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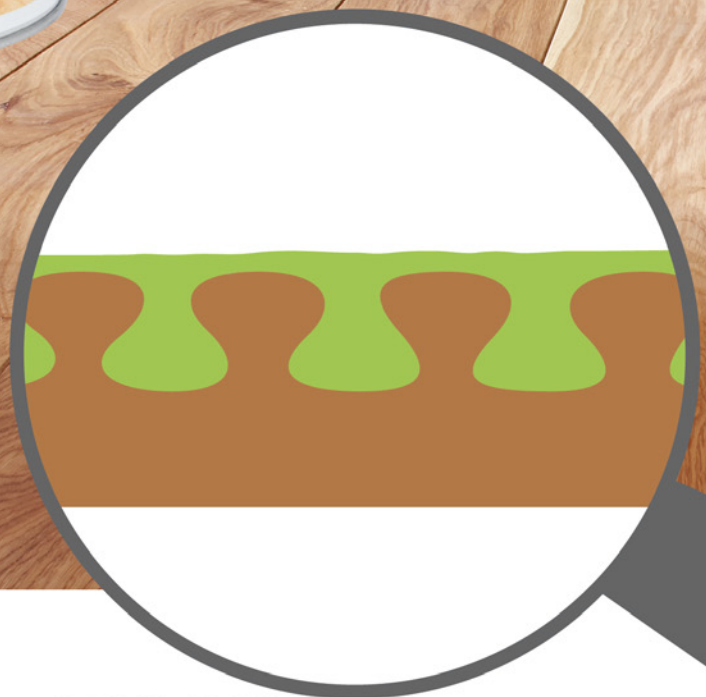
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Photo: Bryan Regan Photography

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## SOCIAL



**THIS BIT OF** industry pride resonated with our readers on social media. Make sure you follow WFB on Facebook, Instagram, Pinterest, Twitter, and LinkedIn.

## IN THIS ISSUE

**“A wood canvas isn’t white; it changes your colors. And then it changes as it ages and is exposed to light—and that’s what’s so fascinating...”**

— AVEDIS DUVENJIAN,  
ARCHETYPAL IMAGERY

**TO READ MORE,** turn to page 36, where Duvjenjian discusses how his intricate floor coloring process rescued an important project.

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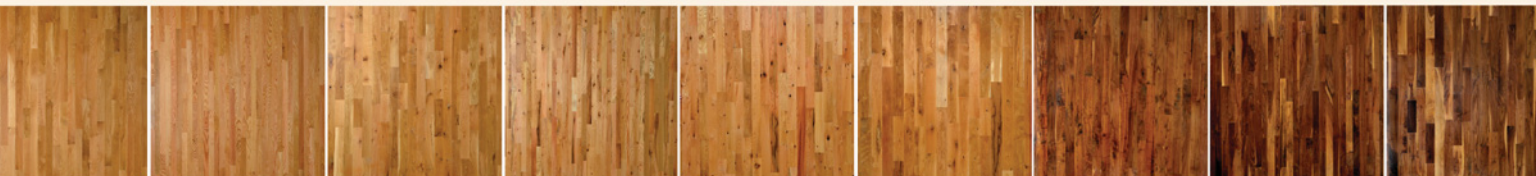
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## FROM THE EDITOR

By Kim M. Wahlgren



# Simply extraordinary

**W**ood floor pros are not your typical tradespeople. They are not hanging drywall or making sure the plumbing works. Those are important jobs, no doubt, but what sets wood floor

pros apart is the artistry that goes into their craft. Yes, you can bang in straight-laid strip or plank all day long, but many pros, particularly those reading this magazine, elevate their careers far beyond the basics of installation,



sanding and finishing. And among those pros, there are a handful in the world who have set themselves apart as the elite. One of the best aspects of my job is working with the pros in that exclusive club, and in this issue I was fortunate to pin down two of them long enough to

create the in-depth Techniques column in this issue.

Vartan Arutyunian (above, at left) and Avedis Duenjian (at right) of Archetypal Imagery in New York are business partners, wood flooring experts and best friends



who create some of the most extraordinary wood floors in the world (the most famous being the one the industry simply refers to as “The Crocodile”). For them, wood flooring and art are one and the same. To read what they are sharing with their fellow wood flooring pros in this issue, turn to page 36.

*Kim M. Wahlgren*

Kim M. Wahlgren





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## *Chevron and Herringbone Flooring*

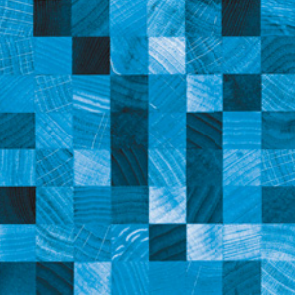
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# WOOD WORKS



This European white oak floor installed by San Francisco-based Area Floor Works appears to have a standard aluminum feature strip (top)—until the LED lights inlaid with the aluminum are turned on (bottom).

## A bright future for wood floor feature strips

Some projects start out with a bright idea; for others, like this LED-lit wood floor, the idea comes toward the end. San Francisco-based Area Floor Works Owner Avo Sanasaryan had just installed European white oak floors in a 250-square-foot exercise room when he found out the architect wanted to add a feature strip. After discussing it, Sanasaryan and GC Jason Lindley of San Francisco-based Citidev took the idea a step further: What if they included an LED light as the strip? "I'd never seen one recessed right in the floors," Sanasaryan says. He and his crew routed the path for the feature strip, carefully cutting 1/2 inch deep into the 3/4-inch-thick flooring that was nailed and glued over a radiant heat system. When the 1-inch-wide track was ready, Lindley installed the aluminum extrusion, and then an electrician fed the wiring with the lights into it. Area Floor Works taped over the open track to sand and apply water-based sealer and water-based finish. After the final plastic covering for the lights was installed, they buffed and did the final coat. The setup, which can be dimmed or brightened, was so unusual that the city didn't even have building codes for it. "People always think that light comes from the top," Sanasaryan says. "But it can also come from the bottom, especially with these new techniques and new generation of lighting." —R.K.

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# THE BIG THREE IN FLOOR SANDING

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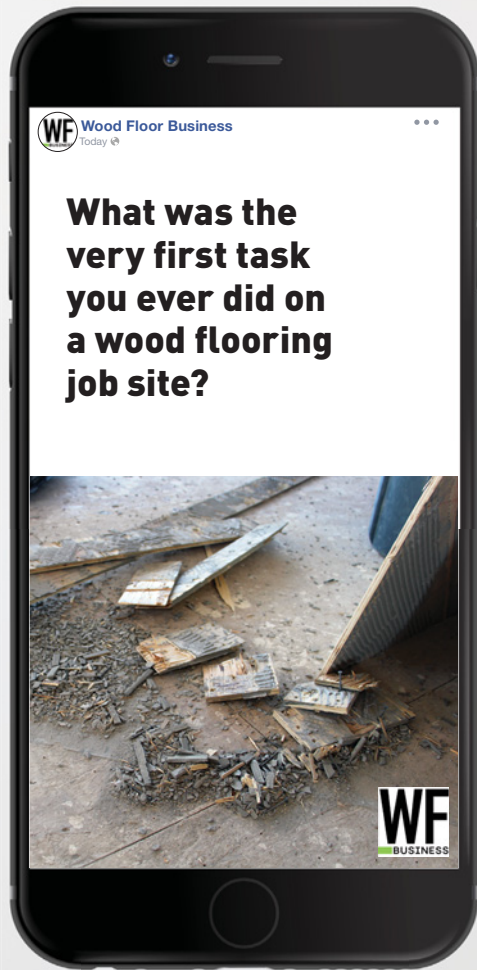
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**Lars Frohnsdorf**  
The subfloor had gotten loose over the years. The boss had me go on my hands and knees and pound down every single nail in the subfloor. It was 1,100 feet. I had been a cook before that; I could barely move my arms after.

**markmurphy1984**  
Swept—all summer long.

**Jake Endicott**  
Edged, all day every day, for several months. 😂

**Joel Barkelew**  
Edged a gym floor. Made it around and asked, "What next?" Was told to put five-grit on and do it again! LMAO.

**Danny Shane McNulty**  
Sat on the buffer while my father buffed.

**Steven Fiscus**  
Pulled staples for eight hours. My first day was very close to being my last day.

**jdflooringsolutions**  
Edged a gym floor—at night. I couldn't move for two days after. 😊

**Micah Loberg**  
Humped in 6,000 square feet with no help.

**Hardwood Floors Rich**  
Chiseled out the corners left from my edging. LOL!

**Gregory Brown**  
Held the cord and emptied dust bags for 50 cents an hour. I was 9 years old.

**Linda Gonzalez**  
I was 5. I held the chalk line still as my dad marked out a space for a rose medallion. Then I moved up to filling nail holes with putty before he sanded.

**Jim Sours**  
I moved 1,500 feet of Brazilian cherry from one side of the house to the other while the lead and older crew swept and put down paper. I don't think they touched a single bundle. The next day my hands didn't have any gripping strength.

**Creativehardwoodfloorsmn**  
Helped carry in tools. My uncle told me to grab the router and stapler out of the truck and carry them in. I had to wait for him to come back to show me what a router and stapler were.

**John Joshua**  
Cutting around an island with a toe kick saw! I can tell you I will never forget that house or how dangerous a toe kick saw is!

**Silva0779**  
The guy gave me crowbar with a hammer to take out a glue-down floor on a foyer. After three hours I had taken out three boards. 😂😂😂😂😂

**baystatefloors**  
Installed wood flooring using only cut nails.

**Dave Byrnes**  
Cut cut nails that were too long for the system thickness ... thousands of them!

# A key piece of wood flooring history: The ‘bumper’



Top left, Vance Hough [at right] and his nephew, Walter Cornwell, with a wood flooring bumper that was used by Hough’s father to scrape floors. Bottom, Cornwell demonstrates how the bumper was used.

Vance Hough of Annandale Floors in Annandale, Va., owns a piece of hardwood flooring history representing an era of wood flooring most modern pros could hardly imagine. This wood flooring “bumper” was one of the key tools—one of the only tools, actually—that Hough’s father used in his daily wood flooring career. “What a floor mechanic would do is hand-nail 200 feet of flooring in a day, then scrape it by hand using this, and then get a coat of finish on it,” Hough explains. “That was considered a full day of work.” The simple tool has a blade with a little hook on the end of it. Flooring pros like Hough’s father would push it in front of them and pull it back, move over and repeat the process to scrape the entire floor. “In order to see where you were going, you would use kerosene or motor oil waste on the floor,” Hough adds. “You would scrape it on an angle and then straighten it up.” While modern pros may love seeing and trying historic tools like the bumper, no doubt most are relieved to be flattening floors these days from an upright position.—K.M.W.

## CAPTION CONTEST WINNER



We asked you to submit your caption suggestions for this photo, and our online readers voted. Congratulations to repeat-winner Kevin Watts of Island Hardwood Renew in Gabriola, B.C. In addition to fame and notoriety, Watts will receive a Wood Floor Business T-shirt. Other favorite submissions included:

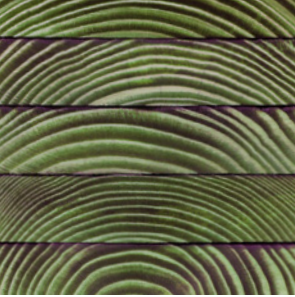
*“You’ll be able to get the big machine upstairs, right?”*  
– Glenn Harris of Town & Country Floor Designs in Oakdale, N.Y.

*“Can you do this little closet, too? I know it isn’t on the quote.”*  
– Ulises Carrillo of Mandala Flooring in San Diego.

## ... and your next chance to win:



Now it’s your turn again! Send your suggested caption to [caption@woodfloorbusiness.com](mailto:caption@woodfloorbusiness.com) with “Caption Contest” in the subject line, then watch the WFB E-News for your chance to vote for a winner.



# YOUR BUSINESS

**“Inaction is the greatest risk you could ever take in your life.”**

— GLENN GRIFFIN

AUTHOR OF “FLOORMULA 6: THE DEFINITIVE GUIDE TO MARKETING YOUR HARDWOOD FLOOR BUSINESS”

## SOCIAL STUDIES

### Building relationships via podcast

When Irvington, N.J.-based Real Antique Wood Outside Sales Rep Tom Simpson (left) and Digital Marketing Manager Michael Scicolone launched The Morning Mill podcast on YouTube in June 2018, viewers consisted of a few customers, friends and “our moms,” chuckles Simpson. Since then, the lighthearted show has grown to 420 subscribers, with content ranging from the company story to interviewing local business owners and hosting reclaimed wood DIY sessions. “It’s almost like having that ice breaker online before they even come in here,” Scicolone says of customers who’ve seen the show. It has also become a place to direct people who have questions about products. “Really, our goal is to teach people about what we do, how to do what we do, and try to make it entertaining,” Simpson says. Setting aside time for the show has been challenging, but strengthening relationships with guests and viewers has been worth it. “You’ve just got to stick with it,” advises Scicolone. “And you’ve got to have fun,” Simpson adds.



## TREND SPOTTING

### Taupe tones in San Rafael



The decline of the gray hardwood flooring trend has been a long time coming in San Rafael, Calif., according to San Rafael-based 123-Floors Owner Bill Powell. “I’ve been selling the gray-wash floors for nine years,” he says. Now, the popular colors are warming up and moving to a more “natural” taupe look. “It’s not the full-on yellow with the white oak natural and urethane finish, but kind of in between,” Powell says. European white oak plank continues to dominate, and the finish trend remains very low shine, Powell adds. “I’d like to see the shine come back a little bit,” he says. “I’m over the gray wash, I’m over the matte finishes. I’ve just been doing them for too long.” Powell believes that by 2025, gray flooring is going to seem out of fashion and “scream out ‘2015.’” “I try to talk people out of the floor du jour,” he says. “I like to sell floors that are never going to go out of style.”



What is trending in your area? Tell us about it by emailing us, along with a photo, at [editors@woodfloorbusiness.com](mailto:editors@woodfloorbusiness.com)



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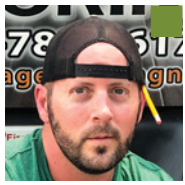
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SCAN TO DOWNLOAD APP





By Dan Portu

# How I started: \$37, no car and no connections

**T**ODAY I HAVE a wood flooring business in North Carolina that I love. I have seven great guys who work for me, including my brother, who moved here from New York State to work with

me. We have three work vans and three trailers, and I use my personal truck for estimates. Last year we acquired a shop, which was a game-changer, because I'm able to store equipment and supplies efficiently, as well get equipment I previously had no room for.

Our jobs are anywhere from five minutes to a maximum of 25 minutes away, and many of them are in million-dollar-plus homes in gated communities. We dominate

the local market on Google and work almost exclusively with homeowners. Less than 15 years ago, though, I didn't know this area at all. I moved down here when I was 21 with my friend, my bed, my clothes and, literally, 37 dollars in my pocket.

When I arrived here, I didn't have a plan. My friend was moving to the area and I just decided to go with him. I didn't know what the market was like; after being in upstate New York my entire life I just wanted to get out and have a change of scenery. I just took a leap of faith.

The trip down here didn't start out very well. My friend was driving the Budget moving truck with my car being towed behind, and I was following him in his truck pulling a trailer with a four-wheeler. Fast forward 15 minutes, and we discovered Budget hadn't locked the trailer on to the ball—the car trailer bounced off the hitch and my car was demolished against the guard rail (thanks, Budget!).

The second day here I found a job. In New York I had grown up in the wood flooring industry, working for my dad's company since I was 13 and running the business at age 18 after he went to college to change careers. So when I arrived here I stopped at a local Carpet One to see if they sanded floors. Sure as heck they did, and he offered me a job on the spot. I started the next week, and within that week I was running their sanding department of six guys.

Working there got my feet wet and helped me learn the area. I knew I couldn't go out on my own with no money, so I worked to save money. I paid for a car with cash and used the title from that to buy my



When we were kids, my dad always told us: "When ya look good, ya feel good, when ya feel good, ya do good." I've put this into play in my business. Everyone having matching work wear is not only great for the guys but looks professional to the clients. In this pic are Mike Lawson, Dave Tencate, me and my brother Ken Portu. Missing from this pic is the fifth member of our sanding team, Jason Davis.





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## ■ YOUR BUSINESS LIVE & LEARN

This is the first edger I ever flipped the switch on. During my summer break at age 13, my dad made me come to work with him. I honestly hated running this machine; it would throw me all over the place and my dad would have to fix all the whips I left. He would tell me, "Keep at it; you will get the hang of it." When I moved to North Carolina, this was the only tool I brought with me, but it sat idle for years; I figured it was old and busted. Then one day I got a phone call that my dad was in a bad accident, and soon after that he passed. After that, I had Revolution totally rebuild this edger and had her dipped in rifles, since shooting was something Dad and I both enjoyed together.



own set of sanding equipment—all while I was still working at Carpet One. Once I got the equipment paid off, I bought my truck, and around that same time I met my now-wife, Toni. She really encouraged me to take the leap and start my own company, but I was really, really, really nervous to start and told her I didn't know if I could do it. I was worried about being able to pay my bills. She said, "What's the worst that happens? You fail, so what. Then you just find another job, but at least you gave it a shot." By then I'd only been in the area for about 18 months, but what she said stuck with me: The only way to find out if it would work was to just go out there and do it.

In order to get my name out there, I took on builder work. I don't work that way now, but you have to start from the bottom, I guess, and I hated it from day one. They would just beat you up on price and tell you that you had to take their price or they would find somebody else. At the beginning I felt like I had to stoop down to their numbers just to get my foot in the door.

During that time, the phone would ring here and there, and I was working job-to-job, waiting for the phone to ring. I was passing out cards and brochures to every builder and homeowner who came my way.

Fortunately, Pinehurst, N.C., is a relatively small area where everyone knows everyone. The builder work helped me get established, because one homeowner would tell Mrs. Johnson who did their floors, and she would tell Susie, and so on and so on, and it snowballed from there.

Within a year I had a pretty good builder base. I had also hired a local company that specializes in online marketing. They optimized my business online, building a website set up to attract local customers

through SEO and claiming and setting up my business on Google. It was the best money I ever spent. It takes awhile for that to start working while Google finds you; they say you usually see the effects from six to nine months after it's set up.

Between the word of mouth and my online marketing, I started getting calls directly from homeowners and was able to move away from the builder work and the cut-throat pricing. As I built my business, I also invested in skills, getting training and certifications from DuraSeal, Loba, Lägler and the NWFA. Today I try to stay as far away as I can from builders except for three I work with who are all custom builders. I have a great working relationship with them, and their jobs operate smoothly, which isn't always the case when there's so many people involved with builder work.

Looking back, starting the company was really the perfect storm as far as being the right time in the right location. I got down here after the market had crashed and the area was starting to rebound. And I met the right woman who encouraged me to take the chance and just do it.

Today when I talk to guys in a similar situation like I was 13 years ago, scared about going on their own, I tell them: No one's going to do it for you. The worst that can happen is it just doesn't work. It is hard work in the beginning, but if you don't try, you'll never know what might have been.

As for me, I wouldn't change it for anything. I enjoy working with my crews, and my wife is now able to stay home with our twins. And I get up in the morning and enjoy my work every single day. ■

Dan Portu is owner at Aberdeen, N.C.-based Heritage Hardwood Floors.



# Was a verbal warning about this stain enough?

## The Issue

The homeowners purchased 4-inch unfinished quartersawn white oak to be installed, stained and finished in their new home. An interior designer provided color samples to match the flooring with the cabinets. During the color sample process, the designer was unhappy with the color variance on the flooring planks compared with the uniform color of the cabinet. The flooring contractor told the designer that the wood grain and stain application on the floor is different, thus the color variance. The designer said she would contact the cabinet company to furnish enough of the cabinet stain to use on the wood floor. The wood floor contractor told the designer there would be no guarantee regarding how uniform the color would be when completed, but he used the cabinet stain. Afterwards the homeowners were unhappy with the stain, and they contacted an inspector.

## Roy: The Inspector's Observations

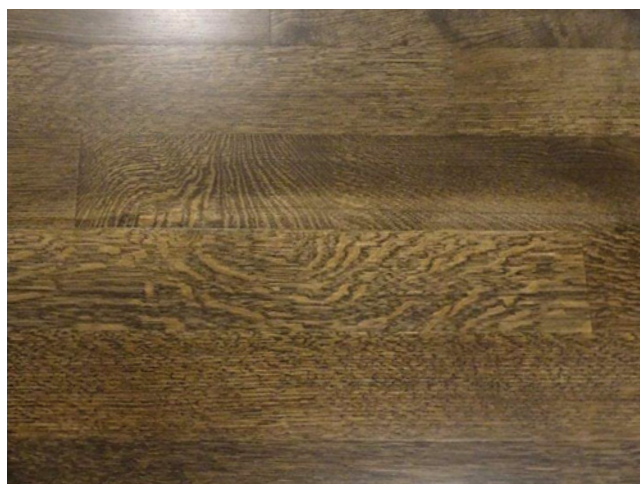
Although the sanding was top-quality and the finish evenly applied, I found several areas where the stain had inconsistencies, including light spots, lap lines across multiple planks and stain stop marks. The flooring contractor was present during the inspection and said he told the designer the cabinet stain furnished was a fast-dry product that was hard to control and could have some variances. I asked the flooring contractor to provide a copy of the release of liability signed, but the flooring contractor said it was only a verbal agreement. My conclusion was that the staining of the wood floor did not comply with the industry standards.

## Blake: The Attorney's Analysis

Wood flooring pros are often faced with a dilemma similar to the one described above,

where the customer requests that the flooring pro do something that is not recommended. While the pro in our example did apparently make the customer aware there could be issues, his mistake was failing to get a written waiver or release signed by the customer. The customer should be required to sign a document stating that the pro has explained the potential issues with the request and that he is not responsible if it turns out poorly. (With or without a waiver, it's best to test an unfamiliar product before using it on a job site.) In our current scenario, by applying the cabinet stain to the floor, the flooring pro has agreed to complete the floor correctly. That fact, coupled with the inspector finding some workmanship issues, means he is on the hook to correct the issues and refinish the floor to industry standards. As they say, no good deed goes unpunished. ■

Blake R. Nelson is a construction-law attorney with Hellmuth & Johnson PLLC in Minneapolis. He can be reached at [bnelson@hjlawfirm.com](mailto:bnelson@hjlawfirm.com). Roy Reichow is president at National Wood Flooring Consultants Inc. and an NWFACP-certified inspector.



The homeowners were unhappy with the appearance of this stain.



## YOUR BUSINESS RETAIL

By Barbara Crowhurst

# Ways to tame your out-of-whack buying budget

**B**UDGETS FOR BUYING are an interesting facet of retail. They delve into the heart of a retail business, and they also open up a lot of arteries. We have to look at them in a very serious

and unveiling way to keep our retail businesses on the right track.

But many of the retailers I work with struggle immensely with their buying, and their buying budgets can be as much as 90% of their sales. When that's the case, explain to me: Where is the rest of the money coming from to run that business? More often than not I hear, "Barb, my credit card is paying my wage." I get riled up when I hear that. And when it isn't being paid with credit cards, it's a family's inheritance paying for these mistakes. Of course, buying too little for your store can be just as dangerous for your business.

In this column, I'm going to talk about successful strategies for buying, including what you should buy and how much of it, and share ideas that will hopefully help

keep credit cards and the family inheritance far away from your wage.

### Know your numbers

Before we set a buying budget, we need to look at sales reports (see my previous column at [wfbmag.co/am19retail](http://wfbmag.co/am19retail) for why these are so important). I always start by asking retailers for the following sales reports:

**Sales by Category:** What's your best-selling category? Many retailers don't categorize their products—and they've got a big problem right there, because understanding your categories is understanding your business.

**Sales by Supplier:** Are you carrying a company's product that is not doing well and buying it again? If so, why?

**Sales by Item:** This should be arranged from best-selling to worst to give you a clear picture.

**Sales by Margin:** Why sell a product that is delivering the lowest margins to you?

**Inventory:** To continue figuring out what works and what doesn't, we need to understand your inventory's flow.

### Keep an eye on trends

The whole idea behind looking at numbers is to keep your business fresh. Equally critical in keeping your business fresh is following industry trends, and that means listening to your customers. If you're not listening to what people are telling you about why they're not buying from your store, you're going to get left behind.

You also need to make sure you're not ignoring what your competition is doing. A



Is your budget for product purchases out of control?

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## ■ YOUR BUSINESS RETAIL

marketplace for a retailer with a specific product (like hardwood flooring) can be between 20–30 miles. That's a big radius. You've got to know who's there and what they're selling! If you bury your head in the sand and say, "Well, I don't care what other people are doing," that's not going to help your business.

### Understand why the customer didn't buy

The previous tips tie into this critical question: Why did people walk into your store and walk out without buying anything? They didn't come in just to stretch their legs. Did you not have the product or brand that they wanted, or did the salesperson make a difference? You need to know. And only the person interacting directly with the customer would know that. Let's hope we hear that the customer left empty-handed because you didn't have the right product. As frustrating as it is for a retailer to hear that, it's also music to her ears, because that's valuable information.

### Use the 'Open to Thrive' budgeting system

The system that I share for developing a buying budget is called the Open to Thrive (OTT) system, and it follows this formula:

- 55% of sales for product purchases
- 40% of sales for operating costs
- 5% of sales for profit

There's a caveat: I'm assuming that if you are paying a \$1 for a product, you are selling it for a minimum of \$2.25. You may have margins far slimmer than that. That's fine, but at that point you need a business coach who can interpret what that means regarding how you operate your business.

Knowing this, let's look at an example.

Say we make \$500,000 in annual sales. Based on the OTT

### DO YOUR REPORTS MAKE SENSE?

Over the years, I've coached dozens of bookkeepers and have found some of them don't end up liking me very much—because oftentimes I end up telling them that the way they churn out their reports is useless. These reports can be overly technical, and the retailer doesn't understand what they mean. So a long time ago, I made it clear: We need to make these reports line up with what the retailer understands regarding the language and the way they are laid out. If the retailer can't easily understand them, they have to change.

system, that means your annual buying cannot be higher than \$275,000. Operating cost would be \$200,000, and your profit would then be \$25,000.

You're going to say to me: "Barb, that's a lot of work just to get a profit of \$25,000." But your operating costs should include your wages, right? It should also include your car expenses, etc. If you're still unhappy with this, then how about we increase sales? Instead of going backward, let's aim even higher.

### Put it all together

With buying, you always have to be careful. When you're buying something for your store, you must understand what's selling and what's selling well and what your average sale is. That process can be eye-opening to a lot of retailers. Every retailer's buying budget is going to be different from the next, but if you know your numbers, stay on top of trends and follow the OTT system, you'll get a firm grasp of your budget and better serve your customers and your business. ■

Barbara Crowhurst ([www.retailmakeover.ca](http://www.retailmakeover.ca)) is a retail makeover specialist, business coach, writer, international speaker and trainer.



# Two ways to make sure you're not stealing from your family

**A**S CONTRACTORS AND subcontractors, we spend an average of four hours of our lives on each estimate we give. Do the math: If you do five bids a week for 50 weeks

throughout the year, that's 1,000 hours of your life, which equates to 25 40-hour work weeks just for estimates.

We also typically schedule these estimates at times that are convenient for the potential client. This works fine until you realize you've missed another one of your kids' games or you're late for dinner ... again. I won't even get into the amount of time spent doing estimates on weekends.

A combination of not making enough money and spending a crazy amount of time chasing work is simply unfair to both you and your family. Below, I will share a couple concepts that will help put an end to the theft against your family.

## 1) Take control of the sales process: Use a phone

Somewhere along the line a contractor thought it was a good idea to put "Free Estimates" on the side of his truck, and then everyone else raced to the bottom with him.

Let's get some perspective. You have paid dearly for your expertise. You are a professional. Stop running around for Unicorns (people who will never be your client) and take control of the sales process.

This all starts with a commitment to changing your mindset. We live in a busy world and, believe it or not, prospects don't want to spend time meeting a contractor who is not a good fit for them any more than you want to meet with a prospect who isn't a fit for you.

We need to stop playing the game the way everyone else is playing it, and that means no more running around for free. Instead,

slow the process down and start with a phone prequalification process that will identify who is going to hire you before you ever take the time to meet with them.

This phone call should be Prequalification on Steroids, not the typical, "Do you have a pulse and live in my service area" prequalification. Rather, this is an honest and transparent conversation about:

- Their motive for the project.
- How much it will cost.
- What would happen if you come see them?
- Is everyone on board with this job?
- And, oh yeah, you have a consultation fee if you come out there and don't get a deposit check.

This is where I usually hear, "Tom, you don't understand my clients," or "That won't work in my area of the country," or "There's no way I can do that. I will lose any opportunity to get the job."

Here's the good news: You're right. If you believe it won't work, it won't. If you believe it will work and develop the skills needed to master the sales game, you will crush it and



## ■ YOUR BUSINESS MANAGEMENT

seriously cut the time you're spending on estimates that go nowhere.

### 2) Price your work for a 50% gross profit

The next way to ensure you are not ripping your family off is to price your work for a 50% profit or better. If you're looking for a hack to fast-track your way into consistent profit, this is it.

To make sure we're all on the same page, let's do some math.

**Step 1:** Figure how much the labor is going to cost you.

**Step 2:** Figure what the materials and supplies are going to cost you.

**Step 3:** Figure out any permits, equipment rentals or anything else you need to pay for to do the project.

**Step 4:** Add them all together. For our example here, let's pretend that amount is \$7,500. This is your cost to install the project for the client.

**Step 5:** Multiply that number by two.  $\$7,500 \times 2 = \$15,000$

**Step 6:** Sell the job for at least this amount. I've heard all the reasons why this won't

work and can promise you it will work if you commit to it. High profit is a choice.

That \$15,000 sale price will leave you \$7,500 to do the job and \$7,500 for overhead and profit. It will allow you to provide a better experience for your clients, stand behind your work and provide a great company for your employees.

### Commit and win

Running a business is way more expensive than we plan on it being. You deserve to make piles of money for the risks you are taking as a hardwood flooring contractor. Your employees deserve to be part of a strong company. Your clients want you to be a strong company. And your family needs it to be strong as well.

By taking control of the sales process you will establish yourself as the expert. You will guard your time and have time for the things that are most important to you. And by committing to getting a 50% gross profit on each job, you build a financial fortress around your company. ■

Tom Reber is a home improvement contractor consultant, business coach and founder of The Contractor Fight, an online coaching workshop.

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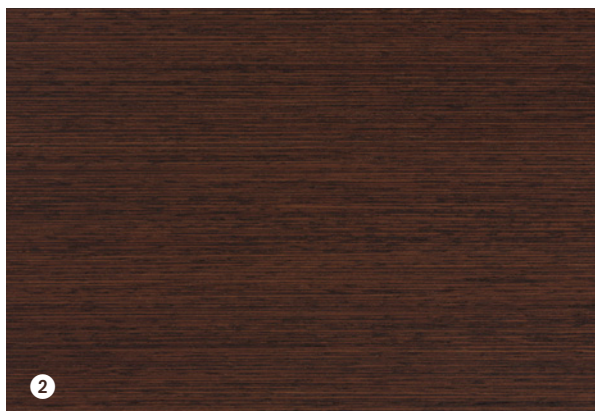
**“Without labor, nothing prospers.”**

— SOPHOCLES

GREEK PLAYWRIGHT (497-406 B.C.)

## MINI-QUIZ

- 1 True or False? Your last sanding pass with the big machine on parquet should be straight with the pattern of the parquet.
- 2 The wood shown on the right is wenge. Its Janka hardness is ...
  - a. 660
  - b. 820
  - c. 1630
  - d. 2200
- 3 True or False? Finish left in the back of your van in summer and applied while still hot is more likely to form a finish film quickly and can lead to tiny bubbles in the finish.
- 4 When warm outside summer air enters a house and cools, does the RH of that air increase or decrease?
- 5 The buffer pad on the left flexes (more or less) than the one on the right.



Answers: 1. False 2. c. 3. True. 4. Increase 5. less

→ Do you have a funny or unique job-site story, before-and-after pics or a Trick of the Trade to share? Email us at [editors@woodfloorbusiness.com](mailto:editors@woodfloorbusiness.com). If we use it in the magazine, we'll send you a WFB T-shirt.

## WOOD FLOOR RESCUE

### Perfectly good strip hidden by wax and debris

Bringing old, damaged wood floors back to life is one of the most rewarding parts of being a wood floor pro, and this project from Tacoma, Wash.-based Innovative Hardwood Flooring Inc. is a good example. “The floor, a mix of red oak and white oak, was covered in wax, paint and construction



debris,” says Estimator Tara Cresswell, adding that it also required adding 80 square feet of flooring to disguise where walls had been removed. Then the crew sanded with a Hummel using 36-, 50- and 100-grit and edged with 36-, 60- and 120-grit. That was followed by buffing with a Hydrasand multidisc with 120 before the floor was stained with DuraSeal English Chestnut. It was then coated with waterborne finish: one coat of Pall-X Color and two coats of Pall-X Power in satin. “The customer was very thrilled that we were able to return the floors back to a good condition and is so happy with the result,” Cresswell says.



## TRICK OF THE TRADE

### Puppy pads for wood floor pros

This issue's trick is from Chris Bauer at Bauer Hardwood Flooring in Sacramento, Calif.

Here's another dollar store delight: cheap, effective disposable shoe cleaning doormats for rainy and muddy job conditions! At least here in California, most Dollar Tree and 99¢ Stores carry five-packs of puppy trainer pads to absorb pet urine while housebreaking a dog. The XL version are doormat-size pads that are excellent at absorbing moisture and wiping dirty, wet shoes off when working at most standard job sites with lawns. You can double-layer or triple-layer them just outside the entry points of your work area and rotate them to a clean pad as they get too dirty. They are also good to use during the final floor sanding even when it's not wet conditions, or as a tool mat to protect a prefinished floor. I used to put terrycloth towels at doorways for the same purpose, but the towels are smaller and more expensive than the puppy pads. (To see other dollar store tips from Bauer, go to [wfbmag.co/dj18dollarstore](http://wfbmag.co/dj18dollarstore).)

## TALES FROM THE FRONT

### 'Are you supposed to glue that?'

This issue's Tale comes from Jeff Doyle of Cohasset, Mass.-based Doyle Wood Flooring. As he tells it: "Last August we landed a job to provide and install a 6-inch engineered French oak. On the first floor it was a floating application with glue on all four sides over a slab on grade; on the second floor a small portion was to be nailed with glue-assist over plywood. The construction dragged on, and we finally shipped the product in early November. The job dragged on some more until, of course, the Friday before Turkey Day. The client called to say she was ready and 'I need it done next week.' Unfortunately I could not meet that demand, and without any real problem or fuss the client stated the builder could do it—did I mind? If I had any chance of getting that floor installed then, I would have done it, but she was confident in her builder and 'his floor guy.' We offered our straps, which were already on site, to the builder to use, along with telling them to call if they needed help. A week after the job was done the client came to our showroom to pay her bill, and she mentioned the floor was separating—on the butt ends, and it was extreme. 'I can see the tongue,' she told me. I asked if the floor was glued. 'Are you supposed to glue that?' she asked. She wasn't sure. As it turns out, the builder's 'floor guy' didn't use any glue. He just dry-fit the floor, thinking it was going to magically hold without glue or any locking mechanism."

## Q&A

### Why do some woods darken?

I've heard people argue about whether it's light or oxidation that changes the color of wood. Which one is it?

DR. ALEX C. WIEDENHOEFT, research botanist and team leader at the Center for Wood Anatomy Research at the U.S. Forest Products Laboratory in Madison, Wis., answers:

The short answer is that color change—in general, not just in wood—is chemical change. Woods like cherry and mahogany that richen and deepen in color with time and exposure to light will change much more quickly in direct sun than in the dark or under indoor lighting. Because light speeds the reaction so much, most people think that light is the only factor, but it is not strictly required—the interior of a cherry board will eventually end up the same rich brown as the surface, despite never seeing a single photon, though the process may take decades if the wood is kept in the dark. Most conventional wisdom calls this color change in wood "oxidation," but that is often the same conventional wisdom that calls all extractives in wood "tannins." Because we see the compelling color change in heartwood and not in the sapwood, we can infer it is the extractives that are changing, not the wood substance itself. I don't know if we have evidence that the prevention of exposure to oxygen stops color change, but we do know that for some woods, light, and especially sunlight, greatly speeds it. Some woods lighten in color—a phenomenon we'll cover in a future issue.



Light speeds up the process of wood darkening in color—a change that would happen eventually with or without light. (Photo courtesy of Dawson Hardwood Floors; see the "after" version of this floor once it was resanded in the online version of this article at [wfbmag.co/jj19colorchange](http://wfbmag.co/jj19colorchange).)

# What's the most unusual wood floor job you've ever done?



**Jon Hunter**

Hit-and-miss sanding on 5-inch white pine with Bona Indoor Wood Oil for the top coat.



**Sarah Ruckert Fangmeyer**

Three different colors of prefinished acacia.



**Nate Sitz**

Fir recovered from a train trestle in Great Salt Lake. It was 20% salt by weight. My equipment needed to be thoroughly cleaned/oiled after this job because of rust.



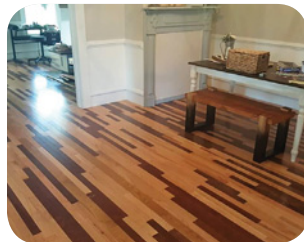
**Mike Hanning**

Recycled maple for the field, with a border of 9,600 pennies and Brazilian cherry.



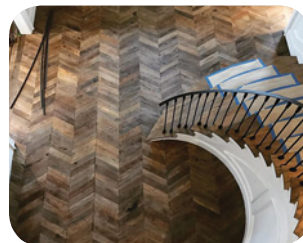
**Andrew Ogden**

We had a customer who wanted this white oak herringbone to look like raw wood. Every type of finish we tried changed the color of the wood too much. I eventually came up with this stain sample in the middle: ten parts Bona Natural, one part Bona White. Applying the stain was a nightmare, it was like applying invisible ink—you literally couldn't see a difference between stained and unstained wood.



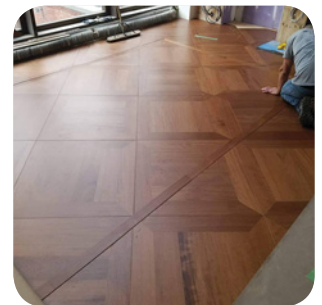
**Wesley Goetz**

I did my floors with leftover prefinished. Everyone seems to like it.



**Caleb Hall**

150-plus-year-old European oak pulled out of an old church in France and re-milled in Connecticut. It was around 3,600 feet in widths ranging from 3 to 4½ inches.



**James Mulhern**

A stage that goes up for a piano; I wrapped the sides with iroko also. By the window the floor also has hidden storage where 2-by-10-foot sections lift straight up and the pattern continues across.



**Brian Shourds**

5-inch livesawn white oak in a dining room that we are weaving into hexagonal tiles in the kitchen.



**Rick Merwin**

Playing with old wine wood.

**TELL US WHAT YOU THINK**

Follow WFB on Facebook and Instagram to see the next chance to be in the Talking Shop column.

# Not all hardwax oils are made the same

By Dirk Horstmann

**W**hen hardwax oils were first introduced to the market, it was a milestone in floor finishing, as they incorporated hard waxes into oils. Until then, floors were oiled for an ambering effect but needed wax for protection—a labor-intensive process that required lots of maintenance. Since then, hardwax oils have gained popularity, but confusion has developed. Here is an overview of what floor installers should pay attention to.

**IMPORTANT INGREDIENTS:** The oils, for example sunflower, soybean or thistle oils, soak into the wood, protecting it. The hard waxes sit on the wood, forming a protective film. They smooth the surface, prevent dirt from being ground in and provide better liquid resistance than oils alone.

**THE RIGHT FORMULATION:** Some brands have more wax, some less. Only a true oil-and-wax finish, like Osmo Polyx-Oil, adds durability. A good indicator is the range of sheens available. If only a matte sheen is offered, most likely the finish contains little or maybe even no hard waxes. With a good wax build, multiple sheen levels, such as glossy, satin or matte, are possible.

**ONE OR TWO COATS:** Some brands only require one coat, and this may seem to be faster and simpler, but a two-coat system will achieve a better hard wax build and durability. The build provides sheen and also protects the surface reliably.

**MACHINE OR MANUAL APPLICATION:** This is a question of preference and experience. Mechanical dispersion, such as buffing or polishing, will always be an excellent application method. However, buffing can close the wood grain and may result in improper oil penetration. Due to a low wax content, buffing is required for some brands to achieve higher sheens. Frequently, brushing is easier and faster than buffing. Brushes reach all the highs and lows and prevent pooling in low areas of the floor.

**REFINISHING:** With time, all flooring becomes dull. In the case of floors treated

with hardwax oils, this means the top wax layer has been worn away. These waxes should be replenished on a regular basis. One method is to apply a maintenance coat with a care product that regenerates the wax layer, such as Osmo Maintenance Oil. Despite maintenance coats, the floor will eventually have to be recoated. To recoat the whole area, no sanding is required; just thoroughly clean the surface and apply one thin coat. One advantage of hardwax oils, such as Osmo Polyx-Oil, is they allow for spot repairs. Just tape off the section, sand off the damaged surface and refinish with one very thin coat. Regardless of whether you are refinishing or carrying out spot repairs, do not use one brand in combination with another one, as this will produce slight differences in appearance.

To guarantee customers good results, it is best to order samples of various hardwax oils to test them out with your own finishing methods. No matter which hardwax oil you settle upon, they all improve the quality of indoor air and wood flooring. ■



With hardwax oil finishes, you can tape, sand and refinish for an easy spot repair.

This article was paid for by Osmo, where Dirk Horstmann is international advisor for wood finishes and application technology. For more information, visit [osmocolorusa.com](http://osmocolorusa.com)



Two-coat systems like Osmo Polyx-Oil achieve a better hard wax build, more durability and a uniform sheen.



## ON THE JOB TROUBLESHOOTING

By Linda Lockwood

# Trapped moisture wreaks havoc on this new prefinished floor

### The Problem

I was contacted to inspect a new prefinished floor due to cupping.

### What Happened

As part of a complete remodel of the home's interior, 3/4-inch-wide solid prefinished oak flooring was nailed to a new plywood subfloor over a crawl space. The installation took place in May. The floors were covered as other work continued. About a month after flooring installation, foam insulation was sprayed on the underside of the subflooring. There was standing water in the crawl space when the spray foam was applied. In July, cupping was noticed and then worsened. Only one sump pump was working, and a dehumidifier installed by the GC was not draining. Through the following winter, the heat was on but the flooring remained cupped, and the sump pump and dehumidifier issues had not been resolved.



Spray foam on the underside of this floor's plywood subfloor was not a good idea as far as the wood floor was concerned.

### The Inspection

There was cupping measuring 0.025–0.028 inch throughout the installation. There was no vapor barrier visible between the installed floor and the subfloor. In the crawl space, the underside of the subfloor was insulated with closed-cell spray foam 2–3 inches thick. The dirt floor was partially covered with black plastic; random areas of soil were exposed. A dehumidifier hanging near the crawl space hatch was on, but its red light was lit, indicating its tank was full.

Interior RH measured 53.1% at 65 degrees Fahrenheit. Moisture testing was done incrementally from the surface to 1½ inches into the plywood subfloor. From the top down, moisture measured 8.2, 8.7, 9.0 and 11.0%. Moisture content of the crawl space hatch framing measured 16.3%. Three sets of 13 boards were measured and indicated the average board width was 3.255 inch.

Cupping is the result of a moisture imbalance from the top to the bottom of the boards; I determined the cause was moisture trapped in the plywood between the wood flooring and the spray foam insulation.

### How to Fix the Floor

Since the wood moisture readings were relatively consistent from top to bottom (8.2–9.0%), the cupping may be permanent. Re-sanding is not recommended at this time because subfloor moisture is still 3% higher than the installed floor. If subfloor moisture is reduced, sanding and refinishing may be acceptable to the homeowner.

### In the Future

Since closed-cell spray foam will slow down the drying of wet lumber, it should only be applied to relatively dry substrates. ■

Linda Lockwood is an IICRC-certified wood floor inspector at Barnegat, N.J.-based Statewide Floor Covering Inspection Service.

# A lesson from the Marines: Protect what you've earned

by David Williams

**W**e all are looking for that secret ingredient that turns a typical company, idea, or product into a raving success. What if I told you that it may have less to do with what you sell than how you sell it? The exact same product may sit on the shelves of a dozen stores at comparable prices. Choosing who to buy from comes down to other, less tangible factors. This is where a company's reputation makes all the difference.

If you are a Marine, you are already familiar with the concept of P.W.Y.E or Protect What You've Earned. Simply put, P.W.Y.E is the commitment to honor and safeguard one's reputation and achievements by choosing sound behaviors and actions. I have always admired our service men and women because they put in consistent, active effort to uphold the best version of themselves for the world to recognize. It's a practice that translates well into business. Think of how companies like Apple, Microsoft, and Google paint a picture of what they believe in and how teaming with them can change the world. Then they strive every day to uphold those values.

So, how does this apply to me? Most of the business we do or will do in the future will be done based on our reputation and what we do to protect it. The key to maintaining both our success and reputation is to treat them like verbs rather than nouns. They are active, living states of being that must be nourished and protected.

How we interact with the world is more visible with the internet. Customers are constantly researching our businesses, and you never know how much business you have lost because of a bad reputation. On the other hand, you may also have people tell you how impressed they are by what they see online.

Here are two key points you can apply to your business: First, you must deliver exceptional service and then provide great products.

Providing exceptional service almost

sounds cliché these days, but delivering on that promise is critical. At Horizon Forest Products, our motto is "The Hardwood Experts," and we demonstrate that by providing exceptional customer service, with the best products in stock and the most complete knowledge base available. We value our customer's time by providing pricing within two hours of requests and by promising on-time delivery.

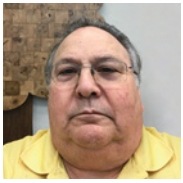
Equally as important is our commitment to sell great products. The famous Benjamin Franklin quote, "The bitterness of poor quality is remembered long after the sweetness of low price has faded from memory," is something we know to be true. Periodically, our customers tell us they found a cheaper solution somewhere else, and it ended up costing them more because it was an inferior product.

Building a strong reputation and protecting it is a daily activity. Giving great service and providing great products are the keys to that reputation. Now, it is your job to protect what you've earned and strive for success every day. ■

David Williams is vice president at Raleigh, N.C.-based Horizon Forest Products. For more information, visit [horizonforest.com](http://horizonforest.com).



Success and reputation are active, living states of being that must be nourished and protected.



## ON THE JOB FROM THE FIELD

By Norman Kaswell

# Installing end grain? Read these tips for this unique product

**E**nd-grain flooring is popular today, but this flooring also has an interesting and remarkable history. End-grain blocks were first used for street paving; several historical streets in the

United States remain that are paved with end-grain wood blocks. You can Google “wood paver alley” for some interesting history!

Valued for their durability, sound and energy absorption qualities, as well as ease of removing and replacing, end-grain blocks became the industrial wood flooring of choice in the early 1900s for heavy industrial applications in plants such as US Steel, General Electric, Caterpillar, Alcoa, GM, Ford, and so many others. Today, the floors in those industrial facilities are still being serviced with replacement blocks, adhesives and coatings.

In today’s market, end grain is also being installed everywhere from private homes to commercial locations such as theaters and museums. Dozens of species are available,

and modern end grain is available in individual blocks, on engineered planks, end grain in strips, on cork backed panels, and with mesh backing.

There are no published grading rules for end-grain blocks, and many times the more character in a block, i.e. knots, checks, “blue-ing,” etc., the more interesting and desirable they may be. In fact, making end-grain blocks from the worst grade of lumber may be the best use of the raw material. If required, however, blocks can be provided check-free, pith-free, sap-free and knot-free.

Typical end-grain thickness is  $\frac{3}{4}$  inch, but some species perform well as thin as  $\frac{1}{2}$  inch, and we’ve made blocks from  $\frac{3}{8}$  to 4 inch in thickness. As a general rule, there’s a correlation between face size and thickness. The larger the face size, the thicker the



These pine end-grain blocks were mixed to ensure variety of patterns and color and acclimated on-site before being installed at the Lawrence Barn Community Center in Hollis, N.H.





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block should be. At one of the GE facilities we service, they use two layers of 4-inch depth blocks—the impact wear pulverizes the end grain but saves the metal objects being dropped, and when the top layer is crushed, it is removed and a new top layer applied.

When industrial blocks arrive on a job site they should be removed from their packaging and acclimated before installation. Commercial blocks should also be removed from their packaging once they are on site, and they should be mixed and scattered to avoid clustering of the same blocks cut from the same log. The blocks must be acclimated in loose piles to normal long-term conditions. The installer should be advised of the humidity conditions planned for occupancy and then make every effort to acclimate them to the average level of humidity. As with any wood flooring job, the installer should record the moisture content of the wood upon arrival and before installation. Note that when using a pin meter on end grain, the pins should be inserted into the sides of the block, not into the end grain.

When gluing end grain, it is extremely important to use urethane adhesives for installation, as water-based adhesives can have an adverse effect on block performance.



End-grain blocks should be mixed up (as shown on page 32) and acclimated before installation; these pine blocks are at a Connecticut school.

### How much does end block cost?

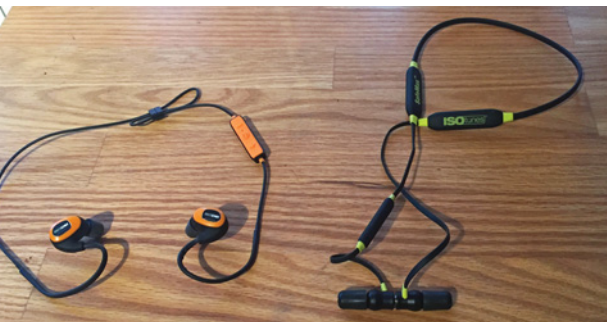
A frequently asked question is: “How much is a wood block floor?” That’s like asking an automobile dealer, “How much is a car?” We supply close to 50 species, and orders range from 100 square feet in a home to 100,000 square feet for an architect. The lowest-cost product is generally a pine block; on the other end of the spectrum there are products such as ½-inch-depth 3-by-3-inch end grain cherry that can be ordered sap-free and FSC-certified.—N.K.

There are several format options. Some species are available on engineered planks, many are on cork panels, several have mesh backing, some are in strips, and, of course, individual blocks. Blocks can be made from both new or reclaimed logs or cants. Blocks can be installed snug against each other or spaced apart for a more grouted joint appearance. Small voids between blocks can be filled with a paste, usually made from the sanding dust mixed with the chosen finish. For larger voids, many times we suggest using granulated cork, perhaps topped off with paste filler to hide the granules.

Some end grain formats are available prefinished. For the products requiring sanding and finishing in place, the sanding and finishing products and procedures should follow a routine procedure, although it may be necessary to start with a lower sanding grit than you normally would with conventional hardwood. We always recommend oil finishes for end grain, which better help stabilize the blocks. Of course, urethane finishes can also be applied, but keep in mind that too much urethane on the surface can cause panelization and shrinkage gaps, just as it can with conventional hardwood.

Again, there are no general industry guidelines for end-grain installations, so be sure to follow the instructions/specifications provided by your end grain block manufacturer every step of the way. And remember, the art is in the installation! ■

Norman Kaswell handles technical services at Ashland, Mass.-based Kaswell Flooring Systems.



The ISOtunes earphones allow you to listen to music and take calls while using ear protection on the job. The Pro version [at left in bottom photo] wraps around the top of the ear.

## ISOTUNES PRO AND XTRA EARPHONES

Cory Vanasse, owner/operator of Frontier Flooring Ottawa in Ottawa, Ont., tried the Bluetooth-enabled hearing protection earphones by ISOtunes.

**M**y apprentice and I use hearing protection routinely on our wood flooring job sites, but we usually use ear muffs with built-in radios, so I was interested to try the earphones from ISOtunes. We received both the ISOtunes Pro and Xtra versions. Both of them have an ANSI-certified Noise Reduction Rating of 27 dB and have a USB-rechargeable lithium-ion battery.

I tried the earphones in various situations, including installing and sanding wood flooring and installing ceramic. I also used them for walking my dog and mountain biking, figuring that if someone is buying these, it's likely they wouldn't just use them for work.

As far as reducing sound, they worked, but neither unit worked as well as our ear muffs. I found the quality of the music often sounded somewhat muffled, lacking bass and overall quality, even with high-quality MP3s, and the Pro unit had issues keeping a connection to my iPod via Bluetooth. Changing from one song to another requires holding the change button for about 3 seconds, which is a fairly long wait if you just want to skip a few songs. You can use them for talking on the phone, although I found that the sound quality wasn't great and the mic didn't pick up my voice super well.

The company says the Pro version has 10 hours of music playback and talk time, while the Xtra version has 8 hours. We found it wasn't that long but was close, which seems to be the norm for most devices.

The packaging was very good for both units; they both come with a hard case that contains additional ear buds: 4 sizes of foam earplugs and three sizes of rubber double-flange eartips.

My apprentice and I both think that although they aren't perfect, we will continue using these on the job (I'll be using the Xtra version that doesn't fall out of my ears). I wouldn't use them for just hearing protection, but I will use them when I want to listen to music. It's nice to not have to worry about batteries, and honestly, when I'm on a job site, I just want to protect my hearing and listen to some music—the sound quality doesn't have to be a 10 out of 10.

**Retail: \$89.99 for ISOtunes Pro, \$79.99 for ISOtunes Xtra**

See a video review in the online version of this article at [wfbmag.co/jj19tooltme](http://wfbmag.co/jj19tooltme).



# How we did this job: An obsession with color fixed this floor

By Avedis Dovenjian

I'VE ALWAYS BEEN fixated on color and finishing, and in my early years in the wood flooring business, I prided myself on being sort of a color expert. Then, about 25 years ago, I hired an actual artist—a trained fine artist, Vartan Arutyunian—to work in my business, and I realized I didn't really understand much about

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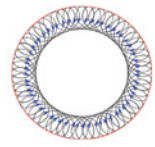
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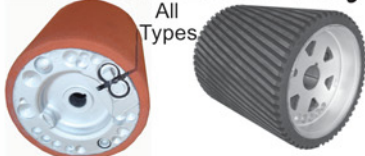
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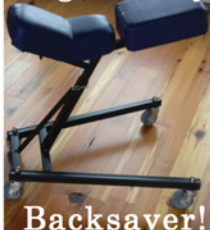
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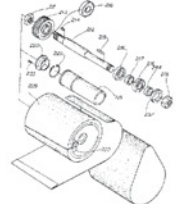
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When we became involved in this job, we were given these two pieces of flooring. The board on the right was the original sample they had been using that was almost two years old and had aged. When we received the board on the left, the entire board looked like the far left color—that was the flooring with the finish freshly applied. We used bleach and layers of oil finish on that board to get the right side of that board to match their original sample.

color at all. He saw things that I didn't see, and I would say to myself, "Man, I thought I was so anal about everything, but this guy sees everything in a completely different way!" I was seeing my vision of the color, not the actual color, if that makes any sense. Before long Vartan told me that I really needed to go back to learning the very basics of color. I went to a finishing school and a graining school in New York, and after getting more education, I thought I knew everything ... but wood doesn't work like that. A wood canvas isn't white; it changes your colors. And then it changes as it ages and is exposed to light—and that's what's so fascinating about working with colors and finishes in the wood flooring industry.

In our wood flooring business today, we specialize in very high-end work around the world, and one of the reasons clients seek us out is because of our obsession with color. After working with Vartan, I realized how important his insights were to my business, and he became my partner. In this article I will walk you through one job we got

specifically because of our ability to adjust the color and deliver a level of artistry that top clients expect.

### Finishing starts before you think it does

This one concept is so important to understand: Finishing starts from the time of installation, or rather, finishing even starts from the time you are planning what materials you need. What I mean is that when you are selecting your material and the cut and the species, you are already making choices about how the final color and finish will look for the client.

When we do a job, usually the client has chosen a particular product for a very specific look (usually a very expensive product!). We never have the wood flooring delivered to the job site. Instead, we deliver it straight to our shop. For a very high-end project, I will know the configuration of each room. For the sake of simplicity, let's say we have a room 20 feet wide and 40 feet long, and I have a 12-inch plank. I will know that I will have 20 runs of that 12-inch plank going across the room—so 20 lines of flooring. What we will do is sort the flooring by color and grain, then we'll start planning our wood for each separate line of flooring.

### The relaxing, uniform look

When a client wants a uniform, relaxing look without drastic color changes between boards, we will start with one row that is very dark. The next row will be a little lighter, a little lighter, then a little darker, a little bit darker ... so in each line we will match the color and the grain configuration and change the color and grain gradually across the floor so that your eye doesn't notice the changes. We also have a goal that each line or run of flooring will look like one continuous piece of flooring, so we try to match the grain. For such selective clients we'll have to order much more flooring than you would for an average job. Right now we are working on a \$1.5 million project for a famous person; I ordered 45 percent culling for that job.

Once the rows are planned we will vacuum-bundle each row and label them one through 20, and the pieces in the bundle will be labeled a, b, c, etc., so each board is laid in the correct order. Once it's racked out, if the dry-lay looks good, then we will actually install the floor at the job.

You might think it's crazy to plan every



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## From RH management to color adjustments (and how to not attract monkeys)

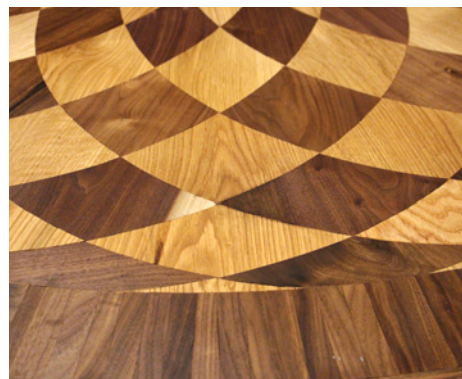
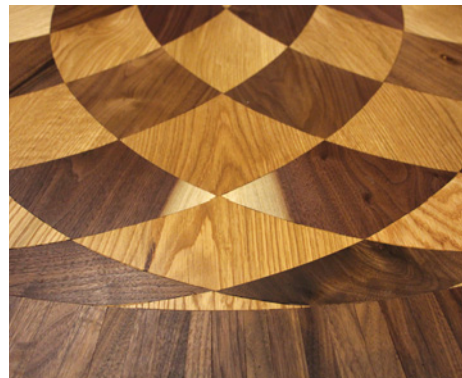
BY HOWARD BRICKMAN

I was brought into this project by the owner to provide advice to the GC/construction manager with regards to managing interior conditions before and during the installation. I had worked with this GC on several other projects, and they specialize in high-quality outcomes—but are always looking at the budget and expenses. My two main tasks were to monitor moisture content of the wood flooring and subfloor and the RH of the interior. During the work day, with contractors constantly opening the doors, it was going to be extremely difficult to keep the RH in the desired range when the outdoor conditions were high humidity. The GC had two commercial dehumidifiers in the area where the wood flooring was stored and to be installed. The flooring was 30 x 300 mm very-long-length solid white oak, so it was important to keep it at a MC in equilibrium with the building interior AND have the building interior at the appropriate conditions before and after delivery. Once the flooring equilibrated to the proper MC, we covered the bundles with plastic to maintain the correct MC. When the installation started, the building interior had to be at the optimum RH. When I consult on high-end projects like this, depending on time of year we use either dehumidifiers or humidifiers.

After installation, the original wood flooring contractor was unable to match the approved color sample to the installed floor after numerous attempts, and I suggested they contact Archetypal. The project manager was surprised that Archetypal's price to finish the floor was so much higher than the previously contracted prices. I resisted the opening to tell him that when you offer peanuts, all you attract is monkeys, and instead I explained that Avedis and Vartan execute color and finishing with greater acuity than any other wood floor finishers I have encountered on a job site ... but they would need to support Archetypal by staying out of the way and giving them adequate time to complete the work.

The owner and their design team were very pleased with the outcome. The project manager asked me to take a look at the "grain repair" (the problematic short board discussed in the main article on page 43), which was within 8 feet of the main entrance on the main floor. The project manager located the board with some difficulty. It was only after a very close examination on my knees that I could kind of tell that something had been done to physically alter the surface of the board.

Watching Avedis and Vartan make color corrections on some sappy walnut boards at the February International Wood Flooring Association Extreme Wood Flooring school was a mini master class on blending and layering color [the photos on this page are from that school]. I was amazed by how they were able to make the white sap among many pieces of dark walnut disappear.





single board in the floor. I should back up and explain the product we are often working with. It's a plank product from Europe made from white oak trees in France and Germany. The manufacturer uses only trees that are the same shape from the sunlight hitting all sides of the tree evenly. The trees have to be on a certain steepness of a hill so that the minerals go down to the roots correctly; this all produces a very tight grain. They won't cut a tree until it is between 230–250 years old—at this point it is at the end of its life but hasn't begun to decay. Once they are allowed to cut the tree, a helicopter removes it from the forest so other trees aren't damaged.

So, my point is this: If this company has gone to so much hassle to get the perfect grain and wood, when it comes to us as the wood flooring contractors, it's all in our hands to make the artistic magic happen.

**Things don't always go as planned**

We got involved in this project because of issues with the color on the wood floor. The

entire project was probably 7,000 square feet, and we were brought in to deal with the 3,000 square feet on the main level. The project was an ultra-modern new home built in a traditional neighborhood on the East Coast by a prestigious architect in New York.

We got a call from the wood flooring manufacturer that there were issues with the color on the project. All of the flooring had been installed, and so far the upstairs had been sanded and finished by another wood flooring company. When the client saw that color, all progress stopped. Let me be clear that this other company never actually did anything badly or wrong on the finishing process or the color. The wood had been sold and the color spec'd almost two years before. The designer on the project had been selecting the color palette for everything from the exquisite walnut wood paneling to the marble work and the leather couches based on the color sample of the floor. But once the wood flooring contractor sanded the floor and applied the oil finish that had been spec'd—a standard product used

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The stairs on this job had been coated with the same finish as the flooring upstairs—the wrong color. This created a particular challenge because they have inlaid suede perfectly even with the wood, meaning they can't be sanded. Another problem is they were built with American white oak instead of the European white oak that was used for the flooring. I convinced the homeowner to do a preliminary color adjustment without deep-sanding the finish to let the stairs age for awhile before we try to make them match the floor exactly.



The client wanted a uniform look to the floor, but the boards had been racked out randomly, so our first priority was to tape off individual boards as necessary to even out the color differences.

specifically with that wood flooring—the architect and designer said, “That’s not the color we ordered.”

The color on the floor didn’t even come close to matching the sample. The freshly applied finish looked cold and dry, but their sample looked like a beautiful warm, creamy color (see the photo on page 38). The wood flooring supplier suggested they try sanding and water-popping the floor, then reapplying the color, but that didn’t work. Then the contractor sanded it again and tried using combinations of different oil finish products to match the color, but it still didn’t match.

The architect requested a new sample of the color from the flooring supplier, and when it arrived, the architect said the supplier must have changed its colors since their original sample, because they didn’t match. The flooring supplier tried to explain that it depends where you keep the wood samples—coatings are transparent, and if you leave a sample in front of a window for a year and a half, the wood will change, and so the color will.

At this point, they were stuck: The architect wanted the color of the original aged, seasoned, warm sample; the flooring contractor wasn’t able to reproduce the color; and the supplier knew they were supplying the correct wood and finish for the sample. The supplier called us and told us to expect a call from the architects. When we got the call and went to meet them in their office in New York, we saw that the lead architect was there. It rarely happens to have a lead architect in these meetings, but this was an extremely important client for them. When we saw the difference in the samples, we knew we could recreate the color using our own bleaching process and the oil finish products we use.

### First step: neutralizing the color

Because of the time frame on the project, they chose to concentrate on fixing the color on just the main level. We agreed that our company would do all the sanding and finishing on that level. Because the wood flooring was so high-end, we could start with 80 on the sanding and then go to 100 and 120 on the big machine, ending with a Trio with 100-grit.

There were also stairs with the wood flooring with inlaid suede (see the photo at left), and because sanding them would

have created a height difference with the suede, I asked the owner if we could see how that flooring patinas over time before we try to adjust the color on top of the existing finish.

Earlier I said that finish starts with installation. On this job, because the extremely high-end flooring was already installed and the kitchen was already installed on top of the flooring, we weren't able to carefully rack out the floor the way we normally would for a client who wants a uniform look, creating gradual transitions in color along with the illusion that each row is one continuous board. This flooring had been laid completely randomly, but we still wanted it to appear the way it would if we had laid the floor from the beginning.

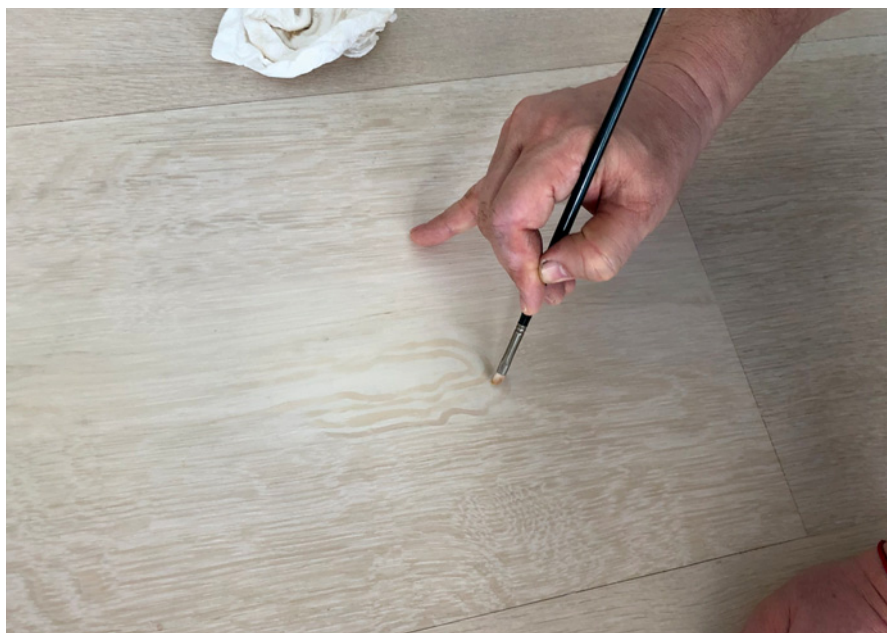
First we had to even out the color. We have a proprietary process we've developed to bleach the floor. It's a two-component process that neutralizes itself once it reacts with the wood. We went over the entire floor two times to even out the color with this process. The downside of doing that to the entire floor, of course, is that you have boards that were lighter to start with, and now they might be too light, and there were still boards that were too dark. We went back to adjust those boards, but first we applied the first coat of LED-cured oil finish. After that first coat, maybe 40–60 percent of the boards were the color we wanted—the rest were too light or too dark. With the specific LED finish we were using, you can keep applying layers of color over the finished boards, so we went over the floor, taping off individual boards and applying layers of color until each board was the correct color.

With the color adjusted on every board to even out the tone, we applied a last coat of finish to marry the boards across the entire floor.

### The issue with that one board right in the middle

After going through the entire floor board by board, we had the colors we wanted. But now Vartan noticed something else. Right in the middle of the floor—a floor with boards that were an average of 13 or 14 feet long—he saw this 3½- or 4-foot board that was totally rift and quartersawn. It was like a zebra in the middle of the floor. The boards around it were all livesawn boards.

We couldn't leave that board there like that. I think it would have bothered Vartan



Once we had the color corrected throughout the floor, we noticed a very short rift and quartersawn board right in the middle of the floor, so Vartan carved and used our graining technique to make the board blend in with the adjacent livesawn boards (top photo). The board is in the photo above but is not noticeable because the repair blends in seamlessly.



The final result was a floor that has the soothing, uniform look the client was seeking. Although the individual boards don't run the entire length of the floor, the final effect is seamless.

and me more than anyone, but if the clients picked up that one board and decided they didn't like it, it would have been too late; it would have been a disaster. The clients could easily say they don't like that row of flooring, which ran all the way underneath the kitchen cabinets. Now you've got to remove the kitchen! In the end, leaving that one board could cost a huge amount of money by the time it would be all fixed. Why take the risk? And also, why live your life like that? It's going to bother you the rest of your life—you may get away with it, but you're going to know you didn't do the floor the best you could have.

In this case, Vartan said we had to take things up a notch by creating cathedral grain on that board so it would blend into the next board in that row—a skill we learned by attending a class specifically about “graining” (see the sidebar on the facing page for more information on this class). When Vartan does something this complicated on a board, he doesn't just paint it onto the board. We make our own flexible Bondo type of product, like you use on cars but more flexible so it won't crack or break if the wood moves. It's hard to explain in detail in writing, but basically we scrape down the wood in some areas and drill tiny holes throughout—the same thing the autobody guys do so it won't come out; the holes hold it and the color so it will be durable for the future. Now when you glance down that row of flooring, that board blends right into the next one.

### Why should anyone be this obsessed?

In the industry it's taught that the floor should be inspected from a standing position. For our clients, standing up like that is not going to happen. The owner doesn't really care how you are standing! And the owner is the person who is worrying the least on these jobs. Usually you have the GC, architect, the designer, the owner's rep, probably another engineer or architect, and the money guy ... and all of them are going to go on their hands and knees to make sure everything is perfect. They aren't standing up 5 feet tall! But if you really do it right from the beginning and you fix everything at the right time (before they see it!), you can make a lot of money and they will wait forever to do a project with you; you don't have to kill

yourself trying to do four jobs all at once to try to not lose that client. If they want you enough, they will even plan it in a way that fits into your schedule because they say, "This guy is quality." You have to create a feeling, not just a piece of wood. The sky is the limit, and when you are an artist or are able to resource the skills of a real artist, you can do anything you want. ■

Avedis Duvenjian is vice president at New York-based Archetypal Imagery, where Vartan Arutyunian is project manager and artist.



**LEARNING TO DO WOOD GRAIN**

If you look at [www.fauxfinish.com](http://www.fauxfinish.com), you'll see a range of classes from color theory to wood graining and more; I took every single one of them, and they're all helpful. I highly suggest that if you are trying to be more artistic and creative on surfaces, you try one or all of these classes.—A.D.

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# TRUCKS CANNOT

By Ryan Kushner



Photo by Bryan Regan Photography

**W**e're excited to share the winners of our third annual WFB Truck and Van Contest, where we highlight some of the coolest, most eye-catching hardwood flooring rigs out on the road. We're again honoring vehicles in our Best Exterior Graphics, Most Organized, Most Unique and Biggest Disaster categories. Because some of the other entries were just too captivating not to feature, we've once again added some fun

additional categories. As many of the pros featured this year will attest, there is a lot that goes into acquiring an effective vinyl wrap for a wood flooring vehicle, and this year WFB spoke with a local vehicle wrap expert to discover what wood flooring professionals should know before choosing a wrap for their truck, van or trailer. That feature can be found on page 56. But for a deluge of design inspiration from this year's winners, simply turn the page.



Photo by Bryan Regan Photography

## BEST EXTERIOR GRAPHICS 12TH & OAK FLOOR CO. CLAYTON, N.C.

Simple, clean and elegant; that's how 12th & Oak Floor Co. Owner Izral Daniels likes his hardwood flooring. So when it came time to pick a custom wrap for his 8.5-by-14-foot V-Nose trailer last year, he wanted to make sure its style synced with his own.

"I just like that it's simple," Daniels says of the design. "We wanted it to be pretty easy to read and recognize from a distance."

Indeed, the black background and gritty white font of the logo, prominent on both sides of the trailer, is instantly recognizable.

"You're not having to read 1,000 words driving down the road," Daniels adds. "If they want to see everything, they can go to the website. So it kind of gives them a reason to check us out a little further."

Daniels worked with a local wrap installer to have the design coordinate with the graphics on his company's website, the logo for which was modeled after a stamp. "Nothing too fancy, just something clean and easy to see," Daniels says.

But effective simplicity can take time to achieve, and Daniels and the wrap installer went through thousands of stock photos before finally settling on one for the

background image of the trailer's wrap. "It just reminds me of something kind of timeless," Daniels says of the design.

While the exterior design aesthetic may be minimal, the amount of storage space in the sizeable rig is not. "We try to carry everything we would need install-wise and sand-and-finish-wise in one spot," says Daniels. And as is often the case, "It doesn't matter how big it is, you'll fill it up," he chuckles.

Ultimately, Daniels views the wrap and every other visual aspect of his business as a cohesive way to make a good impression.

"We want it to look luxurious, elegant," he says. "I want everything we do to be representing ourselves to our clients."

### WFB Art Director Justin Eccles weighs in on the winning design:

"Everything is consistent in this wrap. The whole feel of the design has this industrial quality, and then it's paired with a photograph that also is like a warehouse. And then the warehouse, of course, has a wood floor, which is very fitting. Consistency is really important in a design. The black and white logo also has a really strong contrast, the biggest contrast of any two color treatments, so it's very noticeable. They put a lot of thought into it, and it works on so many levels."





## MOST ORGANIZED INTERIOR

WILDWOOD FLOORS OF  
EASTERN IOWA INC.

ROBINS, IOWA

**W**hen Wildwood Floors of Eastern Iowa Inc. Owner Andy Eicher started tricking out his 2019 Ford Transit's interior, he had one goal in mind: "That I could go into the van and get any tool that I need without having to move something else," he says.

Such a task was easier said than done in his previous van, where Eicher and his crew developed a loading process they called "Tetris."

"In the old van, it was like you had to Tetris all your equipment in so that it all fit," Eicher laughs.

Vowing to step up his game in his new ride, Eicher purchased Milwaukee Packout cases to organize his tools and decided to build a shelving system in the van with ¾-inch maple plywood he found on sale at Menards. Fitting the shelves turned out to be tricky, however, as the spacious van's walls are curved.

"I had to cut and scribe all the panels to the contour

of the van," Eicher says. "It took forever."

He built the cabinets in sections so he can remove different parts if he wants to rearrange them. The shelving took two weeks to install, during which Eicher addressed many of the storage issues he'd always experienced, including what to do with his cleat guns.

"I built a custom little cubby that I actually lined with a really dense, high-impact foam," he says.

Eicher also installed a convenient shelf for his abrasives (secured by a net), built a removable travel stand for his big machine, and mounted PVC pipes to the walls to store miscellaneous tools and holster his mini leaf blower.

One of the handiest features is overhead, where Eicher installed clips to hold his applicator poles on the ceiling.

Eicher estimates he invested \$600 organizing the vehicle. While he may have conquered the old "Tetris" game, the new tricked-out interior has created a slight hiccup in unloading the van quickly while at a job site: "I'll pull up in my other truck and it'll be my guy, plus the trim guy, the electrician and some other guy all standing in the driveway staring at the van," Eicher says. "All the guys are just drooling all over it."



## **MOST UNIQUE VEHICLE** **ATLANTA FLOORING CENTRE** MISSION, B.C., CANADA

**F**or all practical driving purposes, Atlanta Flooring Centre's 1950 Chevrolet Sedan Delivery can be a little tough to get around in—and not just because it has poor visibility and less-than-stellar gas mileage. It's also because adoring fans tend to get a little enthusiastic when they spot it on the road.

"I've had people pull me over in traffic," Atlanta Flooring Service Manager Ryan Cooper laughs. "They wave, they honk, they get so excited."

The vintage vehicle has become a staple at local community events, generating plenty of attention for the company and sparking countless conversations, Cooper says.

Atlanta Flooring bought the Sedan in 2013, and Cooper says it's only rarely that it has been associated with a hearse, although that was one of the model's original uses. The company had the vehicle painted to match the store's red and black colors and developed a vintage-seeming vinyl logo for the side. They also had the interior reupholstered and installed engineered acacia hardwood flooring in the trunk to give it that extra dazzle.

"It definitely helps keep awareness," Cooper says of the vehicle, which is stationed in front of the company's store when not in use. "There's a lot of different ways to spend your advertising budget, and finding creative



ones other than just throwing in a newspaper ad sometimes is good."

When it isn't serving as eye-candy at town parades, Cooper likes to take the car down to the local dragstrip, where it can still turn  $\frac{1}{4}$  mile in 16.1 seconds. "Don't tell my boss," Cooper jokes.

Cruising in the old car feels almost like time travel some days, Cooper says: "You're stepping back 60 or 70



years in time and just thinking, what was it like back then?”

One aspect from going back in time that Cooper doesn't care for, though, is the terrible visibility.

“Changing lanes, backing up, you don't know where the car is and you can't see anything,” Cooper laughs. Perhaps it's best to admire it from the outside, where the slick ride rarely goes unnoticed.

**WFB Art Director Justin Eccles weighs in on the winning design:**

“The thing that works the best is that it's such a well-built vehicle. It's almost like translating this well-built car into ‘I'm going to do a good job on your floor.’ Very classy. And wood floors are classy. And black and red are the best colors to pair together—it's dynamic.”



**BIGGEST DISASTER**  
**CONRAD'S HARDWOOD AND**  
**INTERIOR FINISHING**  
 COQUITLAM, B.C., CANADA

**W**hen Conrad's Hardwood and Interior Finishing Owner Conrad Mark refers to his work truck as "the gnarliest, nastiest F-150 the streets of Vancouver have ever seen," he does so with affection—sort of.

"There's been so many things with that truck," he sighs. "Mechanically, it's barely keeping up with how much work I've got to do."

The battle-scarred truck, known as "Bertha," has a reputation for flaking out on busy days, and its dinged-up state has become a running joke between Mark and other contractors.

Many of the truck's blemishes came from an underground parking lot, where a new employee got into a bit of a pinball situation with Bertha and some concrete pillars. The black patch on the side door came from an unfortunate encounter with a previous employer's magnetized logo—which Mark had placed there in hopes of covering up a smaller scratch. "That thing would not come off," Mark says. It eventually curled off but took the paint with it.

Those who don't notice the black patch or scuffs are probably distracted by the diamond-plate steel covering the smashed-out back windshield, the result of a box of hardwood flooring shifting backward as Mark traveled up a busy street.

"That was a bit of a show," he says of the incident. "Everyone's honking at me, there's glass on the road, there's all the boards everywhere ... Yeah, not good."

But for all its rough spots (did we mention the roof has a leak?), Mark also has a soft spot for old Bertha, which was a wedding gift from his wife in 2012; he used the truck to help start his business the following year.

"I owe that truck kind of everything," Mark says. "The amount of driving ... I knew I was overworking the thing ... But I always just made it work."

But perhaps love between man and work truck means never having to say you're sorry, as Mark says he has no plans to retire his "trusty rusty ol' bucket" until it gives out completely.

"Basically I'm thinking three or four more years," he chuckles. "I think it's going to be run into the ground by that point."

**WFB Art Director Justin Eccles weighs in on the winning design:**

"What the heck? It's almost like a Millennium Falcon. Is it really fast? Or bulletproof?"



Although we only had four “winners” we had to give these other submissions their rightful accolades, too...



**BEST MASCOT**

**DELLIGATTI  
HARDWOOD FLOORS LLC  
WESTMONT, N.J.**

The enthusiastic character on the side of Frank DelliGatti’s work van is based on himself, only “about 30 years younger and 50 pounds lighter,” he says.

Because DelliGatti used his own name as the name of his company, the designers he worked with on the wrap suggested he have a character to go with his logo—and the DelliGatti character was born. The dynamic wrap gets plenty of attention in the neighborhood, says DelliGatti (the real one, not the character). “I’ve had people stop me on the road and tell me how great the van looks,” he says. And while it may capture the eyes of potential clients, cartoon DelliGatti has also turned out to be a big hit with a younger demographic. “The best is the little kids in strollers giving me a thumbs up,” DelliGatti says.



**WFB Art Director Justin Eccles weighs in on the winning design:**

“It makes me feel that these guys might come into my house and make me smile just because of their presence. If you want to communicate that besides being hard workers, you’re an uplifting crew, this has done it.”

**BEST THROWBACK  
BEACH BUM DESIGN**

**SKYRO FLOORS  
WEST CREEK, N.J.**

Skyro Floors Owner Ken Ballin, a Jersey Shore local, is a longtime surfer and fan of all things beach-related. Working in the touristy beach community of West Creek, N.J., Ballin says he wanted to incorporate his love for the surf into the graphic design on his flooring truck. “I took my idea to the local graphics guys, and they loved it,” he says. The designers went all-out on the wrap, crafting a beachy, vintage-looking rig that would give the

Beach Boys a run for their good vibrations.

Although Ballin was able to successfully combine his passion for sandy shores with his vehicle’s graphic design, he likely wouldn’t get away with pulling a Hang Ten out on the road.

“It’s very well known in the area and gets a lot of attention, so I have to make sure I’m on my best behavior while driving,” he says.

**WFB Art Director Justin Eccles weighs in on the winning design:**

“I think it’s a great idea. The blue is a great, great contrast to that pale orange. Any time you go with opposites like that, you get the best contrast.”



**MOST SCENIC BACKDROP**  
**WIDE PLANK HARDWOOD**  
 CHILLIWACK, B.C., CANADA

The hills are alive with more than just the sound of music by the Sea to Sky Highway in Vancouver—there’s also the rumbling of Wide Plank Hardwood’s Toyota Tacoma. The scenic route to Whistler, B.C., is one frequently traveled by Wide Plank Salesman Paul Thompson, who snapped this stunning pic of his rig.

“I was taken aback by the beauty of the mountains and used the opportunity to snap a picture of my ride,” Thompson says. “I love what I do and count it as a blessing that I get to travel and see these beautiful mountains year-round.”

The Tacoma truck is built to handle the rocky terrain the company traverses, says Wide Plank Customer Care Specialist Jayden Nerling. “It’s tons of fun to drive and goes wherever it needs to with no issues,” Nerling adds.

**BEST VINTAGE TRUCK**  
**HARBIN’S FLOOR COVERING**  
 MOUNT WASHINGTON, KY.



**BEST TRUCK IN A FIELD OF DAISIES**  
**TREADLINE CONSTRUCTION**  
 TUALATIN, ORE.

One might not immediately associate Treadline Construction’s self-described “monster” of a work truck with an enchanting field of daisies—but the combination is a cherished memory for Owner Ovi Ragalie.

The picture of the truck encompassed by daisies was snapped at Ragalie’s family farm in Corbett, Ore., while Ragalie was visiting his aunt, who was ill with cancer. During the visit, his aunt wanted to see the field of daisies, which were in full bloom at the time, but she had a difficult time walking. So, Ragalie helped her into his work truck and drove her right into the middle of the beautiful field so she wouldn’t miss a thing.

“It is an extra special picture because my aunt passed away a few months later, and now every time I look at this picture, it reminds me of one of my last days with her,” Ragalie says. “So glad we were able to share that beauty with her.”

Time almost seems to slow when gazing at Harbin’s Floor Covering’s 1947 Chevrolet—particularly for those driving behind it. Its max speed is about 45 mph. “Makes for a few angry people passing me,” Owner Chris Harbin laughs.

But those angry drivers don’t know what they’re missing, as the Model 4105 Upan Dual Wheel Panel Truck is a rare sight to behold. Only 2,888 were manufactured between 1941–1947, according to Harbin, who scooped it up on eBay in 2003. “It was so unique when I saw it that I couldn’t pass it up,” says Harbin, who developed a vintage-looking company logo to go with it. The truck still has its original motor and body, and what it lacks in speed it makes up for in size. “This is a huge truck,” says Harbin, noting it is 6 feet 11 inches tall and weighs 1.5 ton. “It’s a real eye-catcher and conversation starter.”

So Harbin doesn’t let the occasional honk from behind get to him as he cruises along in the vintage gem. “It’s old, but it’s cool!” he says.



**BEST TRIBUTE TO LATE 19TH CENTURY FRENCH ART**  
**PARAGON HARDWOOD FLOORS**  
 GRASS VALLEY, CALIF.

Paragon Hardwood Floors Owner Eric Rose didn't start out aiming to become known in his area for hand-scraping wood floors; it just kind of happened—and now he and his crew hand-scrape nine out of every 10 jobs.

"It's kind of grown on us over the years," he says of the challenging craft.

So it was only fitting that he and his crew decided to go with Gustave Caillebotte's 1875 "Les raboteurs de parquet" ("The Floor Scrapers") for their company's box truck. The painting, beloved by many in the industry, was a longtime favorite of Rose's as well. "I wouldn't do it if we didn't scrape, though," he says of choosing the wrap. The wrap gets the company a lot of attention, but many aren't familiar with the painting itself, so Rose often finds himself teaching a quick art history lesson (a task that—like hand-scraping—has grown on him).

But some people take the art enthusiasm to extremes, including one woman who followed the truck all the way back to their shop and jumped out of her car.

"She's like, 'Do you guys work like that?'" Rose recalls. "And I'm like, 'Yeah, we scrape floors.' And she's like, 'No, do you do it with your shirts off like that?'"

For a craftsman who takes French art as seriously as Rose, the answer to that is clear: "Hey, if the price is right," he laughs.

**BEST SHOWROOM IN A VAN**  
**OLD GROWTH CUSTOM FLOORS**  
 SACRAMENTO, CALIF.

If you thought the back doors of Old Growth Custom Floors' van were cool, just wait until they open. The company turned the van's spacious interior into a mobile showroom complete with herringbone wood flooring. The classy setup is sure to impress potential clients right in their own driveway.



**BEST BIG RIG**  
**GRAF CUSTOM HARDWOOD**  
 PORTSMOUTH, OHIO

There's the king of the road, and then there's Graf Custom's 2020 Freightliner Cascadia truck. And with a gross weight of 80,000 pounds, the big honkin' rig wasn't built for sharing the throne. The beast is accompanied by a Fontaine trailer with an Aero Conestoga XP tarp system with a Graf Custom logo emblazoned on its side that, like the rest of the rig, is hard to miss.



Quality wrap designs should transition seamlessly from one section of a car to another, according to Sign Edge Owner Jim Hagen.

 See a video of wrap expert Jim Hagen installing and discussing his process at [wfbmag.co/jj19wrapinstall](http://wfbmag.co/jj19wrapinstall)

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## WHAT TO KNOW BEFORE GETTING A WRAP

**W**hen it comes to choosing a cool, eye-catching vinyl wrap for a work vehicle, the amount of options and considerations can be dizzying. To easily break down the process, Wood Floor Business spoke with Fitchburg, Wis.-based Sign Edge Owner Jim Hagen about what hardwood flooring pros should know before deciding on a wrap for their trucks, vans and trailers. Specializing in race car wraps, Hagen has been installing and designing wraps for vehicles for 25 years.

### THERE ARE DIFFERENT MATERIAL OPTIONS

Wraps are made of a vinyl film laminated with a thin layer that stabilizes the vinyl and provides UV protection. They are available in three sheens—matte, gloss and satin—with gloss being the most common, Hagen says.

There are also two main vehicle wrap vinyl materials: cast film or calendared film. Cast is the thinner, premium product, and calendared is the thicker, intermediate product. The thinner the vinyl, the higher the quality, Hagen says, because a thin cast film is more flexible and better able to wrap the complex curves of a vehicle.

Some installers use only the premium cast film for every wrap no matter the vehicle, but Hagen offers clients the less-expensive calendared option for flat box truck installs or other wrap designs that don't need to hug the curvier edges of a vehicle.

"It's a less expensive vinyl, but it'll grab and it'll last for 10 years," Hagen says of the calendared film, which he says doesn't appear any different on a flat vehicle surface than a cast film. "I just feel like it's the right tool for that job. Otherwise, I feel like you're smashing a peanut with a sledge hammer," he says.

### IT HELPS TO HAVE SOME DIRECTION

As with most artists, Hagen is not opposed to clients who come in with no direction other than, "Make it cool." But it's also helpful when a customer has a general idea of what he or she is looking for in a wrap, even if it's just a color scheme.

"I'll ask them first if they've seen [a vehicle wrap] they like," he says of clients. "And it doesn't have to be in their industry; it could be a car they saw or a van they saw, or it starts with seeing what their website looks like."

Hagen says he steers clients to what he believes are some of the most effective designs, particularly when it comes to fonts. "Typeface is everything," Hagen says, noting he's developed some unwritten typeface rules during his 25 years in the industry. "I don't like more than two fonts. Or I'll use the same family of font. It just looks more appealing that way."

While he's willing to share his opinion and expertise for wrap designs, it's ultimately the client's choice. "I want to make them happy," Hagen says.





Sign Edge installer Dan Parker (left) and Hagen prepare to fit a satin gray vinyl wrap over the front of a vehicle.



Parker designs a wrap for a client.



"Our goal is to make it look like paint," Hagen says.

## GOOD INSTALLERS HAVE GOOD PORTFOLIOS

Seeing what kind of creative value a wrap installer has brought to past clients is an important step in choosing the right installer, Hagen says.

"If you're in a large enough city, you have choices, and cheapest isn't always best," Hagen says.

Here are a few basic things to look for to gauge a wrap installer's skill, according to Hagen:

**1) Transitions.** This is one of the first things Hagen will look for when assessing a design, and it refers to how well a design flows from the fender to the bumper of a vehicle, or from the side to the back. Designing a wrap for a car is much different than designing for a flat surface, as every curve and door handle needs to be factored in. "A lot of times you'll see people wrap and they'll just stop [the design transition]," Hagen says. "If you design it right, you don't have to ... If your design is good, it will make it look like it wraps around."

**2) Overstretching.** This occurs when the installer has underestimated the yield of the wrap being installed and it begins to "ribbon" or "pucker" at the edges of a vehicle as the adhesive gives way. "The person installing it may not have had the experience to know that was happening," Hagen says.



Hagen points out an air bubble that can form during an install.

**3) Bumps/air bubbles.** Small bumps from grit, grease or wax can occur on a wrap if the car has not been sufficiently cleaned before wrapping. Hagen and his crew go to great lengths to clean a vehicle off before wrapping, wiping it down multiple times, cleaning the edges with alcohol and blasting it with high-pressure air. Small air bubbles can also occur in a wrap if it hasn't been sufficiently squeegeed by the installer



Partial wraps, like the one pictured above, can be just as dynamic as a full wrap and also less expensive, Hagen says.

during the installation.

"Our goal is to make it look like paint," Hagen says of wraps, and if the wrap doesn't meet that goal, he'll start over. For examples of erroneous wrap installations, Hagen recommends the Instagram page "Wrap Police" (@wrappolice), where wraps gone terribly wrong are posted and dissected (and thoroughly roasted) by professionals and enthusiasts. "I've seen some horror stories," Hagen says.

#### **PRICING IS DETERMINED BY SQUARE FOOTAGE**

Pricing in the industry is usually determined by the square footage of material, and Hagen typically starts at \$15 a square foot. Wraps for a whole vehicle can run anywhere between \$3,000–\$6,000 depending on the amount of material used and the individual shop.

Hagen says he tends to charge less for wrapping work trucks and vans because the wraps are usually easier to install—and it's also a chance to gain a long-term client.

"I want him to have good value because I want him to come back," Hagen says.

#### **PARTIAL WRAPS CAN BE JUST AS EFFECTIVE**

If cost is a big factor for a client, Hagen will recommend a "partial wrap," which is simply a wrap designed to cover only a part or parts of a vehicle. "That has as much impact sometimes as a whole wrap," Hagen says of well-designed partial wraps (like the one pictured at the top of this page).

#### **THERE'S GOING TO BE SOME DISASSEMBLY**

In order to extend the wrap into every crevice to make it appear like paint, wrap installers will take out headlights, taillights and even doors, depending on the degree of color change compared with the car's original paint (wrapping a white car in black vinyl, for example). Hagen says wraps can



Hagen shows off a vehicle fully wrapped with in red vinyl.

take two to three days to install. Part of that time for Hagen's business is simply keeping the vehicle overnight to make sure no issues arise with the installation before getting it back to the client.

"So I can come in the next morning and look to see if it's lifted," Hagen says of the wrap. "And if it has, we take care of it."

#### **CARE FOR WITH SPRAY WAX**

When it comes to caring for the vinyl after installation, Hagen recommends spray wax. The only thing you can't do to a wrapped vehicle is buff it, but that shouldn't even be necessary, Hagen says.

One of the benefits and draws of a vinyl wrap for many is its impermanence, according to Hagen; the wrap can be easily removed (just grab a corner and pull) and updated without harming the vehicle's original paint.

"In 25 years of putting graphics on a car, I've yet to have a person, touch wood, that has regretted it," Hagen says. ■

## ABRASIVES



### 3M

3M's Easy Change disc buffer system makes blending scratches and chatter marks or sanding patterned hardwood floors easier, the company says. Contractors can now quickly change from one 3M Hookit II abrasive grit to another without tools. The discs are available in grades 20 to 150.

[3m.com](http://3m.com)

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PREMIUM  
PARTNER



### Bona US

The Bona Abrasives line includes aggressive and long-lasting abrasives designed to create an excellent surface for staining or finishing, the company says. The anti-static properties of Bona Blue Abrasives repel dust from the disc surface and prevent build-up while increasing belt life and keeping machines cleaner, the company adds.

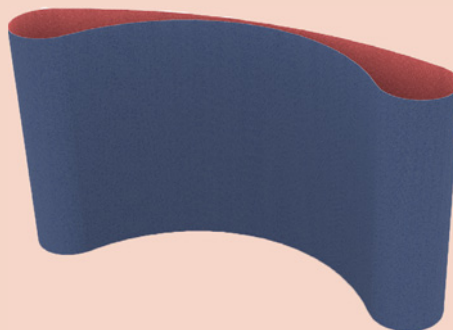
[bona.com/en-US/Bona-Professional/](http://bona.com/en-US/Bona-Professional/)

SEE OUR  
AD ON  
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### Cumi America Inc.

Cumi's Zirconia belts are an abrasive product engineered for belt sanders. Zirconia belts are fast-cutting; smooth; chatter-free and have been designed to stay cool, the company says.

[cumiabrasives.com](http://cumiabrasives.com)



### Festool

Festool abrasives are available in a variety of designs and grits for all of its sanders and polishers, as well

as an entire hand-sanding line that includes

sandpaper, sanding blocks, sanding sponges, sanding pads and sanding cloths.

[festoolusa.com](http://festoolusa.com)



### Mercer Industries

Ceraflame is a high-performance, self-sharpening ceramic abrasive. It is available in grits 36-100 and comes in 8-inch-wide, 25-yard-long rolls, as well as in other sizes for belt sanders and edgers.

[mercerindustries.com](http://mercerindustries.com)



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### Norton Abrasives

The design of the Norton SandDollar discs makes conventional between-coats sanding obsolete, the company says. The abrasive-covered foam pad abrades the surface without penetrating deep into the finish, resulting in a floor without swirl marks. Extremely durable and tear-resistant, SandDollar pads last up to 1,500 square feet per pad, the company says.  
[nortonfloorsanding.com](http://nortonfloorsanding.com)



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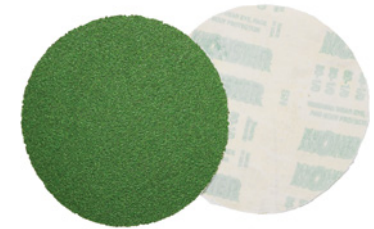
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### Virginia Abrasives

Virginia Abrasives' 5-inch and 6-inch Monster ceramic hook-and-loop discs are available in grits 36-120. They deliver positive results when used with a multi-disc drive plate, the company says. Monster ceramic floor sanding abrasives are also available in other disc sizes, belts and rolls.  
[virginiaabrasives.com](http://virginiaabrasives.com)



### WOCA Denmark

WOCA Patina Disc is a very fine abrasive grit disc. Three can be attached to a red or green pad and can be used to wet-buff with WOCA Oil. The combination of light sanding and polishing helps the oil penetrate faster into the wood and results in an extremely smooth, silky matte finish, the company says.  
[wocausa.com](http://wocausa.com)

# NAILERS



## Better Timber Flooring

An air-driven plank installer, QuikBrace applies constant pressure to boards to tighten them into position. It can clamp and tighten multiple rows of boards at a time, and its spike anchor is easy to reposition, the company says. The wall foot allows the user to tuck in the boards in last board positions without nailing, the company adds.

[bettertimberflooring.com](http://bettertimberflooring.com)

## Flooring Pro Fastening

Flooring Pro Fastening mallets come with either vinyl or wooden grips that minimize slippage. The mallet has a beveled-hook striking face to set board ends while protecting the wear layer. Extra-long, standard and short-handle options are available.

[fpfastening.com](http://fpfastening.com)



## HighPro Tools

The HighPro Model HP-4590T Flooring Stapler is designed for installing 3/8-3/4-inch solid or engineered flooring. The tool provides the option of using an 18-gauge or a high-strength 17-gauge staple. The high-strength 17-gauge staples will handle most solid bamboo and exotic wood floor installations without causing dimpling, the company says.

[highprototools.com](http://highprototools.com)

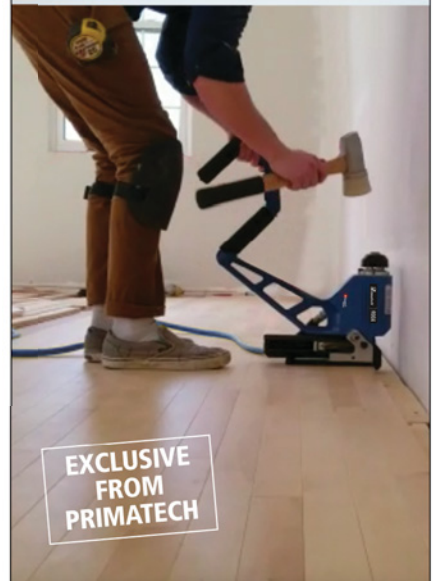


## Estwing

The Estwing EFL50Q 2-in-1 nailer is compatible with 16-gauge L-cleats and 15.5-gauge crown staples from 1 1/2-2 inches long. The nailer features a tool-free quick-jam release, four interchangeable base plates, a 1/4-inch NPT swivel fitting, a 22-inch extended handle and a no-mar fiberglass mallet.

[primeglobalproducts.com/estwing](http://primeglobalproducts.com/estwing)

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### National Hardwood Flooring & Moulding

National Hardwood's 1¾-inch brad nails are made of 18-gauge electro galvanized steel. They can be used for moldings and baseboards, in addition to other general woodworking purposes.  
[nationalhardwood.com](http://nationalhardwood.com)



### Porta-Nails by QEP

The Porta-Nails Portamatic 465SLT 16-gauge pneumatic stapler and nailer is a three-in-one tool for T-nails, L-nails and staples. The magazine has the capacity to hold 100 cleat nails (T or L) or 120 staples. The lightweight stapler/nailer comes with a non-marring mallet and rugged carrying case.  
[porta-nails.com](http://porta-nails.com)



### Pownail Company

Pownail's Model 50PFLEX with PowerRoller is designed to reduce arm fatigue, the company says. It features an exaggerated handle length, control fin and new PowerRoller configuration. Its PowerRoller base also features a large bearing and Pownail's Tri-Glide fixture to eliminate edge-crush.  
[pownail.com](http://pownail.com)

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**Primatech Inc.**  
 Developed with "end-wall reach" in mind, the Edge nailer is designed to blind-nail as close as within 2 inches of the end-wall, the company says, adding that it can save up to 50 percent of the finishing process on a job and make for a neater jobsite.  
[primattech.ca](http://primattech.ca)



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**Woodwise/Design Hardwood Products**  
 Woodwise makes a rectangular-head nail set for L or T cleats. This tool, which is made from case-hardened impact-tool steel, sets the nail below the wood surface.  
[woodwise.com](http://woodwise.com)



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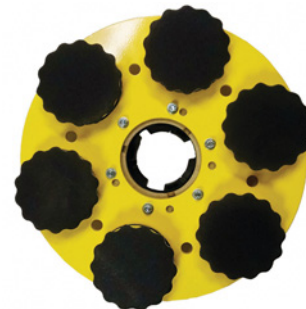
## American Sanders

The American Sanders EZ-E Extension Edger is designed for the most difficult edging challenges, including toe-kicks and radiators, the company says. It is available in 8-inch and 13-inch interchangeable configurations. The EZ-E can be run with the included quick-release dust bag or attached directly to a vacuum. [americansanders.com](http://americansanders.com)

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### Bona US

The Bona Belt HD features a dual-speed pulley system and infinite drum pressure adjustment designed for optimum sanding quality regardless of wood species, the company says. Its large diameter drum and heavy-duty travel roller maximize contact with abrasive for powerful sanding, the company adds. [bona.com/en-US/Bona-Professional/](http://bona.com/en-US/Bona-Professional/)



## Ceno Group

The Ceno Group's Satellite discs fit any buffer, counter-rotate at 4 percent and turn at 600 rpm. They remove chatter and edger marks and flatten the floor three times faster than hard-plating, all while sanding the floor to a piano-top finish, the company says. [floorcatalogs.com](http://floorcatalogs.com)

## Festool

Festool sanders range from the palm-sized ETS 125 to the multimode Rotex family. Many models feature brushless motors for long service life, and all Festool sanders are designed with near-total dust extraction, low vibration, ergonomics and superior performance, the company says. [festoolusa.com](http://festoolusa.com)



## Klindex

The Bella Sander is available with a 4-hp motor ideal for the cleaning, treating, grinding and polishing wood surfaces. It features an ergonomically designed handle, a sturdy frame, reinforced handle rod and an LED lamp. [klindex-wood.com](http://klindex-wood.com)

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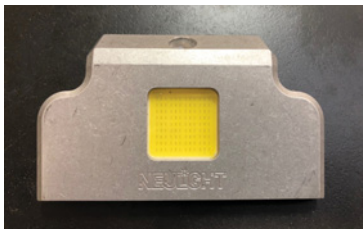
### LÄGLER North America

LÄGLER has released a polycrystalline diamond (PCD) milling attachment for the FLIP edger. Designed for wood flooring, the polycrystalline diamonds on this disc make for the easy removal of thick layers of residual paint, carpet adhesive, numerous layers of finish or strong cupping, the company says. The attachment allows for minimal use of conventional abrasives, the company adds. [laglernorthamerica.com](http://laglernorthamerica.com)



**Neuroh Hardwood**

Neulight is a super-bright LED with a low-profile aluminum housing for the Super 7R or Super E sander. The LED light is 16 times brighter than the current twist-in-style LED bulb and is able to get closer to cabinets with its low profile housing, the company says. [neurohhardwood.com](http://neurohhardwood.com)



**Pallmann**

The Gecko Star 2.0 is a lightweight yet powerful edger that features easy adjustment of wheels to provide the correct sanding pressure for projects, the company says. The edger has a low-decibel-rating motor and dual lights that allow for job-site visibility. Hook-and-loop skirt attachments provide dust containment, the company says. [pallmann.us](http://pallmann.us)



**Revolution Manufacturing**

Revolution Manufacturing offers the RevRider DC, a cordless rider machine used to drive floor sanding machines in both residential and sports floor environments. The RevRider DC allows the operator to ride big machines, which the company says can increase production, provide a more consistent cut and increase abrasive life. [101revolution.com](http://101revolution.com)



**US Sander LLC**

US Sander's patented Spin Coater is designed to continuously and evenly buff stain on the floor with the company's one-pass, buff-on, buff-off, splatter-free reservoir system. The tool requires no cleanup and is designed to work with any floor buffer, the company says. [ussander.com](http://ussander.com)

**SEE OUR AD ON PAGE 37**



**WerkMaster Grinders & Sanders Inc.**

The RASP is a transportable, quality machine that solves the pains of edging and is ideal for removing aluminum oxide factory finishes and for preparing the subfloor, the company says. It can run on either 220- or 110-volt power. [werkmaster.com](http://werkmaster.com)

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**Woodwise/Design Hardwood Products**

Woodwise Dust Collection Bags are made from 12-ounce brushed denim for maximum durability. All sewn edges are finished for added strength and to prevent raveling. The bags open wide for easy emptying, and hemmed draw-strings ensure complete closure. The bags are available in large sander, large edger and double-bottom edger sizes. [woodwise.com](http://woodwise.com)

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### Bullet Tools

The 13-inch Magnum Edge Flooring Shear is a heavy-duty cutter for products up to 13 inches wide and 1 inch thick. It features protective end caps, powerful ball bearings and an adjustable blade depth, the company says.

[bullettools.com](http://bullettools.com)



### Roberts Consolidated

The Roberts 25-inch Pro Flooring Cutter is a guillotine-style cutter that provides precise, clean-edge cuts, the company says. Its large cutting table stabilizes longer planks, and its extendible handle provides extra leverage for more cutting power, the company adds.

[robertsconsolidated.com](http://robertsconsolidated.com)



### Festool

The TS REQ circular saw is as accurate and versatile as the most advanced table, miter or panel saws, the company says. It features micro-adjustable depth controls and a flat housing for flush-cutting against walls or adjacent surfaces. It is also available in a cordless model.

[festoolusa.com](http://festoolusa.com)



### SawStop

The SawStop safety system stops on contact with skin. The system is 26¼-inches long and 28¾-inches wide and has a 45-inch height. The system features one-turn blade elevation and a Quicktilt bevel adjustment as well as a T-Style Fence with one-push Ergolock. The company says it has easy mobility with a one-push foot pedal, a low-profile blade guard, advanced dust collection, and an on-board storage compartment.

[sawstop.com](http://sawstop.com)



## SCRAPERS

### Hardwood Industry Products

Hardwood Industry Products' Custom Hand Scrapers have unique "hooked" blades that allow the user to easily achieve an authentic hand-hewn look, the company says, adding that each scraper is hand-crafted with a comfortable, smooth aerodynamic handle and comes with a life-time warranty.

[hardwoodindustryproducts.com](http://hardwoodindustryproducts.com)



### Jungle Jim Tools

The Cobra line includes 1 ½- and 2 ½-inch scrapers. Designed and tested with wood floor contractors in mind, the scrapers are also useful for many woodworking applications. The Detail Scraper has an improved blade design and works well for initial cuts when scraping corners, the company says.

[junglejimtools.com](http://junglejimtools.com)



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AD ON  
PAGE 3



### Woodwise/Design Handwood Products

Woodwise's V-Groove Scraper cleans out V-groove flooring during the refinishing process, while its nosing scraper helps maintain the round surface of nosing or treads. A 14-inch sharpening file is also available for the nosing scraper, and replacement blades are available for both scrapers.

[woodwise.com](http://woodwise.com)



## American Sanders

The AVAC 18 delivers high-end filtration performance and capacity in a more compact unit designed for single machine operation, the company says. The vacuum runs two 800-watt, dual stage motors feeding an 18-gallon canister. [americansanders.com](http://americansanders.com)



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## Bona US

The Bona DCS Super Vac is a high-powered heavy-duty commercial vacuum with a polished chrome motor head and molded 15-gallon poly tank. It is designed for maximum dust collection, balance and convenience, the company says. [bona.com/en-US/Bona-Professional/](http://bona.com/en-US/Bona-Professional/)

## Oneida Air Systems

The Vortex DCS Portable Dust Containment System attaches to nearly any make/model floor sander and eliminates the need for vacuuming after sanding, the company says. The system includes a sander cyclone, full unit certified HEPA vacuum, true HEPA media filter, a 35-gallon drum on a wheeled dolly, and 50 feet of hose. [oneida-air.com](http://oneida-air.com)



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## ProTeam

ProTeam's commercial backpack vacuum features a triangular shape, which, combined with the company's articulating harness, creates a vacuum that feels more like part of the user's body, the company says. The vacuum features a hard surface tool and a horse hair brush tool kit. [proteam.emerson.com](http://proteam.emerson.com)





### Albert Bauprodukte GmbH

Albert Floorotex is a temporary floor protection mat suitable for all floors. The breathable mat protects the floor against scratches and liquid spillage. The underside contains an adhesive that prevents the nonwoven material from slipping. [floorotex.com](http://floorotex.com)

### Artillery Tools

Artillery Tools offers a Glued Down Flooring Set for removing glued-down material such as hardwood flooring. The set comes with four blades that allow for different combinations. Included in the set is the company's Ultimate Flooring bar with 48 inches of leverage and 5 3/4 inches of prying motion that allows the user to stand up straight. [artillerytools.com](http://artillerytools.com)



### Bullet Tools

Bullet Tools' Magnum Floor Driver is used to tap flooring boards into position without a tapping block. The driver can be struck directly against the wood flooring tongue or flat edge without damaging the material. [bullettools.com](http://bullettools.com)



### Easy Groove Tooling LLC

Easy Groove router bits are for job-site-created tongue-and-groove floor joints. They feature a top-bearing design, durable C-2 carbide tips, heat-treated alloy arbors and replaceable cutter heads. The bits are sized for 1/2-, 5/8- and 3/4-inch-thick flooring. The company also produces an inlay router bit for installing medallions and wooden heat vents. [easygroove@comcast.net](mailto:easygroove@comcast.net)



### Estwing

The Estwing E1450PVC air hose is constructed of a flexible and durable hybrid blend of rubber and PVC. This 50-foot hose features corrosion-resistant, solid-brass fittings (1/4-inch NPT and universal coupler), bend resistors, a kink-resistant hose and all-weather flexibility from -40-164 degrees Fahrenheit. [primeglobalproducts.com/estwing](http://primeglobalproducts.com/estwing)



### Loba-Wakol LLC

A battery-operated sausage gun for applying Wakol adhesives in tubular bags, the Wakol Applicator 90 comes with a 7 3/4-inch (200-mm) distributor head for mounting Wakol Replaceable Nozzles, a quick-charger and two 18-volt rechargeable batteries. [wakol-usa.com](http://wakol-usa.com)





### Oshkosh Designs

Oshkosh Designs' self-aligning Corner Chisel cuts 90-degree corners with a hammer. It is spring-loaded and has a 3/8-inch edge and 3/4-inch depth capacity. The Pattern Cutting Router Bit is a top-mounted bearing for routing medallion templates, and the 1/4-inch shaft is 3/8 inch long and 1/2 inch in diameter. The End-Matching Bit has a 1/4-inch shaft and carbide-tipped blades with guide-bearing for the grooving of standard 3/4-inch tongue-and-groove flooring. [oshkoshdesigns.com](http://oshkoshdesigns.com)



### ProKnee Corporation

ProKnee's Model 0714/0714E can be custom fitted to personal measurements and is available in two widths, 18 lengths and two foam thicknesses that enable even weight distribution, the company says. [proknee.com](http://proknee.com)

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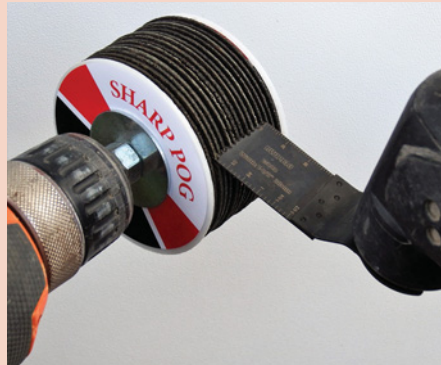
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### Sharp Pog

The Sharp Pog is an oscillating saw blade sharpener that attaches to hand drills. It works quickly, is easy to use and extends the lives of multi-tool blades, the company says.

[sharppog.com](http://sharppog.com)



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### Sindt Tools LLC

The T-Rex Ripper Staple and Nail Extractor was designed to remove flooring staples and nails quickly and easily.

[t-rexripper.com](http://t-rexripper.com)



### Stanza Machinery Inc.

The Stanza Wire Brush Machine's European design features heavy-duty motors and is available in a wide range of wire sizes and configurations, the company says. It has a combination of wire and denib brushes.

[stanzamachinery.com](http://stanzamachinery.com)

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### Woodwise/Design Hardwood Products

The Stair Jig provides a quick and easy way to scribe treads and risers, the company says. Users can adjust the product from 32 to 52 inches without tools, and an extender can be added for

lengths above 52 inches. The T-bar angle adjusts to greater than 45 degrees.

[woodwise.com](http://woodwise.com)



### Tapper Tool Co. LLC

The Rapid Tapper is a tapping block that allows installers to use a rotary hammer drill to help install hardwood and laminate floors. It features an SDS tip that attaches to the rotary hammer, a large handle for easier grip and four adjustable legs to adjust to the height of the boards, the company says.

[tappertoolco.com](http://tappertoolco.com)



### Zenith Industries

The Trim Puller is engineered to remove trim without damaging walls. It is ergonomically designed with a 15 degree wedged center to minimize effort and time while using it, the company says.

[trimpuller.com](http://trimpuller.com)





**Bona's** R851 Silane Adhesive has an improved formula that has extended its open-time by 50%, from 40 minutes to 60 minutes at 50% RH and 70 degrees Fahrenheit. The adhesive also features an improved bucket design with a label that is easier to read, the company says. Each pail includes clip-on trowels. [bona.com](http://bona.com)

**Aacer Flooring** added three new colors to its Countryside Collection, including Blue Mound (pictured), Havenwoods and Whitefish Dunes. The prefinished solid hardwood flooring features a wire-brushed texture. [aacerflooring.com](http://aacerflooring.com)



**Bostik's** Grip N Grab is designed for vertical applications and features hybrid polymer technology that "grabs" heavy materials quickly, the company says. It is designed to reduce time and bracing as it forms a permanent bond to porous and non-porous substrates. [bostik.com](http://bostik.com)



**FLIR Systems Inc.'s** FLIR MR59 Ball Probe Moisture Meter and MR55 Pin Moisture Meter (pictured) are available with Bluetooth connectivity that allows installers to read measurements from a mobile device with the FLIR Tools Mobile App. The ball probe allows users to scan larger areas in a shorter time, and the pin meter has a built-in library of 11 material groups, the company says. [flir.com](http://flir.com)



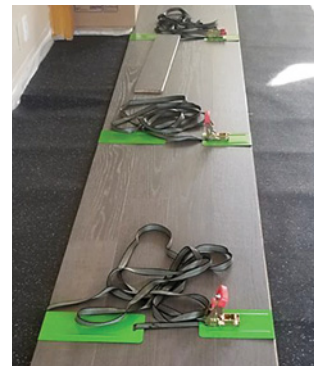
**Indusparquet** reintroduced Brazilian pecan engineered flooring. It is available in 5- and 3¼-inch widths, ½- and ¾-inch thicknesses and lengths ranging from 12 to 48 inches. The boards feature an interlocking tongue and groove and a 3-mm-thick dry-sawn top layer. [indusparquet-usa.com](http://indusparquet-usa.com)



**Mirage's** Sweet Memories Collection's Carousel line is now available with DuraMatt finish and a White Oak Brushed texture. The matte finish is durable and highlights the white oak's natural look, while the textured surface conceals everyday scuffs and marks, the company says. [boa-franc.com](http://boa-franc.com)



**Haro's** Elastikkleber adhesive is easy to spread and has a great shear strength, the company says. It is designed for absorbent and non-absorbent subflooring and can be stored for up to 18 months due to the pail's foil seal. [haro.com](http://haro.com)



**Tactical Flooring Tools'** ratchet flooring clamp features a 16-foot strap and a heavy-duty ratchet, the company says. The clamp is designed to be used during full-spread adhesive projects to keep the floor tight while the adhesive is setting up. [profloorsupply.com](http://profloorsupply.com)

## NEW PRODUCTS



### Qingdao Chenba Industry & Trade Co.'s

CB165-10 dust-free table saw features a high-efficiency vacuum cleaner designed to capture up to 99% of dust, the company says. It has a 6.5-inch blade and adjustable miter and bevel angles.  
[dustfreetablesaw.com](http://dustfreetablesaw.com)



DeWalt's Woodcutting Circular Saw Blades feature a new tooth design, reduced vibration and high-density carbide teeth, the company says. The blades' new teeth are designed to deliver straighter cuts. They are available in 6½-8¼ inches.  
[dewalt.com](http://dewalt.com)



Cali Bamboo's Odyssey Collection features engineered hardwood flooring with four European white oak styles, four American maple styles and three American hickory styles, including Corinth Hickory (pictured). The tongue-and-groove planks measure up to 82¼ inches long and 5½ inches wide.  
[calibamboo.com](http://calibamboo.com)



Anderson Tuftex's Unleashed Collection includes Kensington (pictured) and Buckingham engineered white oak, both available in a width of 8 inches and lengths up to 82.5 inches and featuring a wire-brushed texture. The material is harvested in the Appalachian Mountains and manufactured in South Carolina.  
[andersontuftex.com](http://andersontuftex.com)

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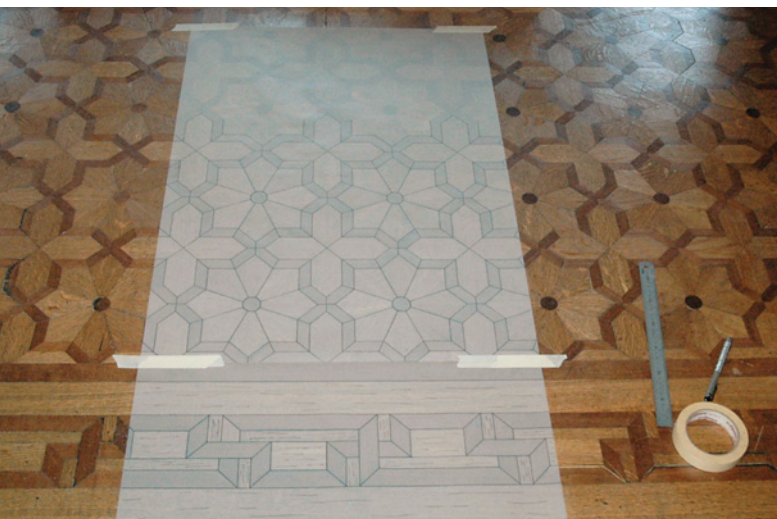
# END GRAIN

Extraordinary projects from the industry

By Ryan Kushner

## Duplicating a bomb-damaged 19th century parquet

The English translation of the Dutch word “nauwkeurig” is “accuracy.” But ironically, it doesn’t quite capture the essence of the Dutch term—which means an intense, painstaking precision, explains Karen Verriest, co-owner of Atelier Passe Partout in Mechelen, Belgium.



Top: The original parquet floors of the M-Museum in the process of being sketched for reproduction. Bottom: The reproduction.

That intense precision—nauwkeurig—is what Verriest says was required of Atelier Passe Partout Owner Filip Redant to recreate the famed circa-1830 parquet floors of the M-Museum in Leuven, Belgium.

“It was an opportunity to show what I was able to do,” says Redant, who won a juried contest to duplicate the historic parquet in the museum, once a government palace.

The original 1,400-square-foot oak and red mahogany floor couldn’t be saved, having suffered considerable wear after centuries of use, not to mention structural damage from a bomb during World War II.

Redant began by tracing the original parquet patterns by hand. The cutting process was also done by hand with a table saw, as CNC use was forbidden for the project. After three months of sawing, he ended up with around 60,000 pieces.

Redant then returned to the museum’s new concrete substrate and installed a solid oak subfloor, over which he began installing the parquet, piece by piece.

“The most difficult thing was to have the design fitting,” Redant says, noting the walls were crooked and the concrete had large holes from a newly installed heating system. “Many of the pieces had to be adapted on the spot.”

When he was done installing, Redant sanded four times, buffed, then coated the floor with Bona Craft Oil and beeswax. He had a four-month deadline to install the complex floor but completed it in three.

Redant, who restored violins before he entered the wood flooring trade 30 years ago, says his willingness to accept every job during those decades allowed him a hands-on education in old and historic hardwood flooring.

“It’s a very big advantage,” he says of the experience. But when it comes to applying the knowledge, Redant has another advantage that sets him apart: nauwkeurig. ■



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