim Kappert, Kappert Construction Inc., Mascoutah, IL



QUALITY HOMES DEPEND UPON QUALITY SUBFLOORS

The importance of a quality subfloor cannot be overstated. Everything in a home rests on the subfloor. Once installed, it cannot be changed easily. Unfortunately for many homeowners, when a builder installs commodity grade subfloor panels, they’re stuck with them.

Big deal? Just ask any homeowner with a floor system that rattles the china in the cabinet every time they walk through the room. Ask a builder who has to spend time and money returning to the home to fix floor squeaks. Ask an architect that has to explain to his client why the beautiful hardwood flooring is coming up only months after moving in. Sound familiar?

The truth is, the PS-2 standards¹ for commodity OSB and plywood subflooring are a **minimum** and today’s construction practices are demanding more. Modern floor plans and designs are putting greater demands on subfloor strength and stiffness than in years past because of details such as open floor plans, stone or granite counters, and more brittle floor finishes. In fact, according to a 2007 J.D. Power New Homebuilder Customer Satisfaction survey, one out of every two new homeowners complains about squeaky hardwood floors.

HIGHER STANDARDS = BETTER RESULTS

A manufacturer can pursue an elevated set of performance requirements for subflooring that surpasses the PS-2 minimums by having it evaluated by the International Code Council (ICC) Evaluation Service (ES). ICC-ES provides technical evaluations of building products for manufacturers that want to validate and qualify their products as having superior design properties. The evaluation process culminates with the issuance of technical reports that, because they directly address the issue of code compliance, are extremely useful to builders and other design professionals.

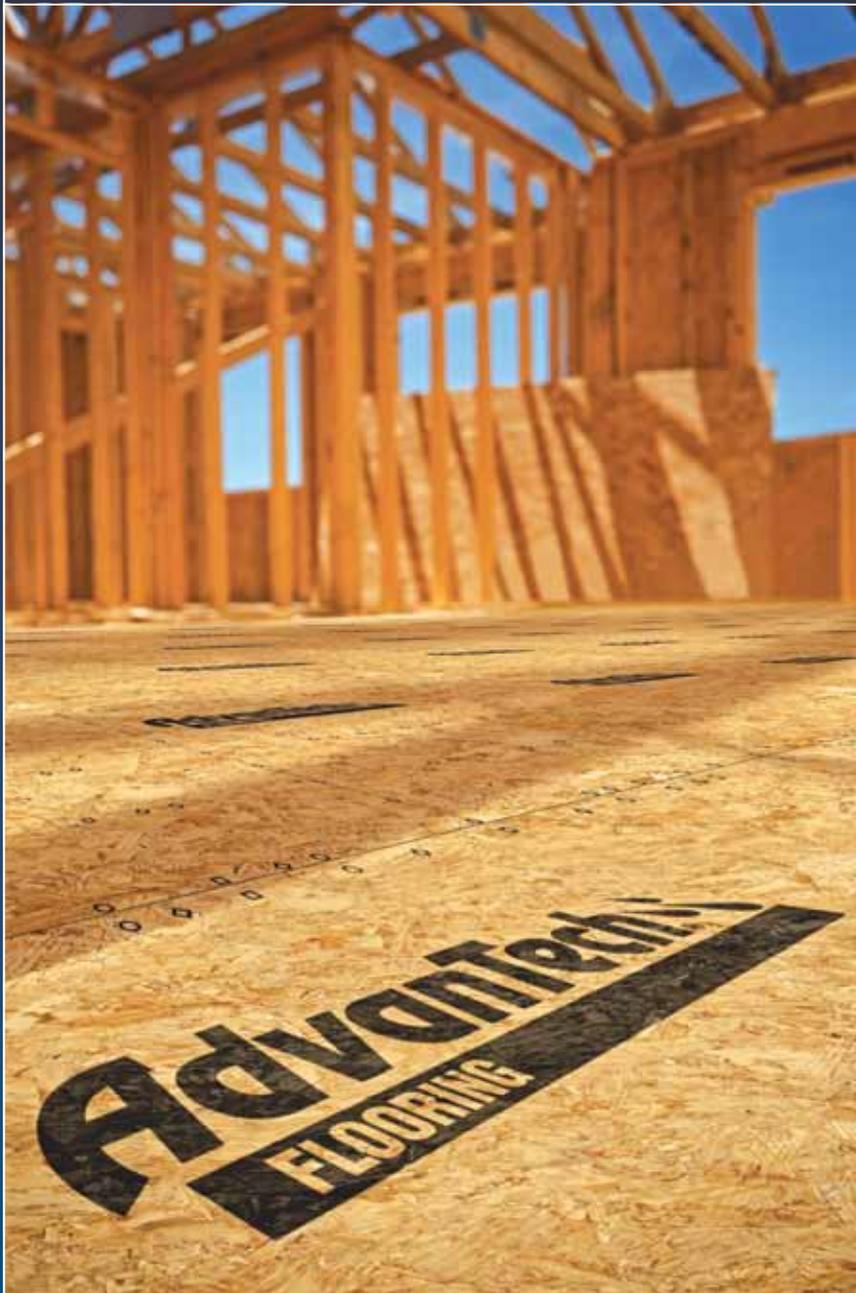
For years, Huber Engineered Woods has maintained an ICC-ES report for its engineered wood subfloor, AdvanTech® flooring, to elevate it from other subfloors which only meet the PS-2 industry standard. The result? AdvanTech flooring was issued the Evaluation Service Report, ESR-1785², certifying that it has endured a battery of testing protocols that measure and ensure greater and consistent levels of panel strength, stiffness, and fastener holding power. AdvanTech is the **only** subfloor panel to do so. The end result for builders who use AdvanTech flooring is more reliable and consistent performance among all the panels used, and ultimately of the finished floor system.

¹ PS-2 is a performance standard initiated by the American Plywood Association (now called The Engineered Wood Association) and published by National Institute of Standards and Technology in accordance with the US Dept. of Commerce. The first edition of PS2, PS2-92, was published on August 27, 1992. The most current version is PS2-10. The goal of this standard is to establish structural criteria for assessing the acceptability of wood-based structural use panels for sheathing and single-floor applications.

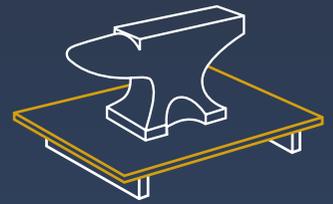
² For access to the full ESR-1785 report, visit www.icc-es.org.

GIVE YOUR FLOORS AN EXCEPTIONAL BASE

AdvanTech® flooring delivers performance and peace of mind into every floor you build. It's the award-winning industry leader, meaning you'll get the most from your floors and everything you build on top of them.



THE FLAT OUT BEST™



Strength & Stiffness



Moisture Resistance



Precision Engineering



300 DAY
NO SANDING
GUARANTEE

A LOT IS RIDING ON YOUR SUBFLOOR.

Build with AdvanTech® flooring for award-winning performance you can rely on. Specifically engineered to combine industry-leading strength, superior moisture resistance and installation ease, AdvanTech floor panels are the FLAT OUT BEST™ for a quiet, stiff floor.

TOTAL PERFORMANCE IN ONE PANEL.

- High-density engineered wood for industry-leading strength and stiffness
- Advanced moisture-resistant resin technology applied throughout the panel
- Superb fastener-holding power helps keep floors flat and quiet
- Patented fastening guide for easier installation
- Precisely milled and extremely durable tongue and groove profile for easy installation
- Ranked #1 in quality every year for over a decade
- Backed by the reputation of Huber Engineered Woods



AdvanTech panels are engineered for design strength, stiffness and fastener holding capacities that exceed those required by PS-2.

These values are published in ESR-1785 and can be viewed at www.icc-es.org.

ENGINEERED FOR LONG-LASTING PERFORMANCE.



CARPET

Fully sanded surface and high wood density help eliminate see-through subfloor seams and keep tack-strips firmly in place.



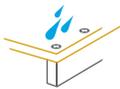
HARDWOODS

Fastener holding power and panel strength provide an exceptionally solid base for keeping hardwood flooring flat and quiet.



TILE & STONE

Industry-leading design stiffness and long-lasting durability help reduce the risk of cracked tile and stone.



WITHSTANDS THE MOST EXTREME JOBSITE WEATHER.

AdvanTech flooring's best-in-class water resistance defends against swelling, cupping and delamination. This helps improve cycle time by reducing costly rework, construction delays and homeowner callbacks.



PRECISION ENGINEERED TONGUE AND GROOVE.

The self-spacing tongue and groove profile is durable and consistent so that every panel of AdvanTech flooring installs quickly and easily.



AWARD WINNING QUALITY.

AdvanTech flooring has been rated #1 in quality every year for over a decade in *Builder* magazine's annual nationwide survey of builders.² No other subfloor panel matches the award-winning quality and performance of AdvanTech flooring.

THE NUMBERS SAY IT ALL

ESR-1785 documents the results of ICC tests on several important attributes of AdvanTech® flooring, most notably, bending strength and stiffness, panel density and fastener holding power. AdvanTech flooring flat out beats the competition in each category.

Specifically, AdvanTech flooring is designed to achieve:

62% better bending strength than PS-2 quality OSB or plywood panels of the same dimension⁴

28% better bending stiffness than PS-2 quality OSB⁴

16% better bending stiffness than PS-2 quality plywood⁴

10% better fastener holding power than both PS-2 quality OSB and plywood⁵

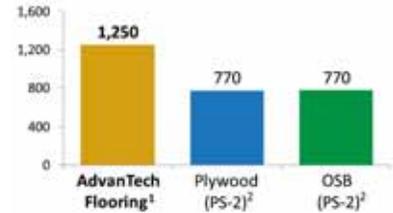
Huber Engineered Woods achieves these higher design values by leveraging an innovative, proprietary manufacturing process. AdvanTech floor panels have more wood fiber than typical PS-2 OSB or plywood, which results in higher density and better nail holding power. That higher density however, does not affect workability in the field. “AdvanTech floor panels are a little heavier than standard OSB, but they cut and accept fasteners the same as other panel products,” says Doug Steimle, a project manager for Steven Schaefer Associates, a structural engineering firm based in Cincinnati.

In addition, AdvanTech floor panels are fully sanded on the top and bottom faces to ensure a quality surface and consistent thickness. Each panel is marked with a patented fastening guide for 24, 19.2, and 16-inch on-center floor joist spacing for accurate and fast installation. Installation instructions are printed in English and Spanish and are included on every unit to accommodate today’s construction workforce.

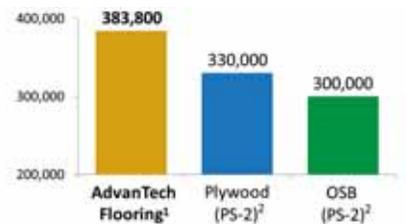
Finally, when based on the weak axis (i.e., the 8 ft. dimension of the panel when installed parallel with the floor joists), AdvanTech floor panels have 92% better design bending stiffness than values published for both commodity PS-2 OSB and plywood panels. In fact, when installed in this manner, commodity PS-2 panels may no longer satisfy their structural design requirements. This is particularly important if during construction a panel or two is installed on the weaker strength axis either by mistake or design, in order to fit the desired floor plan.

“I don’t go into a project without specifying subfloor panels that exceed the minimum PS-2 requirements,” says Steimle. “If the client chooses to remove them from our specs, he’s well aware of the risks that causes to the building’s performance.”

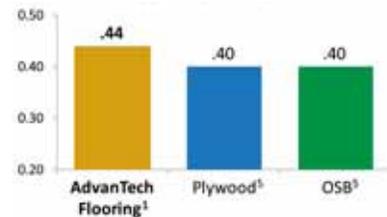
DESIGN BENDING STRENGTH (F_bS)
24 o.c. floor panels (lb*in/ft)



DESIGN BENDING STIFFNESS (EI)
24 o.c. floor panels (lb*in²/ft)



DESIGN NAIL WITHDRAWAL³
(Equivalent Specific Gravity)



Fasteners missing joists create squeaky floors and expensive callbacks. AdvanTech flooring’s patented fastening guide helps you do it right the first time.

¹ ICC-ES Evaluation Service Report, ESR-1785

² 2012 edition of the AF&PA American Wood Council’s, Allowable Stress Design (ASD)/LRFD Manual for Engineered Wood Construction

³ Based off performance category 23/32.

⁴ SOURCE: ICC ES Evaluation Service Report, ESR-1785 & 2012 edition of the AF&PA American Wood Council’s, Allowable Stress Design (ASD)/LRFD Manual for Engineered Wood Construction

⁵ SOURCE: APA Technical Topic TT-039C, Recommended Design Values for Nail Withdrawal from APA Plywood and OSB.

“In 2003 and 2004, we saw homebuilders switching from AdvanTech® flooring to OSB because they felt it would decrease building costs. We found that the OSB reacts poorly to moisture and many times the subfloors and hardwoods in these homes had to be replaced.... we had to hire a full-time sanding crew, creating expensive and time consuming rework. **It makes sense financially to choose AdvanTech flooring over competitors because its moisture-resistance benefits outweigh the extra costs.**”

— Shane Lyle, Strathmore Floors, Atlanta, GA

ADVANTECH® FLOORING



PLYWOOD FLOORING



When exposed to similar conditions, plywood panels absorb more water than AdvanTech floor panels, which can lead to swelling and delamination. AdvanTech floor panels resist moisture penetration, preventing moisture-related damage.

Achieving higher strength and stiffness values while providing moisture resistance is not easy. Huber Engineered Woods has invested a considerable amount of time and money into its resin technology and manufacturing processes, finding that elusive balance of strength and moisture resistance. The result is that AdvanTech flooring is the only panel that can deliver industry-leading performance in all areas: strength, stiffness, fastener holding and moisture resistance.

AdvanTech flooring's superior water resistance properties cannot be overstated. Excessive water absorption during construction can lead to very costly jobsite problems including delamination, panel edge swelling (requiring sanding or replacement), increased floor bounce, loss of fastener power and ultimately, diminished overall structural integrity.

THERE'S OSB. THERE'S PLYWOOD. AND THEN THERE'S ADVANTECH

To date, AdvanTech flooring is the **only** subfloor panel that maintains an ICC-ES Report listing code-recognized strength, stiffness and fastener holding properties. As a result AdvanTech floor panels are engineered and tested to a higher performance level. To maintain this distinction, Huber must adhere to a rigorous quality assurance program that is monitored by an independent third-party agency. Because AdvanTech flooring has to meet the minimum requirements of PS-2 and the higher requirements of ESR-1785, customers are assured of the quality of product that comes off the manufacturing line.

AdvanTech floor panels offer superior strength and stiffness, better fastener holding power and superior moisture resistance. AdvanTech flooring is the number one choice for builders looking to offer quality, reduce costly callbacks and improve customer satisfaction. In fact, AdvanTech floor panels have been ranked number one in quality 12 years in a row, according to builder magazine's annual Brand Use study.

Today's home designs and high-end finishes demand a new level of quality not just where it can be seen—but more importantly, where it cannot. Builders who have thrived in this tough economy have learned sacrificing quality isn't worth the risk to their profit margins or reputation. The take home message for builders, and design professionals is that by using a higher-quality subfloor, they improve the quality of the finished system. AdvanTech flooring is the only subfloor product that meets these demands.



For more information on AdvanTech flooring visit www.AdvanTechPerforms.com.

Delivering strength and performance where it's needed most.



AdvanTech® flooring is specifically engineered to outperform OSB and plywood panels. Featuring industry-leading strength and fastener holding power, AdvanTech panels deliver the quiet, solid feel of a quality-built home. And thanks to superior resin technology, AdvanTech panels resist the damaging effects of moisture such as edge swell, cupping and delamination so you can spend less time on costly rework and sanding. Voted #1 in quality for 12 straight years, AdvanTech Flooring performs where you need it most.



**300 DAY
NO SANDING
GUARANTEE**

Visit AdvanTechPerforms.com to learn why AdvanTech flooring is the Flat Out Best™ for a quiet, stiff floor. **1.800.933.9220**



ENGINEERED
WOODS