

ISSUE  
**16**

The magazine  
for building  
professionals  
from LP Building  
Products

# ENGINEERED WOOD

SUMMER 2016

PG 10

## THE BIG BOOM

DEMAND IS STILL STRONG IN STUDENT  
HOUSING NEW CONSTRUCTION

INSIDE THIS ISSUE

**Women In Architecture** Transforming the Design Field

SUSTAINABLE FORESTRY

OFF-SITE CONSTRUCTION



Look around the office, job site, lumberyard or industry trade show, and you're likely to see changes happening. One key driver behind a number of the changes is the Millennial population. As this generation (ages 18–34) is in its coming-of-age—and recently surpassed the number of Boomers in the United States—their presence is being made known. A highly targeted group for marketers in a spectrum of industries, Millennials are also driving building industry trends.

Our cover story (page 10) discusses the boom in student housing as students are enrolling in U.S. colleges and universities in record-breaking numbers. And where those students live during their college years has expanded the involvement and creativity of the building industry. A lot of the trends we are seeing around multifamily construction (walkability, mixed-use, sustainability) are still relevant in the student housing sector, but so are other amenities and aesthetics (hello, lazy river pool!).

Other Millennials are entering the housing market as first-time homebuyers or graduating beyond typical starter homes. As the industry continues to respond to their needs and wants in a home, the purchasing habits of Millennial homebuyers are also brought to the forefront. This generation has been dubbed as tethered

to technology, so how are you responding to Millennials' need to incorporate technology into their real estate research, financing and purchasing decisions?

But Millennials aren't just a stimulus for the building industry; they are also affecting industry demographics as an upcoming industry member. Consider that almost half of all architecture students in the United States are female. In "How Women Are Transforming the Architectural Field" on page 06, we interview four accomplished female architects serving as role models for other female—and male—counterparts in the architectural field. Read their Q&As to learn how gender can impact their role, insights and opportunities in their field.

To read about more trends, products and updates affecting the industry, continue reading this issue of *Engineered Wood*. For even more articles, head on over to [EngineeredWoodOnline.com](http://EngineeredWoodOnline.com) for a regular digital dose of industry news. If you have a story idea or would like to share your feedback, please contact our editor Kristin Hampel at [editor@engineeredwoodonline.com](mailto:editor@engineeredwoodonline.com).

From everyone at LP Building Products, we hope you enjoy Issue 16 of *Engineered Wood* and we thank you for being a dedicated reader.

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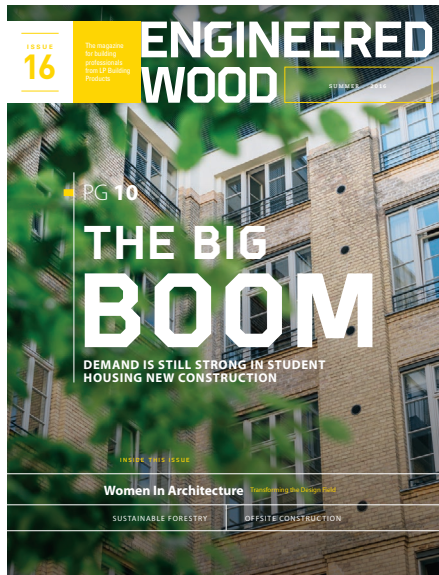
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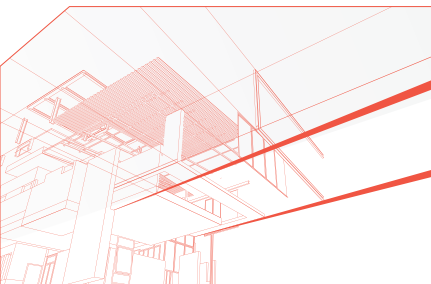
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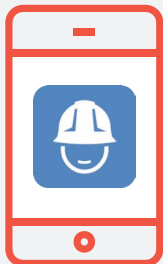
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**INTERNATIONAL  
FOCUS:**  
Denmark



## BUILDER TOOLKIT

## TRENDS &amp; TECHNOLOGY



+ Available for download on iTunes, Google Play and Amazon

## Site Diary

Construction site logs have gone mobile with a new app from Appear Networks called Site Diary available on Apple® iOS and Android® for mobile phones and tablets. According to the developer, Site Diary allows site engineers to easily record any necessary notes throughout or at the end of the day. Notes are easily archived without having to save reams of paper or burdensome notebooks. The mobile site also allows you to share progress and important issues with others in your network.

+ [mobilesitediary.com](http://mobilesitediary.com)

## The Cat® S40 GSM Smartphone

Caterpillar recently released its newest mobile device: the Cat S40 GSM Smartphone. Claimed to be “built for the outdoors,” the new phone is a fully specified, high-end 4G rugged smartphone with a quad-core processor running the latest version of Android. Perfect for any build site, the phone is dust proof, drop proof and waterproof, per the manufacturer. The Cat S40 also features an 8 megapixel camera, 4G LTE network, and 4.7”HD screen. It also comes with its own dedicated, industry-relevant app store.

+ [catphones.com](http://catphones.com)

## Coffeeboxx by OXX

We know it's tough to make multiple coffee runs to the local coffee shop or convenience store while on the job site. The new COFFEEBOXX™ by OXX® is a single-serve coffeemaker specifically designed for outdoor job sites. According to OXX, the COFFEEBOXX is crush proof, dust proof, portable and lightweight. No need to rely on a furnace mug for a lukewarm cup of coffee. With a self-contained filtering system, the single serve coffeemaker works with all K-Cup® compatible packs.

+ [oxx.com/thecoffeeboxx](http://oxx.com/thecoffeeboxx)



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# STEVE CATES

## CATES BUILDERS

Steve Cates of Cates Builders has developed a respected and trusted reputation in the industry by building custom and semi-custom homes in the Middle Tennessee region. Over the years, he's figured out that the key to building quality homes on time and on budget is treating the residential builds in the same manner that he does his engineering design, planning and neighborhood development. His building process involves detailed scheduling and constant monitoring of work progress.

With his experience as both a civil engineer and business executive, Cates brings a valuable perspective to each homeowner.

"I believe my experience as a civil engineer allows me to make sound decisions on placing the home at the right location and elevation," says Cates. "It creates a home that fits well in its environment and functions correctly with the site topography. More importantly, the grading and drainage work correctly."

As the son of a builder, Cates learned through hands-on experience how to create a home by visiting jobsites with his father.

"I wanted to be in the building business because I wanted to see people smile when they walked into a finished home," says Cates. "A home is the largest investment that people have."

He has traveled all over the country consulting on engineering, planning and construction management for some of the largest healthcare companies and land developers in the Southeast.

To further his involvement in community development, Cates donated his skills to the House for Hope Project in 2009, which included a joint project with LP Building Products to raise almost \$100,000 for charity.

Cates relies on LP Building Products for several applications. In particular, his team looks to LP I-Joists for flooring systems and to LP® SolidStart® LSL for use in window/door headers and LSL studs in some targeted areas (cabinet/vanity walls).

"I enjoy working with LP Building Products because of the value associated with them. LP is a great manufacturer, and their products are extremely durable. It is also important for us to work with local companies!"

Cates was born and raised in Nashville, Tennessee, and he considers it an honor to be a part of creating dream homes for local Nashvillians. ■

+ [www.catesbuilders.com](http://www.catesbuilders.com)



Image: CatesBuilders.com



Image: CatesBuilders.com



# BIM Ups the Ante on Dimensional Modeling

..... If you're building with engineered wood products, you're already taking a step toward better efficiency and less waste on your projects.

And thanks to the rising trend in BIM software in recent years, there's now more software options available to help you save time and boost accuracy during the building process.

## WHAT IS BIM?

BIM stands for building information modeling. It's defined in many ways, but it's most easily described as the process used by architects, engineers and construction industry professionals to better plan, design, construct and manage infrastructure with 3D modeling.

3D modeling is a step up from CAD, which uses 2D models that are comparable to a digital form of the traditional ink and paper. CAD continues to be an almost universally used tool that helps builders plan better and share project plans. But it requires additional manual input for every change across all files. And those additional steps can really add up—both in time and the amount of room for human error.

Instead of using separate sets of drawings that each have to be updated when a change is made, BIM updates automatically. Just make the change in one place and it's applied everywhere applicable, saving a significant amount of time over CAD software while improving accuracy.

## WHY NOW?

Building industry professionals have used and trusted BIM for decades, but it hasn't always been easily accessible to those outside of bigger firms. And thanks to the rise in mobile technology such as smartphones and tablets, more people have been able to dial in and step up their game when it comes to using more advanced software. BIM has grown primarily for one reason—there's more access now for users at firms of any size. ■

- Helps take building decisions from concept to reality
- Contains full depth of building information and comprehensive data such as load-bearing structures, building systems, ducts and pipes, and more

## WHAT ELSE?

**BIM can help industry members make more informed building decisions.**

- Delivers project management information that is not represented visually, such as manpower, safety and other factors that will affect the schedule
- Reduces uncertainty by predicting potential problems and their impacts
- Helps eliminate waste on-site by facilitating more pre-fabricating off-site
- Helps to better convey the design concept of a project to potential clients

+ Visit the "Resources" tab on [LPCorp.com](http://LPCorp.com) and click on "CAD Details" for free content downloads with customizable data-rich BIM files for your next building project.



# G&I TEAM MONITORS MEGA-TRENDS

## THE ECONOMIC, ENVIRONMENTAL AND DEMOGRAPHIC TRENDS HELPING SHAPE THE INDUSTRY

LP's Growth & Innovation initiatives help identify—and capitalize on—construction industry “mega-trends” that will reshape the industry in the next decade.

Some of these trends reflect shifting demographics, while others involve emerging technologies and aesthetic preferences.

Here's a sampling of some of the major trends that will have a significant impact on LP product design in the coming years:

### LABOR SHORTAGE REQUIRES SIMPLER INSTALLATION

Many construction workers left the industry during The Great Recession and have never returned. Their replacements often have a lower skillset than their predecessors. Value-added products decrease labor time by making installation simpler and easier. For example, LP® FlameBlock® Fire-Rated OSB Sheathing eliminates the need for a crew to measure, cut and install an external layer of gypsum in many applications.

### MILLENNIALS ARE “MOVING UP” IN SINGLE-FAMILY

The latest Hanley Wood research shows that Millennials (homebuyers ages 18 to 34) are moving up to bigger, better homes. This is a real opportunity to either introduce or expand value-added OSB products.

### WOOD SKYSCRAPERS HAVE BIG POTENTIAL

The ICC's new ad hoc committee on Tall Wood is taking a serious look at the building science involved in these wood structures that will soon reach 30 stories in Europe and Canada. By some estimates, Tall Wood buildings use six times as much wood as a structure made with conventional techniques.

The Tall Wood phenomenon creates many opportunities for LP® SolidStart® LVL and LSL because they're less susceptible to moisture changes and shrinkage than traditional lumber.

### THE SOUTH DOMINATES MULTIFAMILY

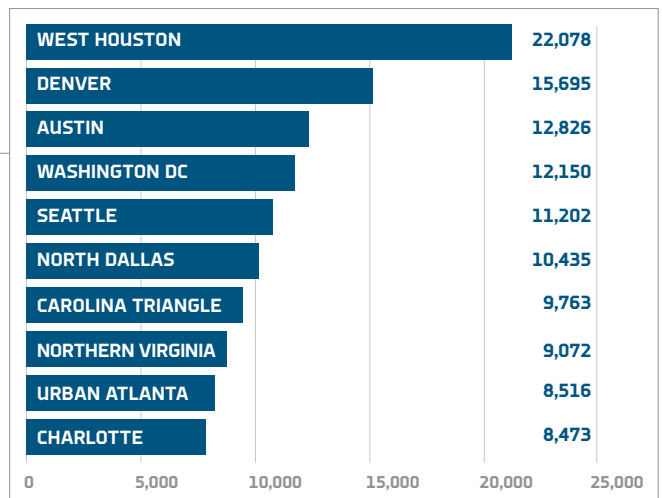
In decades past, the Los Angeles and Chicago metro markets were a shoo-in to make the Top 10 in multifamily new construction. Now, seven of the ten fastest-growing cities for multifamily development are in the Southeast and Texas.

### STRONG DEMAND FOR SOUND REDUCTION

From student housing to luxury condos, residents are getting less tolerant of hearing the music and loud voices coming from an adjoining unit. That's why many architects are designing fire-rated wall assemblies that also provide Sound Transmission Class (STC) ratings of 55 or higher. (Current IBC code calls for STC 50 in multifamily buildings.) There are two UL 350 assemblies using LP FlameBlock Fire-Rated OSB Sheathing that provide STC ratings of 56 and 61 respectively. Look for more LP innovation in sound reduction in the years ahead. ■

### UNITS COMPLETED JUNE 2014 - MAY 2015

Data provided by  
Pierce-Eislen



# How Women Are Transforming the Architectural Field

Today, a quarter of professionals practicing architecture are women and 17% of U.S. firms are owned by women, according to the Association of Collegiate Schools of Architecture (ACSA). Not counted, however, are those women teaching architecture or implementing their knowledge of architecture via another sector of the building industry. And the ACSA also reports the number of women studying or entering the field is on the rise, as 43% of architectural students nationwide are female. *Engineered Wood* spoke with four award-winning female architect-executives who are providing encouragement as role models for women just launching their careers:

Photo: Terry Wier Photography



**Linda Marzialo, AIA, ACHA**  
President/CEO  
Gould Turner Group  
Nashville, TN

**DISTINCTIVE DESIGNS INCLUDE**  
Memory Care of Westover Hills  
San Antonio, TX  
One Belle Meade Place  
Nashville, TN

## LINDA MARZIALO: ON CAREER CHALLENGES

In 2000, just 9% of AIA members were female. Now it's 17%, so it's nearly doubled in the past 16 years. But that figure is still far too low when you consider the number of female architectural school graduates.

## ON OPPORTUNITIES

I'm definitely seeing an increase in the number of women-owned architectural firms, especially second-generation ownership where the founder retires and a female principal takes over.

## ON DESIGNING WITH ENGINEERED WOOD

Many of the clinics and assisted living centers we design are wood-framed. There's a significant cost savings in using wood framing versus metal studs. Plus it's readily available, with a shorter order time.

Photo: Shooting LA



**Adele Chang, AIA**  
President  
Lim Chang Rohling & Associates  
Pasadena, CA

**DISTINCTIVE DESIGNS INCLUDE**  
Carabella Apartments  
Woodland Hills, CA  
Delacy at Green Condominiums  
Pasadena, CA

## ADELE CHANG: ON CAREER CHALLENGES

The attrition rate for women in architecture is very high due to the work/life balance challenges in the field, where there's often little accommodation for childcare-related schedules.

## ON OPPORTUNITIES

I think it's quite easy for women to see the results of hard work and talent in our field. I was fortunate to have had a mostly positive experience in my career—and I've enjoyed the support and confidence of many clients. I also found that there were benefits to being female because I was more memorable [to clients and colleagues] since there were so few of us in the profession.

## ON DESIGNING WITH ENGINEERED WOOD

Engineered wood products such as trusses and open web joists add value by being more efficient and flexible in allowing plumbing and mechanical runs.



Photo: © Alan Karchmer



**Suzane Reatig, FAIA**  
President  
Suzane Reatig Architecture  
Washington, D.C.

**DISTINCTIVE DESIGNS INCLUDE**  
506 O Street NW  
Washington, D.C.  
1713 Seventh St. NW  
Washington, D.C.

Photo: Rixon Photography



**Nea May Poole, AIA,  
LEED, AP**  
Managing Partner/COO  
Poole & Poole Architecture  
Midlothian, VA

**DISTINCTIVE DESIGNS INCLUDE**  
NOHO Flats  
Tampa, FL  
5 Thousand Town  
Jacksonville, FL

## SUZANE REATIG:

### ON CAREER CHALLENGES

For at least the last 20 years, the number of women in architectural programs has remained steady. But women leave architecture because it often does not adjust to allow them to return after having children—or to have a balanced family and work life. To work as an architect in the United States is challenging for both men and women. Many people don't have a clear understanding of the architect's role and what it takes to complete a project. The big challenge is educating clients, municipalities and the general public about the architectural profession.

### ON OPPORTUNITIES

Our firm is 80% female, and we promote a life/work balance in our office that benefits both men and women. We hope this will some day be the norm.

### ON DESIGNING WITH ENGINEERED WOOD

We can be creative using known construction systems in a new way. An example is the use of prefabricated elements like precast concrete or engineered wood products for the structure of multifamily townhouses instead of the usual wood construction. This resolves fire resistance and noise transmission between floors and units while reducing termite and mold issues.

## NEA MAY POOLE:

### ON CAREER CHALLENGES

When students graduate from a five-year architecture program, they have to intern a minimum of three years before they can take their licensing exam. This puts them in their mid-to-late twenties, and for women at that age there's a struggle between work and family. Many decide to leave the profession to have more time with their kids.

### ON OPPORTUNITIES

My area of expertise [single-family and multifamily] is a great area of practice for women because the mindset—from developers to engineers and contractors—is very different from the expected stereotype. Women work throughout multifamily on the owner side as development associates, in marketing, in the management companies, and as interior designers. Men who are multifamily developers appreciate the design perspective of a female architect since women are half the housing market.

### ON DESIGNING WITH LP PRODUCTS

LP is an incredible resource for multifamily architects. Our projects use a wide variety of LP products, including LP® FlameBlock® Fire-Rated OSB Sheathing, LP® SolidStart® LVL and LSL, and LP® TopNotch® Sub-Flooring. LP FlameBlock sheathing is a great substrate with impressive strength, which helps with structural design values. It's also more resistant to weather than either gypsum or FRT panels. ■



#NOWTRENDING

# BUILDER NEWS & TRENDS

NO. 1



## LP Helps Meet Growing Demand for Flame-Retardant Products

LP Building Products recently broke ground on a new expansion at its Clarke County OSB mill in Alabama. This new addition will add an LP® FlameBlock® Fire-Rated OSB Sheathing line to the facility. Brad Southern, LP's executive vice president of OSB, said, "This substantial investment at our Clarke County mill will increase our ability to meet the growing market demand for fire-rated building products like LP FlameBlock in the single-family, multifamily and light commercial construction markets." Manufacturing LP FlameBlock sheathing in Clarke County brings production closer to strong building markets, including the Southwest, Southeast and Mid-Atlantic. The Freedonia Group predicts that U.S. flame-retardant demand will rise 6.0% yearly to 1.1 billion pounds in 2016, with construction products being the fastest growing market segment. LP is committed to meeting the high demand for fire-rated OSB sheathing with adequate production capacity. Construction on the new line began in the third quarter of 2015, with completion expected by September 2016.



NO. 2

## NESEA Offers "Deep Energy Retrofits" Online Course

For residential and commercial building professionals interested in generating deep energy retrofits (DER) for existing structures, the Northeast Sustainable Energy Association offers a 10-week, self-guided online course approved for continuing education credits. According to the course description, students in this course will learn how to assess whether a home is a good candidate for a DER, better understand energy usage within buildings, and a range of technologies and techniques that have proven successful in DERs. Visit [NESEA.org](http://NESEA.org) and click on the "Masters Series" tab to learn more and register. This course runs September 12 through November 21.

NO. 3



## Is Home Buying Going Digital?

In the age of Pinterest, most homebuyers have curated their dream home online. But it doesn't stop there. According to a recent survey of 1,000 potential homebuyers by Owners.com, a large number of buyers feel self-reliant and comfortable shopping for a house online. According to the survey results, as reported by Housingwire:

- 73% of survey respondents would use online sites to search for properties
- More than half are inclined to book home tours online
- 43% would consider online financing products
- 27% would make a purchase offer online

With the online home buying marketplace drawing in shoppers, it seems even more important for building industry professionals to take a second look at their web presence. In April, the U.S. Census Bureau announced that Millennials officially outnumber Baby Boomers as the largest population group in America. The bulk of these trendsetters have embraced a technologically driven way of life, including strong online buying habits. While American Millennials haven't fully embraced online home buying, they are turning to the web for the research, planning and comparison stages. Even realtors, too, are taking their signing process online. With digital e-sign platforms like Dotloop, you no longer have to meet your realtor in their office to sign a stack of papers. ■



# Expansive and Intricate

## CUSTOM HOME DESIGN IMPLEMENTS LP® SOLIDSTART® LSL FOR STRENGTH, STRAIGHTNESS AND STIFFNESS



LOCATION: CARMEL, INDIANA

### PROJECT SUMMARY

Ennis Custom Homes was tasked with building an 18,000 sq. ft. home and a 5,500 sq. ft. guest home with unique technical design elements in Carmel, Indiana. The builder relied on LP® SolidStart® LSL as well as LP® TechShield® Radiant Barrier Sheathing. Ennis Custom Homes worked with ProBuild/Carter-Lee Lumber Company to supply building products and partnered with Wyatt Construction for framing.

### PROJECT OBJECTIVES

In order to construct a large custom home with unique design elements, Ennis Custom Homes sought out building products that offer:

- Consistent low moisture content
- Fast and easy installation
- Long lengths and uniform dimensions
- High strength and durability
- Contributions to energy efficiency

### SOLUTION

Ennis Custom Homes relied on LP SolidStart LSL extensively throughout a complex and large residential build. The product was specified by Brad Ennis of Ennis Custom Homes for its dimensional stability, engineering capabilities, and low moisture content. In addition, the home included LP TechShield sheathing in the roof.

### OUTCOME

Because of the need to control shrinkage, Ennis was pleased with the low moisture content of LSL. Throughout installation, Wyatt's framing team did not have to replace any studs in either home due to performance issues. In total, the build required 3.5 trucks of LP SolidStart LSL and two trucks of LP TechShield sheathing.

"The technical specifications for LP SolidStart LSL and LP TechShield sheathing are unsurpassed," said Ennis, who has been working with LP products for over 20 years. "The structural and environmental

components that LP SolidStart LSL offers the builder over dimensional lumber is absolutely outstanding." Ennis predicts the structure will stand the test of time and is confident that his company will continue to use the product in the future ■

+ [www.EnnisCustomHomes.com](http://www.EnnisCustomHomes.com)

Read the full case study at [lpcorp.com/resources/casestudies/](http://lpcorp.com/resources/casestudies/) and visit Ennis Custom Homes at [EnnisCustomHomes.com](http://EnnisCustomHomes.com).





# THE BOOM CONTINUES IN STUDENT HOUSING CONSTRUCTION

The Sterling Burbank property at Louisiana State University will feature a Lazy River pool.  
Image: GoToMyApartment.com





According to research from the U.S. Department of Education, there will be three million more college students enrolled by 2022 than were enrolled in 2012.

Many on-campus dormitories are already at 100% occupancy, and Fannie Mae estimates that colleges and universities won't be able to keep up with the rising demand for student beds. That's why there's been a boom in both private off-campus student housing construction and in public-private partnerships (P3).

Investment firm FourPoint Investments in Austin, Texas, estimates that more than 47,500 privately funded beds are in the pipeline nationwide this year. Investment sales across the United States in student housing reached \$4.8 billion last year, surpassing the 2014 total by more than \$1 billion.

*Student Housing Business* magazine estimates that more than 150,000 beds are being planned nationally by private developers between the fall of this year and fall of 2019. That doesn't count the university-funded projects, such as Clemson University's plans for 700 new beds this fall and 1,850 more by the 2018 school year.

Wood framing makes residence halls and off-campus housing less expensive to construct than concrete structures. Lowering construction costs with wood framing was the main rationale for the recently completed five-building student housing project at the University of Washington that added 1,700 student beds.

"Student housing is poised to continue its development and investment boom over the next two years," says Randy Shearin, editor of *Student Housing*

*Business*. "With more than 250 private student housing projects planned over the next three years, development is not showing any signs of slowing down. At the same time, on the development front, institutional capital has expanded its presence in the space—not only investing in established student housing operators and developers, but directly purchasing assets."

#### STUDENT HOUSING GOES UPSCALE

The days of the stark, double-occupancy dorm room are numbered. Today's students—especially those looking for off-campus housing—have more sophisticated tastes.

Bloomberg recently reported that 80% of students in off-campus housing have access to a swimming pool and 55% have on-site tanning salons (because that is what every student needs). Nearly 10% have yoga studios, and a few even feature "lazy river" swimming pools like those at water parks.

Many students now prefer to live in mixed-use buildings that offer both lodging and easy access to restaurants and retail stores. One example is The Varsity at College Park near the University of Maryland, which houses 900 students and offers more than 16,000 square feet of retail space.

For architects and builders, the challenge is to balance visible amenities with value-added structural features that are equally important. This is where the cost savings from materials like wood and engineered wood can benefit builders and developers. When balancing an overall project budget, cost savings in the framing can lead to more available funds for the amenities and aesthetics.

"What a design and development team has to balance is the unseen added-value versus the readily obvious features like granite, a bike shop or a dog fountain," says Nea May Poole, COO of Poole and Poole Architecture in Midlothian, Virginia. "Residents will pay more for things they see as enhancing their lifestyle, while they just expect an apartment that's quiet, watertight and offers good safety features."

That view is echoed by Dick Kirshner, principal at KWK Architects in St. Louis, which is currently constructing new residence halls at the University of Missouri, University of North Carolina and many other colleges nationwide. "We are always interested in materials and assemblies that can meet or exceed all of the minimum design criteria needed for quality housing," he says. "These certainly include fire code compliance, but also acoustics, durability, appearance and cost."

Back in Maryland, Grimm + Parker architects chose LP® FlameBlock® Fire-Rated OSB Sheathing in the construction of The Varsity at College Park, a sustainable project comprised of stick frame over concrete. LP FlameBlock sheathing was the right choice for the intricate shear design of the building, allowing the construction crew to use the fire-rated OSB sheathing instead of two layers of gypsum. This saved them both labor and material costs, and made the installation faster and easier.

Sound reduction is a key consideration at the new student facilities being built at Clemson. "To minimize sound from adjoining rooms, our partition walls have a Sound Transmission Class (STC) rating of 56," says James Bonney, Clemson's associate director of residential facilities. That far exceeds the STC 50 rating required in current IBC code for multifamily construction.

Acoustical solutions are also paramount at Gould Evans, a national architectural firm with offices in Phoenix, San Francisco, New Orleans and other locations. "Our first priority is always fire resistance," says Krista Shepherd, a principal at the firm. "But decisions involving the acoustics of a living space can affect students' stress levels, ability to focus on studies, obtain adequate rest and, ultimately, their success in college."

### SECTOR NOT OVERBUILT

Several years ago, there was a mistaken perception that the student housing sector was being overbuilt. But the continued high

occupancy rates and strong rental growth rate put those fears to rest. Student housing construction—once considered a niche market—will continue to experience impressive growth into the next decade. As more builders turn to wood-framed and engineered wood-framed construction for projects including student housing, more and more builders will continue to see the advantages in the form of cost savings, design flexibility, structural integrity and sustainability. ■

#### IN BRIEF:

The Varsity

#### LOCATION

College Park, Maryland

#### PROJECT SUMMARY

In building The Varsity at College Park, a complex of student dormitories, retail establishments and parking, Grimm + Parker Architects sought to speed construction and exceed required building codes in order to provide a safe place for students to live and shop.

#### PROJECT OBJECTIVES

- Save time and money on construction and materials
- Maintain structural performance
- Meet or exceed building codes related to fire resistance

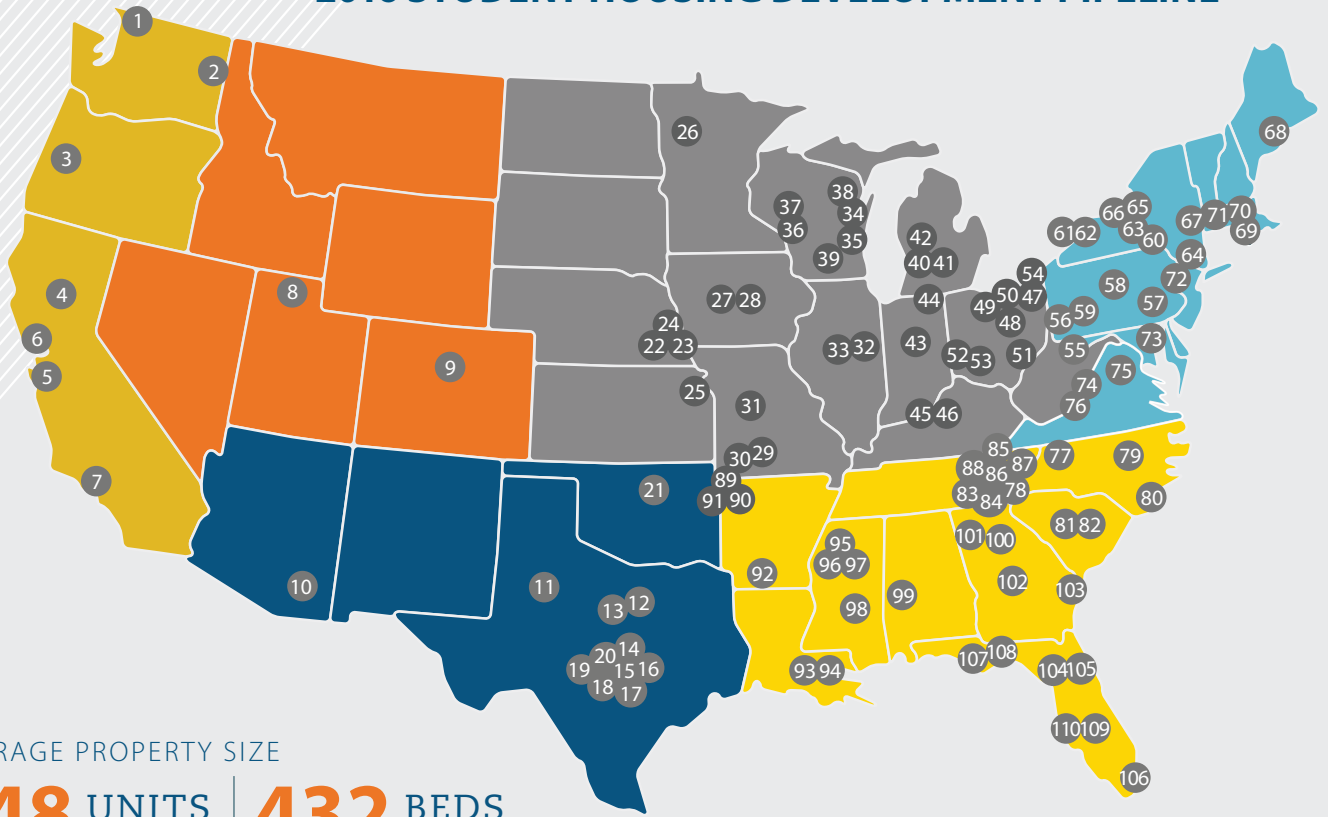
#### SOLUTION

Two-sided LP® FlameBlock® Fire-Rated OSB Sheathing was used to achieve a two-hour exterior fire wall. This approach was cost-effective when compared to the time and labor needed to apply two layers of gypsum sheathing. The LP FlameBlock core also provided the structural performance and ease of use sought after by Grimm + Parker.





## 2016 STUDENT HOUSING DEVELOPMENT PIPELINE



AVERAGE PROPERTY SIZE

**148** UNITS | **432** BEDS

TOTAL UNITED STATES

**110** PROPERTIES | **16,302** UNITS | **47,547** BEDS  
IN PIPELINE IN PIPELINE IN PIPELINE

### PACIFIC COAST REGION

**7**  
# of PROPERTIES  
in PIPELINE

**1,164**  
# of UNITS  
in PIPELINE

**3,358**  
# of BEDS  
in PIPELINE

### MOUNTAIN STATES REGION

**2**  
# of PROPERTIES  
in PIPELINE

**180**  
# of UNITS  
in PIPELINE

**880**  
# of BEDS  
in PIPELINE

### MIDWEST REGION

**34**  
# of PROPERTIES  
in PIPELINE

**4,127**  
# of UNITS  
in PIPELINE

**11,739**  
# of BEDS  
in PIPELINE

### SOUTHWEST REGION

**12**  
# of PROPERTIES  
in PIPELINE

**2,362**  
# of UNITS  
in PIPELINE

**6,410**  
# of BEDS  
in PIPELINE

### SOUTHEAST REGION

**34**  
# of PROPERTIES  
in PIPELINE

**5,302**  
# of UNITS  
in PIPELINE

**15,524**  
# of BEDS  
in PIPELINE

### NORTHEAST REGION

**21**  
# of PROPERTIES  
in PIPELINE

**3,167**  
# of UNITS  
in PIPELINE

**9,636**  
# of BEDS  
in PIPELINE

# ON-SITE OPINIONS ABOUT OFF-SITE

Off-site construction. Prefabricated construction. Modular construction.

Whatever you call it, don't let the name fool you. These are not the manufactured homes of yesteryear. But prefabricated construction projects—including of the planning, design, fabrication and assembly of building components at a site other than their final installation location—do represent a building trend that has been picking up steam for the past five years or so in a number of building categories.

In the wake of a rebounding though slightly stagnant building industry, off-site construction has offered an alternative to traditional on-site construction methods.

According to a 2014 study by the National Institute of Building Sciences (NIBS)—the organization behind the Off-Site Construction Council—off-site construction has been used the most frequently in the commercial market, where nearly 57% of survey respondents said their company had reported using this method. Closely behind were respondents reporting off-site construction methods in the industrial (51.2%), healthcare (44.8%) and education (37.1%) sectors. Single-family scored the

lowest with only 8% of respondents reporting using off-site construction methods in this sector.

Despite the high prevalence in some sectors by survey respondents, the NIBS survey results indicate that off-site construction's sector represents only 2–5% of the overall construction industry, though experts expect that number to increase.

## DRIVING FORCES

As proof that prefabricated construction is trending, several industry players gathered for the inaugural Offsite Construction Expo hosted by NIBS, the Modular Building Institute® and the Associated General Contractors of America in 2015. Off-site construction allows the building industry to increase productivity via integrated planning and supply chain optimization strategies. In some cases, off-site construction can benefit the industry despite labor issues, scheduling, costs, quality, safety and weather.



# CONSTRUCTION

Proponents of off-site construction—including Ryan Smith, an associate dean at the University of Utah—tout benefits like faster schedules, higher quality, and potentially lower costs. By constructing more of the building in a controlled environment like a factory or warehouse, building teams can reduce or eliminate many external factors that weigh into the safety of a workforce, including heights or extreme hot or cold temperatures.

According to a report by Smith comparing traditional projects to permanent modular ones, he reported that modular projects had shorter build times (averaging over 40% less total time) and cost savings nearly across the board (averaging 11% in cost savings).

## ROADBLOCKS TO MASSIVE GROWTH

If off-site construction sounds too good to be true, you may be onto something. Speakers at the Offsite Construction Expo—like Sue Klawans of Gilbane Building Company—also focused on the drawbacks and barriers to prefabricated construction's takeoff.

Per the NIBS, off-site construction disadvantages can include an impact on the floor-to-ceiling heights and wall thickness, transportation restrictions due to panel or modular size, potential restrictions on design spans and configurations, and possible ramifications on the structure's future renovations.

Additionally, because off-site construction brings new wrinkles to the construction workflow, a larger buy-in would likely need to happen before this really takes off. Perhaps one of the biggest deterrents to off-site construction being a major player in the process is the need for an industry-wide paradigm shift since the building industry has various steps involving integrated roles.

“What stands in our way? It’s mostly us,” explained Klawans. ■



What do you think about offsite or prefabricated construction? Head on over to our Facebook page and let us know your thoughts on this topic.



## MARKETING TIPS

# REWARD VIA REFERRAL PROGRAM

## INCENTIVIZING YOUR CUSTOMERS

### Establishing and Rewarding via a Referral Program

While some salespeople salivate at the thought of cold-calling a new sales lead, that enthusiasm isn't always reciprocated on the other side of the phone or email server. Conversely, a warm introduction via a referral is a welcomed cue on both sides of the conversation.

So how does your business or organization increase the number of referrals you receive? For starters, talk with your employees and survey customers to understand what would elicit a referral. Depending on where you fall in the workflow of the building industry, it could vary. However, some universal examples could include stellar customer service, affordability, quality product or service, on-time delivery of goods or services, or an overall satisfactory experience.

Referral programs can be set up in various manners. Some organizations may take a more organic approach. Here, you can ask a new client how or where they heard about you. Then, you follow up with the source and offer them an unexpected token of your appreciation. On the other hand, a published referral program can incentivize your customers to proactively refer their colleagues to you. You may find your best program is one, the other or a combination of the two.

*Here are some things you should consider in order to maximize your referral program:*

#### MAKE A PLAN.

What is your strategy for gathering referrals, and how will you implement the program across your workforce or organization? Decide on the goals you want to accomplish through your referral program.

#### MAKE IT KNOWN.

Once you have established a program, tell people. Consider all the different means of communication you may have, like invoices, on-hold message, email signatures, website, brochures, advertising, social media, and your employees themselves.

#### MAKE THE REWARD WORTH THE REFERRAL.

Decide what is enticing and within your budget to offer participants. Consider discounts or credit with your business, money or gift cards, or "preferred" status on your company's short list of referrals. Consider rewarding both the referrer and the referee. You'll find your threshold, but customers are more likely to partake in a referral program if the reward is valuable.

#### MAKE THE ASK APPROPRIATELY.

Don't treat referrals lightly—because your customers don't. Consider the customer experience as well as the stage of the relationship and/or project, then time your ask appropriately.

#### MAKE GOOD ON YOUR OFFERS.

Don't make promises you can't back up. This could pertain to rewards you promise for referrals as well as to the standards set by your referrers. If your customer refers a colleague to you because you always hit deadlines, then you better deliver as promised.

#### MAKE ADJUSTMENTS.

Let's face it. Your program probably won't be perfect right off the bat, and that's OK. When you find something that works, stick with it. If something is broken, fix it.

#### MAKE YOUR PROGRAM WORK FOR YOU.

Keep in touch with customers, especially those that openly sing your praises. They are your biggest advocates and best salespeople. Build your program and track your progress against the goals you set in the beginning. ■

✚ If you have a referral program in place or are interested in starting one, talk to your LP representative.





## TEAMING UP TO PROMOTE THE VALUE STORY

LP Field Marketing's mission is "building loyalty beyond price"—and it reflects a keen understanding of consumer attitudes. For example, Audi and BMW sedans and SUVs aren't the lowest priced option in their class, but consumers are willing to pay a bit more because those vehicles consistently rank at the top of safety rankings.

The same attitude prevails among homebuyers, according to Mark Plumb, LP Field Marketing Manager for the Mountain and West region. "It's a fallacy that homebuyers will only do business with a builder who pressures vendors to provide rock-bottom prices," he says. "In fact, many prospective buyers would be turned off by that."

Plumb cites Lifestyle Homes in Logan, Utah, as a company that understands the importance of promoting quality. Lifestyle doesn't lean on vendors to cut prices to the bone. Instead, the company partners with suppliers like LP to tell the quality story, reaching would-be buyers in a variety of innovative ways.

"Lifestyle Homes' president Trent Cragun believes in building high quality homes, using durable and beautiful premium products like LP® SmartSide® Trim & Siding, and personally vetting all the materials used," says Plumb. "Prospective buyers see that every decision is based on quality and value—and they're willing to pay a fair price for what they're getting."

Last year, Lifestyle Homes began building the Mount Sterling Farms community in Logan, a city best known as the home of Utah State University. Research revealed that 12% of Logan adults ages 25–54 see a first-run movie at least once per month. Lifestyle and LP split the cost of running in-theater advertising—and LP Field Marketing helped produce the spots, which have run in Logan's two largest theaters for a year.

The two companies didn't rush to do radio ads because station signals aren't powerful enough to reach most listeners in the Cache Valley. But nearly half of Logan adults have Pandora accounts, so the companies jointly ran a nine-week Pandora campaign this year. Lifestyle has created a dedicated landing page to capture the leads generated by both the theater and Pandora campaigns.

By promoting long-term value—and understanding Logan's media preferences—LP and Lifestyle Homes are setting the stage for successful selling for years to come. ■

✚ To partner with the Field Marketing Manager in your area, contact LP at 888-820-0325.



# FORESTRY

## Sustainable Forestry, Building, and American Life Rooted in Certified Forestry

BY TOM MARTIN,  
AMERICAN FOREST FOUNDATION

Our forests are a source for a number of natural resources that are necessary for living. In the United States, the largest share of our forests are owned by 22 million families and individuals—not by the federal government or corporations—stretching over 282 million acres. These individuals, whether they own 10 or 100 acres, are the gatekeepers to the resources we count on.

### AMERICAN FOREST FOUNDATION

That's why the American Forest Foundation (AFF), a nonprofit forest conservation organization, works to ensure these woodland owners across the country are able to provide the clean water, air, wildlife habitat and wood supply needed by Americans. To do this, AFF works with local partners, industry stakeholders, policymakers and landowners themselves to address today's important economic and environmental issues. In the West, for example, AFF works to reduce the risk of catastrophic wildfire as a way to protect the clean drinking water that flows from forested watersheds. In the South, AFF works to provide sustainable wood supplies from family-owned land, while simultaneously improving wildlife habitat for key species.

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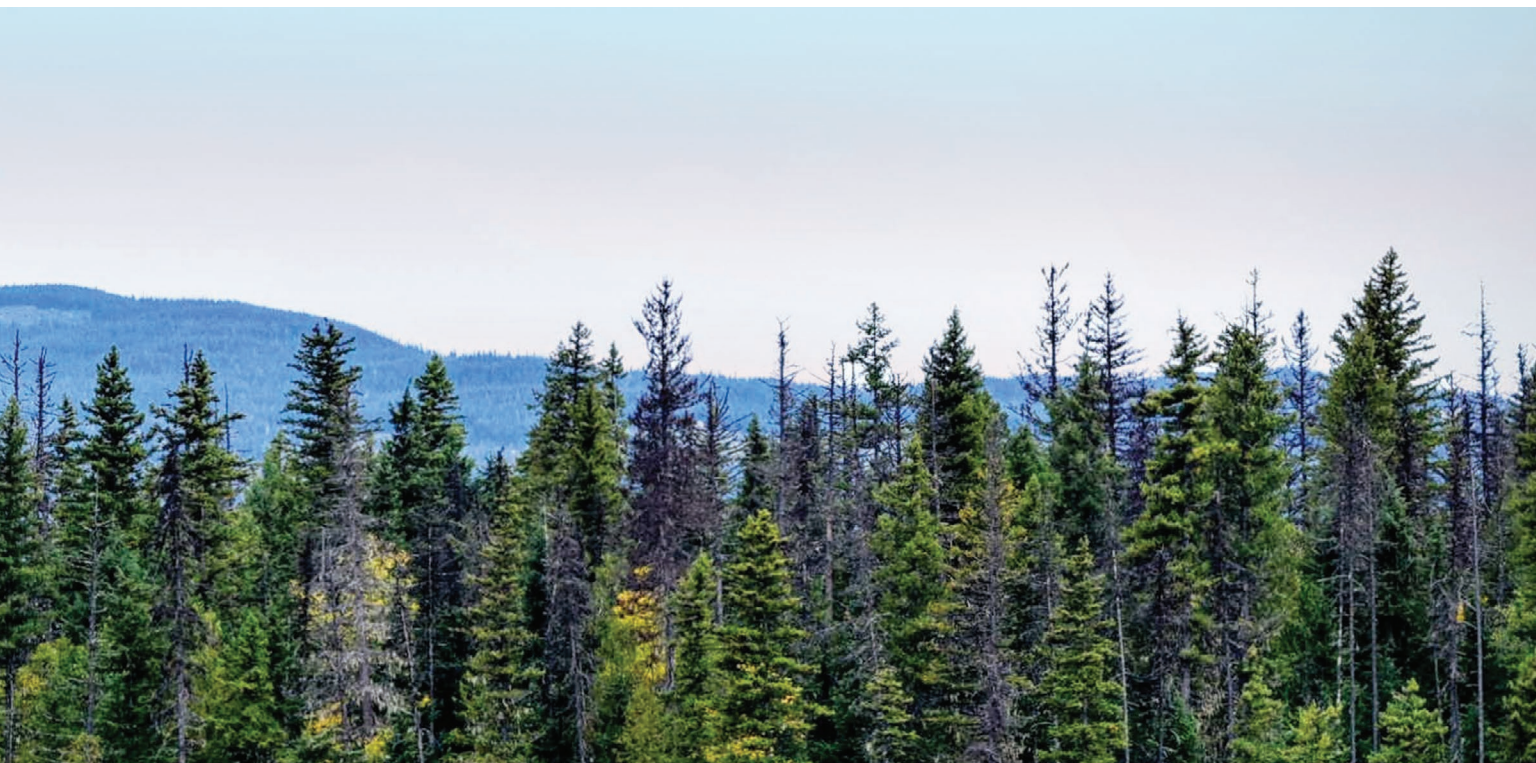
In order to address these challenges, AFF focuses its attention on key strategies.

These strategies include:

- Identifying markets that support the value of forests and wood
  - Using partner support on the ground
  - Implementing policies that support working forests and keeping forests as forests
  - Promoting a program that supports and verifies that small family landowners are doing the right thing on the land
- 

While many may not realize it, markets are critically important to family forest owners and sustainable forestry. Landowners incur costs on an annual basis for management and taxes, yet most do not harvest every year, or even every five years. Markets that want sustainably managed wood help landowners earn the needed income to replant, restore and keep their land in forests. Without income to cover these costs, family-owned woodlands are at risk of being converted to cotton fields or strip malls.





In order to help facilitate this market recognition of forest stewardship, AFF supports family landowners through the American Tree Farm System® (ATFS). Individuals in ATFS, also known as Tree Farmers, represent the most exceptional stewards of America's forests. Tree Farmers follow a rigorous set of standards for forest management that helps ensure they are protecting and improving clean water, wildlife habitat and overall forest health, while providing sustainable wood supplies. Their properties are visited by third-party auditors for verification. The program is celebrating its 75th anniversary this year. Today, it supports nearly 80,000 Tree Farmers sustainably managing more than 21 million acres of forest and is internationally recognized and endorsed by the global and rigorous Programme for the Endorsement of Forest Certification (PEFC®). And the value of ATFS continues to grow.

#### LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

In fact, just this April the U.S. Green Building Council® (USGBC) announced it is encouraging more responsibly sourced building materials in its Leadership in Energy and Environmental Design (LEED®) rating system.

The USGBC will now give credit for wood from ATFS-certified forests, as well as other credible forest certification systems such as the Sustainable Forestry Initiative® (SFI).

This news, that LEED will now accept wood from ATFS and SFI forests, will not only provide these forest owners with the recognition they deserve for their stewardship, but it will also make building with wood easier for builders, engineers and architects.

Today, it is estimated that half the commercial buildings in the United States are being built to a green standard. With USGBC recognizing wood from all credible certification systems, more wood from certified forests in the United States is now available for the industry.

Ultimately, we know that we will continue to need our forests. We will need the forest products so we can create homes and commercial buildings, and we will continue to need forests for our drinking water, clean air and a home for critters. Encouraging the use of sustainable wood that supports landowners in conservation truly provides a win-win. ■



**TOM MARTIN**

AMERICAN FOREST FOUNDATION  
PRESIDENT AND CEO

Tom Martin is President and CEO of the forest conservation organization the American Forest Foundation. Formerly, he served as the Executive Vice President of the National Parks Conservation Association (NPCA, the citizens advocacy group for a superlative National Park system). He also served as President and Member of the Board of Directors of Earth Force, Inc., the nation's largest young people's environmental and citizenship education and action group. Prior to that he was the Executive Vice President and Chief Operating Officer of the National Audubon Society.

# Introducing LP® FlameBlock® I-Joists

## THE EASY WAY TO MEET IRC FIRE CODE FOR FLOORS ABOVE UNFINISHED BASEMENTS

The LP® FlameBlock® I-Joist is our newest product, and its arrival is perfectly timed. An estimated 20% of new single-family homes have unfinished basements, and 2012/2015 IRC code affects I-Joist floor assemblies above unfinished basements. LP FlameBlock I-Joists meet the requirements of Exception 4, Section R501.3 (Exception 4, Sections R302.12 in the 2015 IRC) without the need for attaching a gypsum ceiling or installing sprinklers.

Many builders don't want the hassle of adding drywall or other field-applied solutions. LP FlameBlock I-Joist is a ready-to-install solution that protects an LP® SolidStart® I-Joist with a layer of patented, non-combustible Pyrotite® coating.

Some competitive products can be incorrectly installed with the wrong flange up, but LP FlameBlock I-Joists install easily with either flange up.

With the LP FlameBlock I-Joists, construction crews can cut and drill holes in the web for HVAC, electrical and plumbing using standard installation instructions—and the areas require no additional treatment.

LP FlameBlock I-Joists feature a 2½" flange for easier handling and more nailing/glue surface, and the thicker web makes finished floors feel firmer.

### WARRANTY

The new product comes with the LP SolidStart Lifetime Limited Warranty and is backed by LP's technical and engineering support. ■



### LEARN MORE

To learn more about LP FlameBlock I-Joists and complete warranty information, [please contact your local sales representative or call 888-820-0325](#) to find a representative in your area.







# INTERNATIONAL FOCUS

## SmartWood and LP Creating New Efficiencies

In 2013, LP began selling engineered wood products in Denmark through SmartWood A/S. The company is one of Europe's pacesetters in whole-house design, where floors, walls and roofs are built using portal frame construction incorporating a wide range of LP® SolidStart® Engineered Wood Products, including LSL, LVL and I-Joists.

This year, the LP team has worked closely with SmartWood to improve the efficiency of order tracking and logistics.

"We're doing a lot of optimization for SmartWood," says John Casteel, LP International Order Fulfillment Associate. "I've worked with them to use known combinations of products/cut patterns/load plans so that we can put together containers without creating new product identification numbers where possible. This work is most prevalent in their LSL orders, where we not only optimize weight and volume of shipping containers but also optimize the use of full billets of material to eliminate waste during the manufacturing process. My role in this process has been to translate customer needs into orders that can be entered into the ERP (enterprise resource planning) system, manufactured, and shipped as efficiently as possible."

LP SolidStart LSL offers many advantages over traditional timber, including better fastener properties, straightness and increased design flexibility.

"In recent years, Denmark has shifted from building with traditional timber towards engineered wood products such as I-joists and LVL," says Henrik Pedersen, SmartWood's technical director. "LSL is the natural next step, as its technical properties fit perfectly with the Danish construction industry."

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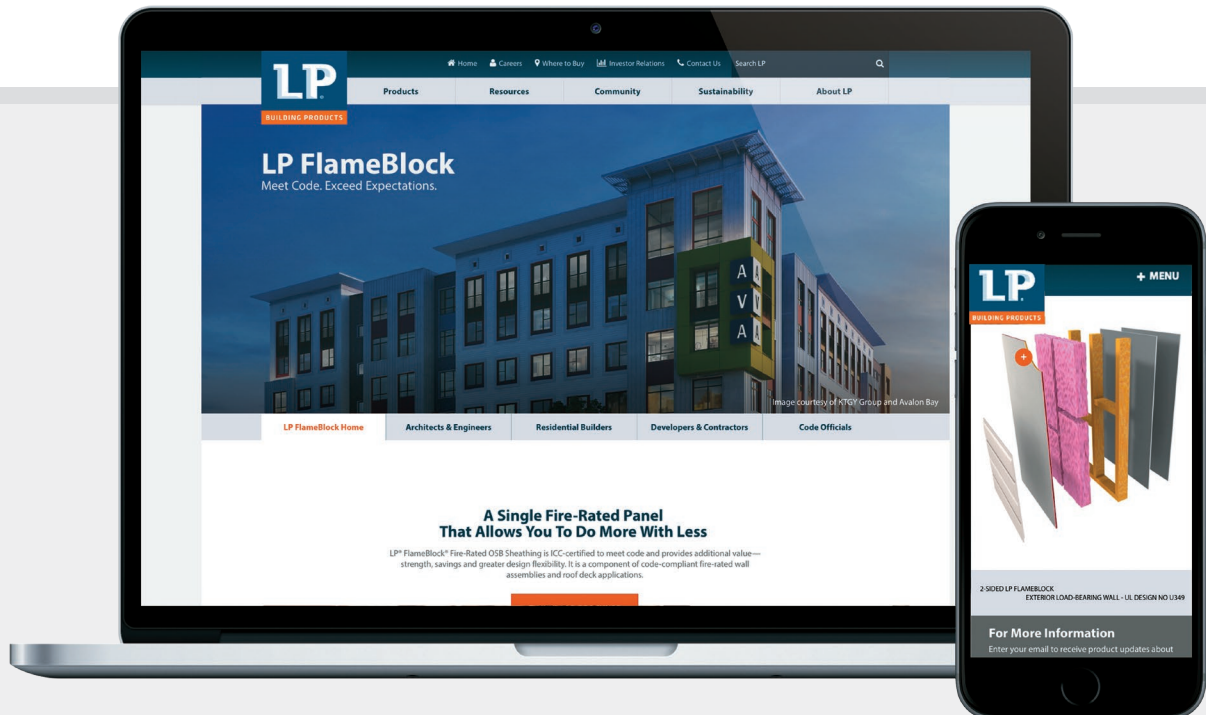
**"LSL is the natural next step, as its technical properties fit perfectly with the Danish construction industry."**

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STANDARD  
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PAID  
NASHVILLE TN  
PERMIT NO. 4398



## Introducing the all-new [LPCorp.com/FlameBlock](http://LPCorp.com/FlameBlock)

When you visit [LPCorp.com/FlameBlock](http://LPCorp.com/FlameBlock), you'll see that it's been enhanced and redesigned to reach a wider readership, including architects, engineers, specifiers, builders, developers and code officials.

The expanded site positions LP® FlameBlock® Fire-Rated OSB sheathing as an innovative fire-rated solution that meets code requirements and offers much more: greater design flexibility, higher design values, and reduced labor costs and construction time. The new content showcases why LP FlameBlock

sheathing is superior to both gypsum and FRT plywood for a variety of applications.

One of the visual highlights is an animated rendering of a wall assembly using LP FlameBlock sheathing. With a single click, the assembly pulls apart so site visitors can view each component.

Look for more of this type of multi-audience content in the future, as LP reaches out not just to builders, dealers and distributors but to designers, specifiers and code officials as well.

**NEW ASSEMBLIES GALLERY** | **LITERATURE FINDER TOOL**