News of Interest for and from the Connecticut Association of Home Inspectors, Inc.

CAHI MONTHLY NEWS

March 2019 Volume 12, Issue 03

Presidents Corner

"March madness" is upon us. The weather is slowly improving, home buyers and their agents are out and about, and deals are coming together prompting our phones to start ringing with more regularity.

It has been my experience as the "go to inspector" for many established agents that my schedule can fill rather quickly. With that comes potential opportunity. When demand is high and schedules are tight, we as inspectors have the opportunity to and should command more for our services. It has been my experience that the increase in demand is an ideal time to give myself a "raise".

We exist and hopefully thrive in an environment, in most cases as sole proprietors, where we provide ourselves with all of the typical working costs (health insurance, sick days, vacations, etc.) that our typical client and average working person collects from an employer. We often forget and in many cases fail or are afraid to command for ourselves a raise or bonus that our efforts have earned and certainly deserve.

Value your tenure in the industry, years of knowledge and experience, and reward yourself. Do your part in elevating the industry.

Give yourself a raise.

Best

Dan Kristiansen
President

INSIDE THIS ISSUE

Meeting Dates!

March 27th
Failed Foundations and Insurance Reporting Claims
Presented by
Michael Maglaras

April 24th
TBD

MONTHLY MEETINGS – Details & Info

CAHI's regular monthly meetings are held at the Best Western located at 201 Washington Ave (RT 5), North Haven. Meetings are free to members. Most meetings are on the fourth Wednesday of the month from 7-9pm. Guests are always welcome! Guests may attend 2 free monthly meetings to experience our presentations, meet our members, and receive a CE attendance certificate.

Joining CAHI may be done at anytime of the year through our Membership Page

FUTURE MEETING DETAILS.

March 27th - Failed Foundations & Insurance Reporting Claims

Presented by

Michael Maglaras

Is running the Connecticut Foundation Solutions Indemnity Company -will talk about the insurance company for failing foundations – the rules surrounding the inspection process – and some changes he hopes to make to allow home inspectors to be more involved with the inspection process.

CAHI Speaker for February
Jeremiah Weid of J. H. Barlow
a Big Success

Oil Heating Seminar

Presented March 11th, by

Partnership for Realty and Oilheat Success (PRO$)

Partnership for Realty and Oilheat Success (PRO$) is the national nonprofit educational program for Realtors selling oil-heated listings

"Greg was scintillating and bilingual using simultaneous vernaculars"

Engineers can talk some trash too.

The seminar was interesting and well attended.

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Photo: Mandalay Homes

Smart Lighting, Smart House

Control systems change the homeowner experience

BY GEOFF FERRELL

As the chief technology officer for Mandalay Homes, a production builder based in Prescott, Ariz., it's my job to keep my company on the cutting edge of advancing home technology. Our strategy is to make technology and affordability work together. At the same time we're building a better house that is more attractive to buyers, we're finding ways to contain or cut costs so that we can stay price-competitive in our midrange real-estate market segment.

I'm responsible for implementing a wide variety of specific solutions in our houses. For example, we've introduced AeroBarrier aerosol home sealing to our construction work flow (see "A Game Changer for Airtight Construction?" Mar/18), and we've started equipping every new house in some of our neighborhoods with a battery system paired with photovoltaic rooftop panels (see "Grid-Optimized Solar-and-Battery Systems," May/18). Both of those advances add value for our customers while saving energy.

The scope of my responsibility also includes lighting and home automation. In this story, I'll describe how we use advanced control systems and advanced lighting to save energy costs for our homeowners, while at the same time enhancing their experience of living in the house.

In practice, smart lighting and smart home automation are closely connected, because the first upgrade after you've put the best modern lighting into a house is to put in the controls that help

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Mandalay Homes installs LED downlights over garage doors, rather than traditional carriage lights flanking the doors. This helps comply with "dark sky" regulations, creates a pleasing light, and conserves energy.

the homeowner get the most utility out of those advanced lighting fixtures. In our case, we've made the switch to 100% LED lighting in our homes and, in most of the homes, control of that lighting is integrated into a Control4 home automation system (control4.com). But that's just the beginning: The home automation system can control many other things besides just the lights.

LIGHTING: THE BASE PACKAGE

As I mentioned, our new houses now have a "solar plus storage" solution that collects power from the sun, stores it in batteries, and uses it to offset the home's needs during peak power draw periods. There's an up-front cost to the system, but it brings a bottom-line savings for our homeowners when power-bill savings are factored in. To do that trick cost-effectively, however, we need to shave down our homes' power needs, which includes lighting. We've done that in part by phasing out compact fluorescent lights (CFLs) in favor of LED lights.

An Energy Star–rated compact fluorescent equivalent for a 60-watt incandescent bulb draws about 14 or 15 watts. A 60-watt equivalent LED-integrated luminaire uses 9 to 11 watts, and it supplies better quality light. What we've done is to transition away from fixtures that require screw-in or plug-in bulbs, and we've gone over entirely to integrated-LED luminaires. So instead of a standard line-voltage fixture with an LED bulb screwed into it, we're installing a purpose-built, high-quality Energy Star–rated fixture, with the LEDs built in. Our typical house has about 25 recessed ceiling luminaires, and if the homeowners choose to add more fixtures, we offer them the same kind of integrated equipment.

One advantage to using integrated luminaires is that a future homeowner can't go backward by installing a less-efficient replacement bulb. Although with these fixtures, the issue of replacement is unlikely to come up: The fixtures we install have a rated life of 50,000 hours. When you consider that Arizona gets a lot of high-quality natural daylight, and you think about how much a

Photos: Mandalay Homes

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Inside the garages, Mandalay Homes has transitioned away from conventional 40-watt fluorescent tube overhead lights in favor of LED panel lights; the up-charge for those fixtures is mostly offset by their greater light output and improved light quality. An internet-controllable garage door opener from LiftMaster is also standard in the garage.

light is really used, these light fixtures are going to last 20 or 25 years before anybody has to think about replacing anything. Of course, nobody knows what sort of technology will be available in 25 years. But if a homeowner did have the need to replace an entire integrated fixture today, the light fixtures we install are readily available on the market as replacement units, both in home centers and from online vendors.

If you walked through one of the models that we are building right now as compared to a couple of years ago, you would see closer to 30 recessed can fixtures, instead of the maybe 12 or 15 in the old model. We've eliminated wall sconces, bar light fixtures over vanities, and fluorescent tube fixtures in the closets, laundry rooms, and garages. Instead, we have gone either to integrated-luminaire recessed fixtures or to a surface-mounted LED panel light—a much more efficient unit that puts out really great light. For recessed downlights, we spec Parmida dimmable retrofit fixtures and Nicor 4-inch Surefit LED fixtures.

So how has this change affected our costs? Compared with a recessed can with a screw-in bulb, the recessed integrated luminaires we've chosen cost the same. But it does cost us about $7 or $8 more per location to install one of these integrated luminaires than it would cost to do a wall sconce or a bathroom bar fixture. That cost differential varies case by case. In some places, we lose a little bit of money, and in other places, we make a little bit.

Transitioning from fluorescent tube fixtures over to LED panels in the garage did cost a bit more: The LED fixtures cost about three times as much per fixture. But whereas we used to put two fluorescent fixtures per garage bay, now we are installing only one of the LED panel fixtures, because they put out so much more light per fixture then the fluorescent did. So when you do the math (including labor), it's only about a 20% cost increase to provide that better light.

Quality of light is a factor in our selections. Light quality is defined by a metric called the Color Rendering Index (CRI). The

Mandalay Homes' basic home package includes internet-capable amenities such as a programmable Kwikset SmartCode door lock (above left) and a smartphone-controlled Rachio landscape irrigation timer (above right). In most homes, these elements can be programmed using the home's Control4 interface (see facing page).

lighting we install has a CRI of about 93 or 94, which is very high quality. As for color temperature, studies have shown that as people age, they are looking for brighter and bluer or whiter light, especially in task areas. That holds true for us: Most of our clients seem to prefer a 3,000K light source rather than a 2,700K light.

Light sources are one part of a lighting solution; the other part is controls. About 15% of our homes are basic workforce housing; these units don't come with home automation in the base package. In those houses, a lighting upgrade consists of advanced manual switches for the lights. All of the LED luminaires we install are dimmable. So instead of a simple on-off switch, the customer can select dimming switches. But in the houses with home automation, the lighting can be integrated into the home automation controller, which allows for a fully programmable lighting experience. In addition, the home automation system can be configured to integrate many other household amenities into a single centralized control center. Let's take a closer look.

CONTROLS: THE BASE PACKAGE

As I mentioned, our basic workforce housing doesn't come with a home automation controller. But we do supply a nice structured wiring package as standard equipment in every house. We include two RG6 coaxial cable connections at the service panel, in case the homeowner wants to use the local cable vendor for internet and wants a satellite dish for TV.

We also run two Cat6 connections to the panel, so the homeowner can access telephone and internet service from a local phone company provider.

Then inside the home, we allow six drops. The owner could choose coax and a Cat6 to the great room because they plan to plug in a smart TV; they could ask for coax in all three of the bedrooms because they want a cable box in each bedroom; they can put telephone service in for a home office; and so on. If homeowners want more than six drops, we charge by the drop. All of the hard wiring is handled by the low-voltage contractor.

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Mandalay Homes' basic workforce housing includes a programmable, internet-capable thermostat supplied by Trane (top). But in most houses, a Control4 home automation interface takes over the job of the thermostat. This Control4 panel also manages lighting, audio, video, and more (above).

Those basic houses also include the following:

- a Wi-Fi router
- an internet-connected SmartCode 910 programmable door lock from Kwikset, controllable using Kwikset's SmartCode smartphone app
- an internet-connected garage door opener from LiftMaster with the MyQ control module included, also controllable using a smartphone
- a programmable Trane thermostat, the ComfortLink II XL850, capable of being remote-controlled with a smartphone through Trane's home automation system, Nexia
- a Generation 3 connected programmable landscape irrigation controller from Rachio

All of these modules are capable of being connected to the Control4 home automation system, but in the basic house, they're just controlled by the apps supplied by the manufacturers of the components. In most cases, those homeowners don't even have to use the smartphone app unless they want to. They can control their garage door with an ordinary remote control, they can operate the thermostat by hand, and they can program the combination for their front-door lock by opening up a panel on the back of it. The Rachio landscape timer is the exception: It doesn't even have any buttons on the actual device. You cannot manually manipulate that timer at all—you need to use an app (either the Rachio app or the Control4 interface).

CONTROLS: THE UPGRADE

So our basic, entry-level house package has a lot of controllable elements. Most of our homes, however, also come with a Control4 controller installed as a standard feature. That way, the customers don't have to bite the $1,000 bullet on the controller itself; when they come to the design center in the model home to make selections for their own house, they're just looking at all the cool things the controller can do. We've already made the investment in the controller for them.

Here's how it works: As part of the 60-day design process before we break ground on a new home, the buyers will have an appointment at our design studio where they can pick out the pretty stuff, like tile, countertops, flooring, and so on. While the buyers are at the studio, they also meet with our electrician representative and can talk about high-voltage upgrades, such as a spa circuit or an additional 220-volt outlet in the garage, in case they have some kind of hobby that requires one.

As part of that same appointment, the buyers also meet with a salesperson who specializes in low-voltage devices. That's when they get to choose from a suite of cool gizmos that the Control4 system can integrate: landscape fountain lights, security cameras, remote controls, distributed audio and video, and so forth. Because we've already made the investment in the controller, they don't have to get over that hurdle.

The controller lets us manage things that we don't even need the homeowner to be aware of. For example, we set the dimming controls on the LED lighting so that when the fixture is turned on, it ramps up to only 80% power. Studies have shown that the human eye can't tell the difference between 80% and 100%, but the lower setting saves energy and extends the service life of the fixtures.

In the future, we're waiting for the sensor technology to become available that will let us configure the Control4 controller to manage air quality in the home. Soon, we'll be able to program every home's ERV so that it boosts its air exchange volume any time there's a spike in CO2, VOCs, humidity, or harmful particulates in the house. That serves our interest as a builder in the durability and livability of the house, as well as in the homeowner's health and comfort. Ideally, the home will automatically react to any indoor pollution signals, and start ventilating the home for the occupants while they are just carrying on, having a glass of wine, and enjoying their family. Everybody stays comfortable, healthy, and happy.

Geoff Ferrell is the chief technology officer for Mandalay Homes, in Prescott, Ariz.

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Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

CPSC Launches Landmark Smoke and Carbon Monoxide Alarm Survey Nationwide

Release date: February 14, 2019 Release number: 19-066

WASHINGTON, D.C. – The U.S. Consumer Product Safety Commission (CPSC) is launching a landmark survey of smoke and carbon monoxide (CO) alarm usage in consumers' homes across the United States. The survey will be conducted in 46 cities across 23 states.

The study will look at the number of smoke alarms in homes. A major CPSC study conducted 25 years ago showed that 27 percent of U.S. households did not have a working smoke alarm.

The study will also include a first-of-its-kind survey to determine the prevalence of CO alarms in American homes.

"The CPSC is pleased to be spearheading this lifesaving effort that will give us a snapshot of consumer use, functionality and perception of smoke and CO alarms," said CPSC Acting Chairman, Ann Marie Buerkle. "We encourage all who have the opportunity to participate in the study to do so. You are helping save lives," she added.

The study is a major cooperative initiative sponsored by CPSC, the US Fire Administration (USFA), the National Institute of Standards and Technology (NIST), the National Fire Protection Association (NFPA), and the National Electrical Manufacturers Association (NEMA). It is anticipated that all stakeholders will benefit from the information gathered during the survey and that it will be incorporated into codes, standards and safety messaging related to fires and carbon monoxide poisoning.

CPSC will send two-member survey teams to visit homes, interview the head of the household about alarm safety and test smoke and CO alarms to ensure they are in working order.

Survey teams will include a representative conducting the study on behalf of the CPSC and a representative from each city's local fire department. Free batteries, and smoke and CO alarms will be provided to any homes that do not have alarms or that have non-working alarms.

Homeowners without smoke or CO alarms will be asked to participate in the survey by phone. All participants will receive gift cards as an incentive for completing the study.

The cities and metro areas selected to participate in CPSC's National Smoke and CO Detector Survey can be found here (pdf).

Members of the public who have been contacted about taking part in this important survey are urged to participate whether they have a smoke or CO alarm or not. Consumers can learn more about the survey here.

The survey's results are expected to be published at the end of 2020.

Fast facts about carbon monoxide- and fire-related deaths and injuries:

- The Centers for Disease Control and Prevention (CDC) estimates that more than 400 Americans die every year from CO poisoning, including poisoning from portable generators and home heating systems.
- According to CPSC's injury surveillance research, in 2015, there were approximately 370,900 residential fires in the United States that resulted in 2,230 deaths and 10,800 injuries.
- Research conducted by the NFPA from 2009 to 2013, estimates that three-out-of-five fire deaths occurred in a home without working smoke alarms.
- CPSC recommends that smoke alarms and CO alarms be placed on every level of the home and outside sleeping areas. In addition, smoke alarms should be placed inside bedrooms. This greatly reduces fire and CO deaths and injuries.
- Learn more about smoke and CO alarm safety by visiting CPSC's Safety Education Centers

The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of injury or death associated with the use of thousands of types of consumer products under the agency's jurisdiction. Deaths, injuries, and property damage from consumer product incidents cost the nation more than $1 trillion annually. CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical or mechanical hazard. CPSC's work to help ensure the safety of consumer products - such as toys, cribs, power tools, cigarette lighters and household chemicals -– contributed to a decline in the rate of deaths and injuries associated with consumer products over the past 40 years.

Federal law bars any person from selling products subject to a publicly-announced voluntary recall by a manufacturer or a mandatory recall ordered by the Commission.

To report a dangerous product or a product-related injury go online to www.SaferProducts.gov or call CPSC's Hotline at 800-638-2772 or teletypewriter at 301-595-7054 for the hearing impaired. Consumers can obtain news release and recall information at www.cpsc.gov, on Twitter @USCPSC or by subscribing to CPSC's free e-mail newsletters.

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Could That Home Be Contaminated With Meth?

January 28, 2019

It could be a home buyer's worst nightmare: They purchase a new property only to discover later it is contaminated with methamphetamine, which is linked to health problems and can be very costly to eliminate.

© Crystaleyestudio/Getty Images

In more than half of states, home sellers are required to disclose whether to the best of their knowledge a property has ever been used as a meth lab. But many laws stop short of letting buyers know if meth was ever smoked inside the property, which can also cause problems.

When produced or smoked inside a home, meth can seep into the walls, carpets, and heating and cooling systems. Even slight traces of the drug can cause headaches, nausea, and childhood developmental issues.

Home buyers shouldn't assume meth-contaminated homes are just foreclosures, either. Police have found drug labs in luxury single-family properties and luxury high-rise buildings as well.

It's not easy to clean up a home after it has been contaminated with meth. "Think about [meth] as going into a house with heavy smokers," Kirk Flippin, owner of Texas Decon in Seguin, Texas, which cleans up former meth homes, told realtor.com®. "Nicotine will adhere to the walls. That's what methamphetamine does."

How can a buyer detect meth? The U.S. Drug Enforcement Administration offers a drug lab registry of meth contamination properties, where law enforcement agencies have reported they found chemicals at these locales. But obviously not all properties where meth has ever been present will be on that list.

Signs that a property has seen meth use tend to be subtle. Experts say buyers should look for burns in the carpet or patches of dead grass outside. That could indicate where chemicals may have been dumped.

> *"[In] 95 percent of the places I've walked into, you'd never know," says Flippin. "I usually don't smell anything, I don't see anything."*

Read more: What's Lurking Behind Those Walls?

Source: "Wait! Are You Buying a House Contaminated With Meth?" realtor.com® (Jan. 25, 2019)

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Attention Adults: You Need Vaccines Too

Vaccinations aren't just for kids, so follow CDC's immunization schedule for adults. Doing so can help keep you from getting sick and missing work or school.

As an adult, you are busy with life and have many responsibilities — but don't forget to take care of yourself! Every year in the United States, thousands of adults become seriously ill and are hospitalized because of diseases that vaccines can help prevent. These diseases can be deadly for many adults. Make sure you are vaccinated for the best protection!

The need for vaccines does not go away with age. In fact, there are specific ages in your adult life when vaccinations are recommended. Also, protection from vaccines you received as a child can wear off over time, and there are more vaccines available now.

Talk to your healthcare professional about which vaccines are right for you!

The vaccines you need as an adult are determined by many factors including your age, lifestyle, health condition, and which vaccines you've received during your life. As an adult, vaccines are

recommended for protection against:

- Seasonal influenza (flu) – Everyone 6 months and older should get a flu vaccine every year as the best way to reduce the risk of flu and its potentially serious complications.
- Pertussis, also known as whooping cough – The Tdap (tetanus, diphtheria, and pertussis) vaccine is recommended for women during each pregnancy and once for all adults who have not previously received it.
- Tetanus and diphtheria – The Td vaccine is recommended every 10 years.
- Shingles – The herpes zoster vaccine is recommended for adults 50 years and older.
- Pneumococcal disease – Two pneumococcal vaccines are recommended for adults 65 years and older. One or both vaccines may be recommended for adults younger than 65 who have specific health conditions or who smoke cigarettes.

Talk to your doctor about the vaccinations you need to protect your health for life!

You may also need vaccines to protect against human papillomavirus (which can cause certain cancers), meningococcal disease, hepatitis A, hepatitis B, chickenpox, measles, mumps, and rubella.

Getting vaccinated is one of the safest ways for you to protect your health. Vaccine side effects are usually mild (like soreness at the injection site) and go away on their own. Severe side effects are very rare.

It's also important to protect yourself when traveling for work or pleasure. Depending on where you travel, vaccines can protect you from diseases that are rare in the United States, like yellow fever. Where can you get vaccinated?

You can get vaccines at your healthcare professional's office, pharmacies, community health clinics, health departments, and maybe even your workplace. To find a vaccine provider near you go to the HealthMap Vaccine Finder.

Most health insurance plans cover the cost of recommended vaccines. Check with your insurance provider for details and for a list of vaccine providers. If you don't have health insurance, visit healthcare.gov to learn more about health coverage options.

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Photo: Roe Osborn

Factory Building: The Next Wave

Computerizing and automating home panelization

JLC STAFF REPORT

Tedd Benson has "only a small ambition," he told assembled guests at the grand opening of his Unity Homes factory in Keene, N.H., in 2018. "We intend to change the building industry. Dramatically."

Benson's roots as a builder go back to the 1970s, when he helped to kick-start the timber-framing revival in the U.S. with his classic book, *Building the Timber Frame House*. But the vision has evolved over the years, and Benson's current venture, Unity Homes, is about much more than honing a chisel.

In July 2018, *JLC* toured Unity's factory in Keene, N.H. What we saw was a state-of-the-art computerized and automated facility where comprehensive CAD plans are turned into complete high-performance custom home packages that the company's trained crews can erect on site in a matter of days.

In December, we went on site in Brewster, Mass., to see a crew set one of Unity's house packages. What follows is a look at both ends of the process: the precise factory fabrication of house components in the Keene facility, and the quick erection of the home on site in the field.

The company's goals are ambitious and broad: building in a few weeks homes that can last for hundreds of years; precisely controlling fabrication to eliminate construction defects completely; and creating a process that can scale up to become standard practice throughout the nation. Can they do it? Read on.

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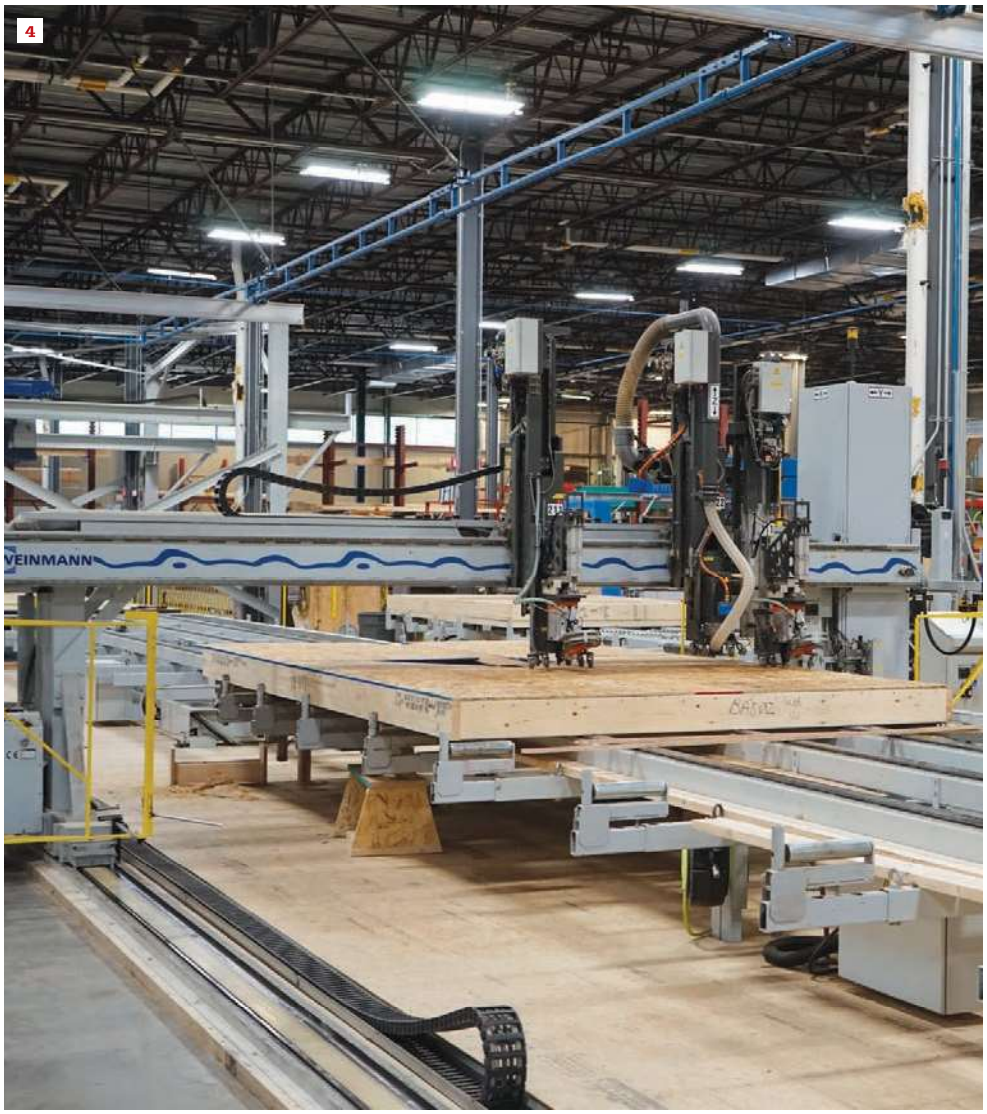
Touring the Unity Homes Factory Floor



Humans have dreamed for years of a future where all the work would be done by machines. At the Keene, N.H., manufacturing plant of Unity Homes and Bensonwood, that future is one step closer to becoming a reality. The plant cranks out complete home frames, bundled for assembly on site, including walls, roofs, and floors. There's still plenty of work in the facility for people. But much of the fabrication, along with all of the heavy lifting, is done by high-precision machinery (see photos). On a tour of the facility, *JLC* got to see some of the equipment in action as Hans Porschitz, Unity's chief operations officer, explained the setup.

At the heart of the operation is a Hundegger Speed Cut SC3, a versatile robot that gets its instruction directly from a home's CAD design file. Workers load the machine with raw materials using a vacuum-lift crane. The Speed Cut can handle solid beams as fat as 7 inches by 24 inches and has no trouble with wood I-joists or glue-laminated stock. Inside the machine, a spinning saw blade makes all the necessary cuts for stud, joist, and rafter framing. Routers can hog out mortises and tenons or holes for chases. Cuts are precise to 1/16 inch. And the Speed Cut's ink-jet printer not only labels every part that's cut, it also handles layout for wall, floor, and roof panel assembly. Workers who put the components together rarely have to touch even a tape measure or pencil.

From the Hundegger, parts are bundled and carried by forklift to three parallel assembly lines: one for walls, one for roofs, and one for the "open cavity" components (interior walls and floors). During assembly work, operators don't have to bend over or lift heavy weights, because machines handle the lifting. And operators seldom touch a tool; they just place parts on the framing table. Machines nail studs to wall plates. Workers do have to tack sheathing in place (although they don't have to lift it), but automated routers handle the sheathing cuts, and rack-mounted nail guns nail the material off with precision accuracy.

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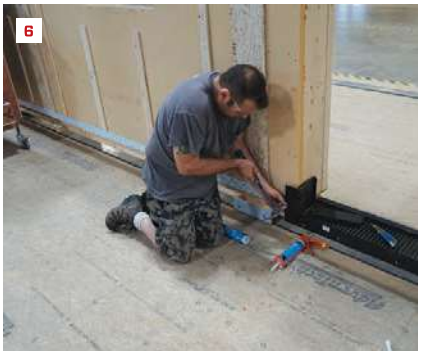
(Facing page) Mortise-and-tenon joinery substitutes for steel connectors in some situations; here, Hans Porschitz demonstrates a mortised porch-roof connection **(1)**. Brad Ramsey, the Hundegger CNC equipment operator, works the controls for the machine. Also at Ramsey's fingertips is the control panel for the Joulin semi-automatic vacuum feeding system, which allows him to select and feed a variety of materials from a magazine into the cutting equipment **(2)**.



Alex Morin assembles the framing for a window rough opening. This component will then get fed into the automated framing system that will frame the other parts of the wall **(3)**.

(Facing page) The CNC bridge gantry is equipped with nailers and a router. It travels over the wall on the table, fastening the sheathing to the framing and trimming it to the final panel size as well as cutting out the sheathing for any door and window openings **(4)**.

Jason Furland places insulating fiber sheathing on the exterior of a wall panel. The gantry will nail off and trim the panel later **(5)**. Ray Zabel installs the standard sill pan detail of a doorway rough opening prior to the door install **(6)**. All doors and windows are detailed and installed before the walls are shipped, allowing the home to be blower-door tested as soon as the last panel is installed in the field. Greg Bruns preps the exterior of the rough opening for a window, using Siga tape **(7)**. All wall panels are fully airtight and watertight when they are shipped to the field. A worker manhandles parts for a custom curved roof package created by the Hundegger Speed Cut saw. The Unity Homes plant is capable of accomplishing fully panelized building shapes ranging from simple geometric forms to one-off architect-designed creations **(8)**.

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Built in a Factory, Assembled on Site

The first sign that assembly of the house was imminent was the far-off sound of a semi truck winding its way down a narrow dirt road through the woods on Cape Cod. The Unity Homes crew had arrived from New Hampshire a day earlier and set mudsills on the foundation. The crane—an absolutely essential part of the assembly operation—was set up and ready. What followed over the next five days was nothing short of incredible to observe.

Crew coordination. The crew of four from Unity Homes worked together like a well-oiled machine. These guys had assembled many Unity homes together. In addition, they alternated their time on assembly crews with time in the factory, so they were able to bring valuable feedback from the field to the factory floor.

Whether unstrapping a load from a trailer, rigging panels for lifting, or nestling a panel into place on the house, they worked quickly, efficiently, and methodically. Every crew member seemed to have a good idea of what was supposed to be done next.

Safety first. It would be easy for an experienced crew to get lax with safety on the jobsite. But these crew members always wore hard hats during crane operations, and their bright yellow shirts were much more for jobsite visibility than for promotion.

Fall protection equipment was used at all times while the roof panels were being set. The lifting-strap anchors on the roof panels worked perfectly as attachment points for the equipment. And the panels even came from the factory with toe boards attached.

Attention to detail. Perhaps the most impressive thing was the crew's attention to detail when it came to air-sealing the panels. Specialized gaskets were used to seal every connection between the subfloor, walls, and roof panels. They meticulously executed every detail with a complete battery of different tapes and sealants.

The photos on the following pages offer a quick look at the assembly process. To see more photos, please check out the online version of the article, at jlconline.com.


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The parts for the house come on big flatbed trailers, shrink-wrapped, labeled, and numbered for assembly **(9)**. After glulam carrying beams supported by posts tenoned into them are dropped into place **(10)**, the crane sets the first-floor deck panels **(11)**. As each floor panel is set in place, the crew draws the panels together with specialized ratchets **(12)**. The panels are then fastened to the sills from below.


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Unity Homes often have a timber-frame component, and this house was no exception. After setting the floor deck panels, the crew assembles a timber-frame bent made from glulam lumber that was cut in the factory **(13)**. Besides adding a distinctive decorative note to the home's interior, the bent supports the main roof. Although cut on CNC machines, all the joints are pegged together in the traditional manner of a timber frame **(14)**.


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Specialized gaskets are attached to the floor panels **(15)** before the wall panels are dropped into place **(16)** to air-seal this critical joint. Note that each panel is fully insulated and comes with an interior 2x3 wall for running utilities. As each panel is set and braced, the crew attaches the gasket material to the corner of the panel where it meets the adjoining wall panel **(17)**. After raising the timber-frame bent, the crew continues to stand the walls around the house **(18)**.

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After attaching gasket material to the top plates of the walls, the crew sets the gables **(19)**. Roof panels have an integral lip that fits into a groove on the top of the bent beam **(20)**. Chainfalls on the lifting straps hold the panels at the proper angle **(21)**. After installing the intersecting roof beam **(22)**, the crew staples gasketing to the roof in preparation for the next roof panels **(23)**.


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Even the porches are on this house are prefabricated in the factory. Supports for the inner porch walls are part of the foundation pour to avoid the need for a ledger **(24)**. The main porch uses a timber frame to support the roof, but prebuilt gable panels sit on the frame **(25)**. After installing the porch ridge beam, the crew installs the porch roof panels **(26)**.

Siga Rissan tape seals the lifting holes in the walls **(27)**, and Zip System tape seals the roof-panel seams **(28)**. A crew member layers the various tapes and gaskets for a crucial wall–roof–deck intersection **(29)**. At the peak, backer rod fills the gap between panels **(30)**, followed by expanding foam **(31)** and Zip tape **(32)**, which also seals roof-panel holes **(33)**. Siga Wigluv tape air-seals the wall-panel intersections **(34)**.

The crew's truck is packed up and ready to return home with the shrink-wrap material, extra lumber, food coolers, and luggage **(35)**. No dumpster was needed, and no trash pile was left on site.

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United States
CONSUMER PRODUCT SAFETY
COMMISSION

CPSC Releases New Recall App

Release date: February 12, 2019 Release number: 19-063

Release Details

WASHINGTON, D.C. – The U.S. Consumer Product Safety Commission (CPSC) has launched a new CPSC Recall App to make recall information currently on our website more accessible to consumers on their mobile devices. Consumers can use the app to search quickly and find out whether a specific product has been recalled.

“At CPSC we are looking for ways to improve how consumers can access information about recalls,” said CPSC Acting Chairman Ann Marie Buerkle. “I encourage consumers to download CPSC’s Recall App today, and let us know how we can make it better.”

CPSC’s Recall App was developed internally, using Progressive Web App technology with CPSC’s Recalls Data API. The new CPSC Recall App beta is available for download free on CPSC.gov

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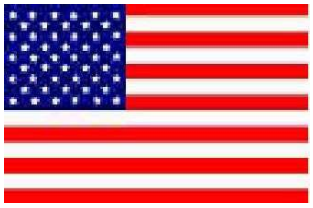

CAHI Executive Board		CAHI Presidents	CT Home Inspection Licensing Board	
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		Scott Monforte		
		Joseph Pelliccio		
		Pete Petrino		
		Dwight Uffer		
		They have served as our primary leaders and in other capacities since 1992. Please thank them for their service when you have a chance.		

The Licensing Board meetings are held at 9:30 am Dept of Consumer Protection 165 Capitol Avenue. Hartford

The public is always welcome.

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