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NEWS®

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Sorting through the cutting tool options

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-Hansjörg and Martin Felder, Managing directors of Felder Group



FELDER FORMAT 4 Hammer MAYER

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Jennifer Hicks (top, cover)

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SAW BLADES FOR PRE-FINISHED MATERIALS

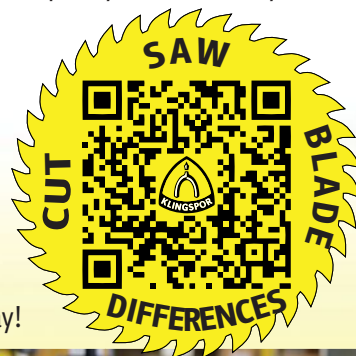
A question that often gets asked is *What is the difference between a standard blade and a thin kerf blade?* Any time you make a cut using a saw blade there is a certain amount of material you are removing from the workpiece. This is decided by the width of the teeth, which also determines the kerf (the width of the cut). A thin kerf blade's teeth are about half as thick as the teeth of a standard kerf blade.



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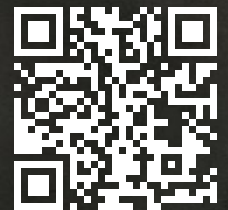


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BLOGS



Over the Workbench

Talkin' shop with former editor A.J. Hamler

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PDS partners with LevelupSpindles

By Tod Riggio

Precision Drive Systems (PDS), a single-source provider of spindle solutions in Bessemer, N.C., announces a new partnership with LevelupSpindles.

"Based in Bad Salzflun, the German company boasts a broad and robust portfolio encompassing drive systems, including spindle repairs, spindle resale, and innovative application-specific new designs," PDS said in a statement.

"LevelupSpindles has a network of specialized service technicians who are experts with widely used CNC machine brands (for wood and soft materials) such as Homag, Weeke, and Reichenbacher, as well as (for metalworking) DMG Mori and Mazak."

"This partnership enables PDS to significantly strengthen our service offering throughout Germany and Europe while ensuring that our customers continue to receive the outstanding support and engineering expertise they have come to expect from us," added Robert Turk, president of PDS.

Atlantic Plywood, a distributor of wood products and industrial supplies, announces a new partnership with Sayerlack Innovative Wood Solutions, a provider of wood coating solutions. This collaboration will allow Atlantic Plywood to expand its product offerings and provide customers access to Sayerlack's wood coatings throughout its Northeast locations.

"Sayerlack, available through the M.L. Campbell distribution network, is known for its cutting-edge technology and commitment to sustainability in wood finishing. With this partnership, Atlantic Plywood will distribute a full range of Sayerlack solvent-borne and water-borne

products tailored for cabinet, furniture, millwork, and other wood professionals," the company said.

Atlantic Plywood says it will begin offering Sayerlack products in select markets immediately.

Stiles Machinery invites manufacturing professionals to the upcoming Manufacturing Solutions Seminar (MSS) on June 11-12 at its showroom in High Point, N.C. The two-day event brings together manufacturers, business owners, and industry professionals from across North America for live work cell demonstrations and presentations covering relevant trends, topics, and challenges.

The first day will focus on panel processing and the second will cover solid wood and surface technologies.

Sessions will cover compact manufacturing; production flow; material handling solutions; the evolution of skilled labor; nested-based machining; scalable automation; sanding application capabilities, and advantages of automated finishing.

"Each MSS is proof that our industry is hungry for the opportunity to explore the future of manufacturing, to evolve and grow," Kameron Wildfong, marketing director at Stiles Machinery and event emcee, said in a statement. "From expanding production capabilities to employee development and retention, there is a lot to explore over two days. I look forward to seeing the learning and connections that always develop during the event. It's our opportunity to showcase what Stiles is all about."

The Manufacturing Seminar is free to attend but space is limited. Register at stilesmachinery.com/mss. **W**

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Next Step wins Educator of the Year award

By Jennifer Hicks

The Wood Industry Association (WIA) presented its Educator of the Year Award to Next Step of West Michigan for its contributions to vocational education through its two primary programs: the Adult Wood Training Program and the High School Wood Tech Program, both based in Grand Rapids, Mich.

Launched in 2020, the Adult Wood Training Program is an intensive seven-week course designed to equip individuals with both practical woodworking techniques and essential job readiness skills.

"The program operates year-round, offering six cohorts annually with 10 to 12 participants each," the WIA explained in a statement. "Trainees gain hands-on experience in designing and building wood products while learning to safely operate machinery, power tools, and hand tools. With a focus on experiential learning, the program boasts a 77 percent job placement and retention rate, preparing graduates for careers in woodworking, furniture making, manufacturing, and construction."

In 2022, Next Step introduced its High School Wood Tech Training Program, a project-based curriculum that teaches skills and concepts to be directly applied at modern wood



(From left) Joe Hammock, WIA Chair; Don Mulder; David Bult; and Jessica Freeseaman, WIA Education Committee chair.

manufacturing companies. Upon completion, students have the skills and industry-recognized credentials needed to obtain internships or employment, including the Woodworkers Career Alliance Sawblade Certification.

Over the past 12 years, Next Step of West Michigan has helped more than 250 individuals launch successful careers in the woodworking industry, according to the WIA.

The WIA presents the award annually to recognize an educational institution or training program that demonstrates excellence in preparing individuals for careers in the woodworking industry. Honorees are chosen for their advocacy, innovation, and impact on workforce development in the wood sector.

Learn more at nextstep-wm.com and woodindustry.org. **W**

WIA presents Baldwin Award of Excellence to Todd Phalen

By Jennifer Hicks

The Wood Industry Association (WIA) honored Todd Phalen with the 2025 Ralph B. Baldwin Award of Excellence during the Wood Industry Conference (WIC) in Scottsdale, Ariz. The award was presented at WIA's Annual Business Meeting and recognizes individuals who have made significant and lasting contributions to the woodworking industry.

Phalen is director of sales at Black Bros. Co. in Mendota, Ill., and has served the industry for decades.

A member of the Wood Machinery Manufacturers of America since before joining its Board of Directors in 2018, he has held several key roles, including Secretary, Treasurer, and Vice President. Notably, he



Todd Phalen

played a central role in the successful formation of the Wood Industry Association (WIA), leading efforts to unify the association and driving member engagement, according to the WIA.

Phalen is also a ten-time participant at the International Woodworking Fair and a familiar presence at industry events.

"Todd is widely respected as a mentor, connector, and advocate - an exceptional leader in every sense. We are honored to have Todd be such an integral and successful member of Black Brothers Company and the Wood Industry Association," Evan Carroll, representing the company's sixth generation of ownership, said in a statement.

Learn more at woodindustry.org. **W**

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ACSP endorses Federated Insurance as a partner

By Jennifer Hicks

The Association of Closet and Storage Professionals (ACSP) recently announced a partnership with Federated Insurance to offer ACSP members a variety of insurance needs and other business services. The programs offered will include individually tailored property and casualty, workers compensation, and financial protection services for those in the closet and storage industry.



"As we celebrate the 20th anniversary of the ACSP in 2025, we are thrilled to join together with Federated to offer this new member benefit," ACSP executive director Amanda Conger said in a statement. "Their expertise in insurance and risk management will bring added value and peace of mind to our members across the country. I'm especially grateful for the warm welcome from the Federated team and the opportunity to share this exciting news in person with their dedicated salesforce."

ACSP said member companies are now eligible for, and encouraged to take advantage of, a complimentary review of their current insurance coverage and an analysis of their business needs, including business succession, estate planning, and employee retention strategies.

"We are proud to welcome and announce our partnership with the Association of Closet and Storage Professionals," said Dave Szymanski, First Vice President Director of Association Risk Management Services at Federal Insurance, in a statement. "Through our marketing team, specialized insurance products, and risk management resources, we are committed to helping ACSP support their members in the best possible way."



Formed in 2005, the ACSP strives to elevate the professional image of its members and serve as a resource for consumers seeking high-quality, personalized storage solutions. It fosters collaboration among industry professionals through best practices, business resources and ongoing education. Learn more at closets.org. **W**

ABC: CONSTRUCTION MATERIALS PRICES TAME IN APRIL

Construction input prices decreased 0.1 percent in April compared to the previous month, according to an Associated Builders and Contractors (ABC) analysis of U.S. Bureau of Labor Statistics' Producer Price Index data released on May 15. Nonresidential construction input prices increased 0.2 percent for the month.

Overall construction input prices are 0.1 percent higher than a year ago, while nonresidential construction input prices are 0.2 percent higher, according to the ABC.

Prices decreased in all three energy categories last month. Natural gas prices were down 7.1 percent, while prices for unprocessed energy materials and crude petroleum were down 5.0 percent and 4.9 percent, respectively.

"Construction input prices declined in April, but that was largely due to falling energy prices," ABC Chief Economist Anirban Basu said in a statement. "Materials directly affected by tariffs saw sharp price increases for the month. Steel mill product prices, for instance, rose 5.9 percent, while copper wire and cable prices increased 5.0 percent."

"While recent developments have reduced tariff-related uncertainty, the 25 percent tax on steel and aluminum imports remains in place, and a sudden resumption in imports from China could cause an increase in shipping prices. Despite the upward pressure that these factors will put on input prices, just 1 in 4 contractors expect their profit margins to contract over the next six months, according to ABC's Construction Confidence Index."

MILWAUKEE INVESTS IN SAFETY

Each year, more than 150,000 construction workers are injured on the job in the U.S., according to Milwaukee Tool. The manufacturer is taking bold steps to meet that challenge, investing more than \$10 million annually in the trades.

"Among other things, this investment is being used to advance safety education, provide hands-on training, and create real-world solutions that reduce risk on the jobsite," the company said in a statement. "During Construction Safety Week (May 5–9, 2025), that commitment came to life in powerful ways."

"In just five days, 385-plus Milwaukee Tool employees led safety-focused efforts in partnership with jobsites, unions, and training centers across the country. The result: 635-plus safety training sessions conducted; 100,000-plus workers reached through hands-on demonstrations and expert-led instruction, 850-plus hours of training provided throughout the U.S."

"Our mission is simple: empower the men and women who build our nation with the knowledge and equipment to do their jobs safely," said Scott Teson, Senior Vice President of Sales for Milwaukee Tool. "During Construction Safety Week and every week, we're proud to partner with the trades to turn that mission into measurable impact."

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High demand for white and red cedar

By Jennifer Hicks

Red and white cedar is popular for a variety of indoor and outdoor applications due to its versatility, resistance to rot, and aesthetic appeal. Suppliers interviewed by Woodshop News say pricing is stable, but availability can be tricky.

Duane Jewett of Dewey's Lumber and Cedar Mill in Liberty, Maine, deals primarily with premium-grade Northern white cedar, but in recent years has sourced Atlantic white cedar with warmer weather patterns affecting the market.

"I have been bringing in some Atlantic white from down south just to try to help me keep up with demand. I think demand is higher than it has been in quite a while. One of the difficulties in current years has been these soft and easy winters that make it harder for the loggers to get into the cedar since it grows in wet areas. So, it's been more difficult to get a premium grade," says Jewett.

"There are more mills cutting it. But in my experience — I've been doing it for 30 years — people see it and think it's quick and easy money and don't realize the grading issues with cedar, which is something I struggle with every day. Cedar is prone to having a lot of natural defects, and some people can work with it and some can't."

Jewett's clientele for white cedar runs a full gamut of craftspeople. He also serves contractors throughout the East Coast, who use it primarily for siding and decking.

"Cedar, for one thing, is naturally rot resistant, so it lasts a lot longer than pine or spruce left untreated, and if treated it would last even longer. It holds up well and it's naturally a better product for outdoor use. The biggest project we've sold for is the Katahdin Woods and Waters National Monument Visitors Center (in Stacyville, Maine) where we did 140,000 lineal feet of 6" shiplap on that job.

"This year we did several hundred trail planks for hiking clubs around the state to help hikers traverse wet areas.



I've got a couple Adirondak chair companies that buy from me, and dock companies that want to plank aluminum framed docks with cedar."

Jewett's 4/4 Northern white cedar sells for about \$2.50/bf in the rough and \$5/bf surfaced.

Clint Dillon of Steve Wall Lumber in Mayodan, N.C., sells Eastern aromatic red and Western red cedar.

"We move a lot of Eastern aromatic red cedar for tongue and groove paneling, wainscoting, and trim for the inside of houses. It's bright red with knots and people like the color and character. Then, on the Western red cedar, a lot of that comes out of Canada, and we do a lot with that. We go up into large beams and a lot with construction companies as far as decorative posts for houses," says Dillon.

"The Western red cedar is pretty resistant to rotting and all that and it also has the knots and character, so it's popular for posts and front porches. I have a couple hardscape companies that buy a lot of it to build pergolas."

Dillon says pricing for the Eastern aromatic red has held steady at \$3.30/bf, while the Western red is usually around \$5.75/bf. But pricing has been more volatile lately due to tariff concerns. **W**

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New BenchPilot accessory for Shaper Origin

By Jennifer Hicks

Shaper Tools introduces the BenchPilot, a motorized gantry-style accessory that transforms the company's Shaper Origin portable CNC router into a hands-free milling machine.

With the BenchPilot, users still benefit from the simple set-up and on-tool design capabilities of the Origin, while also having the additional benefit of the machine working on autopilot, the company explains.

"If we go back to the beginning with Origin and what Shaper's mission is at large, we want to make precision cutting easy and accessible to craftspeople around the globe. Today, we're in tens of thousands of workshops, professional shops, home hobbyist shops and schools with Origin," says Zach Dunham, vice president of global marketing for Shaper Tools.

will handle all the driving aspects around Origin for you."

The BenchPilot features an attachment point for the Origin where one would expect a CNC spindle. Featured on the left side is a knob for adjusting the feed rate in real time. When cutting, BenchPilot drives the Origin from point A to point B, while Origin does the small precise cuts for clean and accurate results.



Dunham adds that BenchPilot is ideal for batch processes, such as tenons or drawer pulls, as it allows users to work on other things while cutting is performed to maximize efficiency. He says the tools communicate through a wireless connection, and the system is easy to work and interact with.

"People don't need to be concerned about learning CAD, CAM, and G-code and other programs they find daunting to control the machine. If you know how to use Origin, you know how to use BenchPilot. Now you have an automated cutting machine without the difficult task of having to learn difficult programming. BenchPilot will steer Origin to the general location where it needs to go. You can also interrupt the process — the system is designed to know where it left off — and you can restart without any additional setup," he says.

The BenchPilot sells for \$1,499. Learn more at shaper-tools.com. **W**

"With Origin, you need to manually steer, like you would with a traditional plunge router, and it handles all the small micro-adjustment precision cutting on an intended path. The BenchPilot is the natural evolution of the Origin. We've taken the much-loved, easy-to-use software of Origin and added this pilot feature. There's no new complicated software to learn. All you do is click it into the machine and it

E-Z LOK HIRES NEW SALES REPRESENTATIVE

E-Z LOK, a manufacturer and master distributor of threaded inserts for metal, plastic and wood, has hired a new sales representative firm, NorthStar Sales & Marketing, in Middleburg, Fla.

"Mickey Matheny, the company's President/Owner, studied Business at Georgia State," the company said in a statement. "With 50 years of experience in the fastener industry, Matheny's first job was at Allied International, an importer of fasteners in Rye, New York. For ten years, he served as the company's Southeastern Sales Manager. The next nine years were spent as the Director of the Mill Division at Heads and

Threads International, a global importer and master distributor of industrial fasteners and related products. Matheny has been an independent manufacturing agent for 31 years, establishing NorthStar Sales & Marketing in 2009.

"Covering Alabama, Georgia, Florida, North Carolina, South Carolina, Tennessee and Virginia, Matheny will sell all of E-Z LOK's products. His responsibilities include calling on clients in the region and providing training and mutual sales opportunities."

Learn more at ezlok.com.

Festool presents a new cordless ROS

By Jennifer Hicks

Festool has launched a new cordless random orbit sander, model ETSC 2, with an integrated LED light ring.

"The cordless random orbit sander solves two common jobsite challenges — poor visibility and limited mobility — without compromising on power or quality. Paired with our new accessories, these products are designed to elevate how professionals navigate the jobsite from beginning to end," Rick Bush, Festool's senior product marketing manager, said in a statement.



The sander runs on Festool's 4.0 Ah battery and has three lighting levels: full brightness, 50 percent, and off. Other features include a dust collection bag, optimized ergonomics for users to work close to the surface area and remain in control, and vibration protection to reduce fatigue, the company said.

The ETSC 2 sells for \$399 with a 125mm sanding pad and \$499 with a 150mm sanding pad.

Festool has also introduced three new Systainer accessory sets, including a five-piece Forstner drill bit set (\$189); a 36-piece 1/4" ratchet set (\$169), and an anchor set (\$99) for attaching loads to walls, ceilings and floors.



"We developed this new line-up of products with one goal: to simplify the tools professionals need to bring on the job," adds Bush.

Learn more at festoolusa.com. **W**



Lamello adds connector for lightweight panels

By Jennifer Hicks

Lamello USA has expanded its panel connector product line with the new LC P-16 Connector, a joining system for lightweight core panels that eliminates the need for concealed solid edges or adhesives.

Ideal for furniture, store fixtures and other flexible lightweight applications, the product works with the company's Clamex technology to speed up installation, open new design possibilities, and promote efficient, future-oriented construction, the company says.



"The LC P-16 allows for a Clamex P system connection in lightweight core panels. Until now, that wasn't possible. Traditionally, joints like this are a time-consuming process for cabinetmakers because they have to remove lightweight core material in between the outer layers of the sheet good and install a solid piece of wood, since the core material provides no type of anchoring," says U.S. Lamello product manager Chris Hoffman.

"What this does is it holds the outer skins of the panel and creates a uniform pocket that bridges all that empty foam or lightweight material and provides strong anchorage for the Clamex P system family of connectors."

The new LC P-16 connectors are designed to be compatible with popular European lightweight core material from a variety of manufacturers. They are also compatible with Clamex P-14, P-10, P-14 Flexus and P-14 CNC connectors. Machining can be done with the Lamello Zeta P2 or a CNC router.

The connectors are offered in three thicknesses — 16x11, 16x17, and 16x22. Learn more at csaw.com. **W**

Grizzly goes horizontal with new dust collector

By Jennifer Hicks

Grizzly Industrial has added the Grizzly Pro Quiet Series horizontal cyclone dust collector, model G0991, that can double as a portable workbench.

The totally enclosed machine offers a compact, mobile design and other features that set it apart from conventional dust collection units, according to Grizzly.



"Grizzly is addressing the need for versatile and high-performing horizontal dust collection with the introduction of the G0991," says Grizzly product manager Pat Raynor. "This collector is engineered for quiet operation and exceptional efficiency, offering features designed to significantly enhance dust management."

The collector can be hooked up to two machines running simultaneously, for point-of-use applications, or as a permanent installation. It has a sound rating of 71dB, according to Grizzly.

"One of the big features is you can add a top," says Raynor. "And you can put a machine on that top, so the dust collector is right underneath. It doesn't come with a top, but there is top mounting capability."

Other features include a motor rated at 1.5-hp, remote control, an alarm to signify when the 20-gallon collection drum is full, 110- or 220-volt operation, and four casters for mobility.

The G0991 sells for \$2,305. Learn more at grizzly.com. **W**

BIESSE COMPLETES THE STONE, GLASS, METAL PORTFOLIO IN U.S. MARKET

Biesse S.p.A. announces the successful completion of its business integration into Biesse America Inc. of the U.S. based entities GMM USA Inc., Bavelloni America Inc., Techni Waterjet LLC, effective May 12, 2025.

"This marks a key milestone in Biesse's global strategy, strengthening its presence in North America," the company said in a statement.

"This combination brings together renowned brands including GMM Bavelloni, Bavelloni Tools, and Techni Waterjet, expanding Biesse's capabilities across materials and extending the range of Biesse Stone, Biesse Glass, Biesse Metal machines portfolio as well as (the) tooling business."

"Our commitment is clear: to empower our customers with the best technologies, local support, and long-term vision. With this integration, we are not only expanding our machinery and tools portfolio — we are reinforcing our promise to be closer, faster, and more responsive to the evolving needs of the North American market" added Federico Broccoli, Country Director and CEO of Biesse America.

NWFA COMPLETES 79TH HOME WITH GARY SINISE FOUNDATION

The National Wood Flooring Association (NWFA) has provided flooring for its 79th home in support of the Gary Sinise Foundation R.I.S.E. program (Restoring Independence Supporting Empowerment).

The R.I.S.E. program builds mortgage-free, custom, specially adapted smart homes for severely wounded veterans and first responders. The home dedication for U.S. Army Sergeant (Ret.) Joshua Hargis took place on Nov. 12 in Nolensville, Tenn. Flooring for the project was donated by NWFA member Somerset. Installation services were provided by Brown Oaks Flooring.

In addition to the 79 homes already completed, NWFA currently is working with its members to source wood flooring for 15 additional R.I.S.E. homes in various stages of planning and construction. Currently, 161 NWFA member companies have donated product, logistics, and installation services in locations throughout the United States, with a total value of more than \$7 million.

A list of all NWFA R.I.S.E. participating companies can be found at nwfa.org/giving-back.

Senco has introduced a new generation of oil-free pneumatic tools.



Essential jobsite tools

The list includes a new toolbox, moisture meter, cordless and pneumatic tools, compressors, and more

By John English

Woodshop owners know that the most important tool on a jobsite is common sense, followed of course by training and experience. Next up would be a package of basics such as a drill with the right bits, level, stud finder, hammer, tape measure, pencil, some shims and lots of screws. That might be enough to get by on a simple job, but it's going to be a long day if somebody must run back to the shop several times for other tools.

Depending on the job, experienced woodworkers also like to bring along a nail gun or pinner, impact driver, clamps, speed square, combo square, laser, chalk line, compass, nailset, portable table saw or track saw, miter saw, circular saw, and maybe an oscillating multitool. The tool kit usually includes a random orbit sander too, along with hole saws or Forstner bits, power plane, pry bar, utility knife, sawhorses, jig saw, belt sander, adjustable wrench, socket set, block plane, and lots of batteries and chargers.

Woodworkers who frequently install cabinets will have

all of these items and more stored in a kit that is ready to go out the door. Less experienced artisans might spend half the morning loading the truck, and most of the evening unloading. So, a permanent toolbox saves a lot of time, and it adds jobsite security too if it can be locked. Over the past few years, many of the major tool manufacturers have created cart systems for exactly this purpose — storing and moving collections of tools.

Makita's new Maktrak rolling tool chest is exactly that (item T-90009 at makitatools.com). It's a modular storage solution with a horizontal design to fit long tools. The 9" all-terrain wheels make it ideal for jobsite use.

Milwaukee Tool's jobsite system is called Packout, and among the latest additions is a 242-piece ratchet and socket set (item 48-22-9491 at milwaukeeetool.com). It has 1/4", 3/8" and 1/2" metric and SAE tools neatly stored in a four-drawer Packout toolbox. There's also a new 98-piece set that comes in a low-profile Packout organizer with a



For bits that get gummed up on the job, the portable Bitwasher is a new option offered by the makers of the Shaper Origin.



The new Dust Deputy 2.5 Deluxe from Oneida Air Systems, shown here with a standard shop vacuum, can capture jobsite fines.

New one-handed 6" and 12" fast clamps from Rockler are ideal on the jobsite when there's nobody around to help hold things.



see-through top.

SYS-AIR is the latest addition to **Festool's** Systainer jobsite tool system (festoolusa.com). It's a portable, two-speed air scrubber that captures airborne dust that other extraction may miss, helping to prevent it from settling on freshly-coated surfaces or newly installed counters and cabinets. The two-stage filter system weighs just 22 lbs., has a handy handle, includes an electrical outlet, and moves air at up to 400 CFM.

DeWalt's new 20-volt Max XR is a double-bevel sliding 12" miter saw (item DCS785 at dewalt.com) is compatible with the company's entire range of 20-volt Max and FlexVolt batteries. It demonstrates just how far cordless technology has come, delivering up to 371 cuts in 3¼" MDF

base molding and up to 153 cuts in pressure treated 4x4 timbers. It's also a miter saw that can actually trap dust – up to 97 percent, according to DeWalt.

A new portable misting fan from **Ryobi** (FVF55K, ryobitools.com) is just the thing for hot summer days on the jobsite. The two-speed fan runs on an included 2Ah lithium battery that can also charge a phone in a pinch. The unit has a clamping base with a rotating head, and the two-ounce water tank is good for 90 minutes of misting. The fan will run for a stated seven hours on a charge.

While we're talking about moisture, the new Orion 950 pinless wood moisture meter kit from **Wagner Meters** (wagnermeters.com) can be essential when working with framing lumber or solid hardwoods. It measures moisture content



A woodworker can set up a portable spray table anywhere for coating or touch-up, thanks to the new SprayTwirlyHD from Paintline.

Among the new jobsite tools from Craftsman is a 4-1/2" saw that can cut through 2x material at 90 degrees and 1x lumber at 45 degrees.



The new Quick-Lift from Irwin Tools is a jobsite helper when casework, hardwood floors or doors need to be nudged a bit.



Festool's new SYS-AIR is a compact, portable air filter that can scrub the air in a 600-sq.-ft. room up to three times an hour.



DeWalt's fixed and sliding 12' cordless miter saws.

(MC) at 1/4" or 3/4" depths to cover a variety of wood thicknesses, and it has built-in temp and humidity sensors. Best of all, it automatically calculates the equilibrium moisture content, so it lets the woodworker know when the wood is stable in a given location. The 950 also calculates the ambient dewpoint and self-calibrates on the jobsite.

HANDY HELPERS

Late last fall, **Craftsman** (craftsman.com, now part of Stanley Black & Decker) added several new additions to its V20 Brushless RP line of power tools including a drill/driver, hammer drill, impact driver, screwdriver, two-tool combo kit, and 4-1/2" circular saw. The saw's brushless motor delivers up to 4,500 rpm (before load), and it can cut 2x material at 90 degrees and 1x at 45 degrees. The auxiliary handle makes one-handed operation easier, and there's a dust port up front.

A couple of new one-handed clamps from **Rockler** (rockler.com) are ideal for jobsite use as they let the woodworker use one hand to position parts and the other to apply pressure. These are medium-duty clamps and there's both a 6" (item 75673) and 12" (76905) version. They can be reversed for spreading.



The new high-pressure compressor from Max.

A somewhat similar new product from **Irwin** (irwintools.com), the Quick-Lift, is a small construction site jack that is designed to raise doors, cabinets and other heavy objects by up to 10". It can handle loads up to 330 lbs. and is operated by a trigger squeeze. Irwin is also part of the Stanley B&D family of manufacturers.

The Panel Express from **Saw Trax**



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Short enough to fit under the cargo cover on pickups, Makita's MakTrak rolling tool chest has special spots for batteries and chargers.

Mfg. (sawtrax.com) is a self-adjusting, all terrain, material handling cart that lets a single employee move large and cumbersome objects around a jobsite, such as full sheets of plywood, countertops and the like.

Need to touch up a few doors on the jobsite? **PaintLine** (paintline.com) has introduced a new foot-operated, portable spray table that can also handle heavy-duty work. The adjustable height table, called the SprayTwirlyHD, can be configured in several ways to paint anything from large cabinet doors and small panels to narrow drawer fronts and other small parts. The powder-coated table can be rotated with the operator's foot, which leaves hands free for more important tasks. It has retractable arms and adjustable magnetic spikes to hold parts, and it can be assembled anywhere without tools.

Woodworkers who are tired of caked up router bits might be interested in a little device now being offered by **Shaper**, the manufacturers of Origin portable CNC system (which is also a superb jobsite tool — a smart router that follows a simple CAD program

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on the jobsite or in the woodshop to complete joinery, inlays and other high precision woodworking tasks). The new Bitwasher is about the size of a toaster, so it can be used in the shop or on the jobsite. It uses ultra-sonic cleaning technology to restore bits in minutes. It won't sharpen them, but it does get rid of the resin build-up.

Another high-tech jobsite tool, the SmartBench from **Yeti** (yetiitool.com), is a complete 3-axis CNC that is now available in a small configuration. The new SmartBench Mini

comes with a real-time spindle load display, and it can handle parts up to 49.2" x 49.2". For woodworkers not familiar with running a CNC, the company's new console-based cutting app, ShapeCutter, has a walk-through job wizard that simplifies getting started.

BEYOND BATTERIES

While cordless jobsite tools have stormed the market over the past few years, many craftsmen still prefer pneumatics for their power and reliability. Serving that need, **Ridgid**



Ryobi's new USB misting fan will run for up to seven hours and the tank will deliver up to 90 minutes of fine mist before refilling.

(ridged.com) has just added a new compressor kit for jobsite work. The 02106416B kit includes a six-gallon portable electric pancake air compressor with both 18- and 16-gauge brad nailers, a 16-gauge straight finish nailer, an 18-gauge finish stapler, and a 25-foot hose.

Over the past year, **Kyocera Senco Industrial Tools** (senco.com) has also invested in pneumatics with a new generation of finish and trim tools. The collection includes the BN31M1P 18-gauge brad nailer, the LS61H1P 18-gauge finish stapler, the TN11G1P 23-gauge pin nailer, the TN41P1P 16-gauge finish nailer, and the TN51P1P 15-gauge angled finish nailer. All five tools are also oil-less, eliminating the need for daily maintenance.

For builders who don't just use 100 PSI tools, **Max USA Corp.** (maxusacorp.com) has introduced the new AKHL1320E compressor which can compress air down to 500 PSI for specialized tools that are used in metal and concrete work. The motor is designed to operate down to 25 degrees F, and its horizon-

Images: Courtesy of manufacturers



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For cabinet installers and trim carpenters, Ridgid has added a new kit that includes a pancake compressor, hose and three guns.

tal pistons create less vibration than a standard V-shaped compressor. It weighs about 40 lbs. and comes with two tanks.

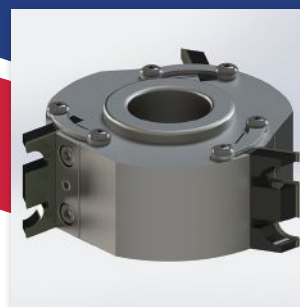
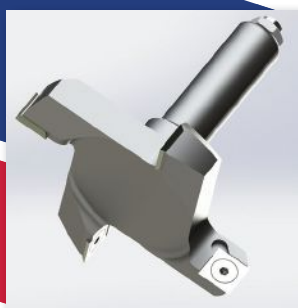
While pneumatics rely on compressed air escaping in a controlled fashion, **Oneida Air Systems** (oneida-air.com) is at the other end of the pump. The manufacturer has just launched a new high-capacity Dust Deputy called the 2.5 Deluxe that is a small dust collector with high air-flow. It has a cyclone design that captures up to 99.9 percent of fine dust and bulk debris and the 17-gallon kit comes with everything needed to set up superior dust collection in a small woodshop, or on a jobsite. It upgrades any make or model of shop vacuum that has 2.5" diameter hose fittings.

With all the tools mentioned above, it hardly seems likely that anything has been forgotten, except the cabinet jack, step ladder, hammer drill, caulk and a gun, safety glasses, ear protection, a gun, safety glasses, ear protection, a dust mask, maybe gloves and a jobsite boombox. And with all that gear, it might also be time to upgrade to a bigger truck. **W**



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Exposing the mystery of sanding

By Diane Shattuck

Studying the art of sanding, and all the many different applications and circumstances, will help build the right system to achieve the results you're looking for when working with different species and finishing materials.

My intent in this three-part series is to help you understand the science behind the world of abrasives and simplify how we can build our sanding systems to maximize your efforts, minimize your struggles and increase your bottom line.

Let's start with why we sand. In

woodworking, it's mostly to adjust fit or remove marks. In finishing, we're sanding to prepare the surface for the stain to penetrate and the finish to adhere. The sanding process will contribute to the color consistency, appearance, and integrity of the coating.

We're not sanding to make the surface as smooth as possible. In most cases, that can be the wrong thing to do. Only two applications come to mind where a polished effect would be desired: when work-

ing with penetrating finishes like oils and wax or if no finish will be applied. Working with any coating that is a film forming finish will require some tooth for the finish to adhere to the wood and itself. The amount of profile or tooth is determined by the type of coating and its physical properties to move, dry and hold up against the environment.

One very important rule to remember when sanding wood and finishes is that both are moving. Since wood is always expanding and contracting

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to the moisture content in the environment, it is imperative to complete the finishing process the same day. Waiting several days to apply your coating will jeopardize the integrity of the coating. This is because the sanding profile will have folded back due to the movement of the wood, thus changing the way your stain will penetrate for color and the finish adheres.

The same is true for sanding most finishes. The coating is curing, so it is shrinking back or healing. The sanding profile you created when sanding it smooth is getting smaller and tighter with every hour it cures, thus making the adhesion of the next coat harder to bond if too much time passes. If the profile is too fine, the finish breaks away from the surface, leading to adhesion and coating failures.

A second factor when sanding finishes is when the finish is already

fully cured. A fully cured finish is now not shrinking or moving, so sanding scratches are permanent and will telegraph through the next coating. Types of abrasive minerals and grit factor into your surfaces bonding and appearance. Time frame affects success or failure no matter what abrasive you use.

When finishing wood, sanding is one of the most important processes to make sure our stains and coatings properly adhere. One of the key reasons coatings fail on wood and other materials is the lack of sanding, too much sanding, or the time lapse between the sanding of the wood and the application of the coating.

Abrasives cut tiny slices into the surface opening pores and fibers to receive glue, stain, clear coatings or paint. Depending on the type of mineral in the abrasive, the backup pad, the grit and the tool will make a dif-

ferent size and depths of profiles.

Adhesion comes from creating these profiles and connecting the next process together (stain, coating, etc.) before the wood closes or folds back to its natural movement of expanding and contracting due to temperature and humidity. Failures occur when the substrate is sanded days or weeks before the finishing process. It is always best to sand and apply your coatings the same day. If time lapses, re-scuff the surface before finishing. This is a crucial factor in white wood or raw wood sanding.

Adhesion between coatings is also created by sanding. The abrasive is usually a finer grit and tighter mineral and may have a stearate so as not to tear the finish open but rather slide freely without clogging.

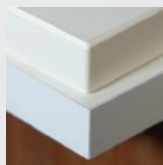
There is a difference in the way the coating will adhere to the substrate, depending on the age and type of

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FINISHING

coating. Meaning, the way you sand the coating must be handled differently from sanding a freshly applied coating or one that is fully cured.

Freshly applied coating moves by folding back or pulling tight as it cures. Like bare wood sanding, apply your next coat the same day to benefit from the profile you created. This allows the sanding scratch to fill in and shrink or fold back allowing for most of the sanding profile to go unnoticed in the final appearance when the correct abrasive is used. Adhesion in freshly applied coat-

ings, when applied correctly, is very strong. Totally cured finishes (past 30 days) must be sanded to apply additional coatings.

Next month's article will discuss how abrasives affect the appearance, sheen, and color in our finishes. **W**

Diane Shattuck is a finisher, consultant, guest speaker, writer and teacher. She can be contacted at dianeshattuck@msn.com. Questions, suggestions and comments are always welcome.

CALL FOR ENTRIES: MAINE WOOD 2026

If you are a woodworker living in Maine, the Messler Gallery at the Center for Furniture Craftsmanship in Rockport, Maine, invites you to submit work for its juried biennial exhibition, Maine Wood 2026.

"The Messler Gallery has hosted Maine Wood since 2008," the gallery said in a call for entries. "Maine Wood 2026 marks our 10th biennial exhibition celebrating the breadth of talent and creativity of Maine's furniture makers, turners, sculptors, and carvers.

"Selected work will be exhibited in the Messler Gallery from January to April 2026."

Entry is free and the deadline is Sept 1, 2025. See the full exhibition guidelines and apply at woodschooll.formstack.com.

WOOLF DISTRIBUTING UPDATES WEBSITE

Woolf Distributing, a distributor of architectural building and millwork products for residential and commercial markets, has launched a redesigned website.

"This upgraded digital platform provides customers with an enhanced user experience, featuring intuitive navigation, detailed product information, and the convenience of 24/7 online quoting and ordering," the company explained.

"The redesigned woolfdistributing.com boasts a modern design, improved search functionality, and vibrant visuals, making it easier than ever for customers to access vendor and product details, company updates, and special promotions."

BIOPHILIC DESIGN IN WOOD CATEGORY ADDED TO PINNACLE AWARDS

The International Society of Furniture Designers (ISFD) acknowledges that biophilic design is a developing movement in the furniture industry. To support this trend, ISFD is partnering with Real American Hardwood to introduce the Biophilic Design in Wood category award to the 2025 Pinnacle Awards.

This new award invites professional designers to showcase their work, highlighting how they use wood to bring the beauty of nature into interior spaces.

Biophilic design is an evidence-based approach that integrates natural elements, such as hardwood, into built environments to enhance well-being,

reduce stress, and foster a deeper connection to nature. It includes products that not only feature natural materials but also adhere to high design standards and reflect the core principles of nature-inspired design, such as natural lighting, organic shapes, and connections to outdoor spaces.

This new Pinnacle Awards category will recognize aesthetically exceptional furnishings that embody these design principles, according to the ISFD.

The deadline for entering the Pinnacle Awards and to be considered for the new Biophilic Design in Wood award is July 31, 2025. Submission details can be found at the isfd.org.

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Dan Fraser, part of the shop's upper management team.

BUILDING ON A LEGACY

Vintage Millworks, an architectural millwork shop, undergoes a strategic transition to best serve its Nashville market

By Jennifer Hicks

Established in 1987, Vintage Millworks in Fairview, Tenn., has come a long way from its humble beginnings as a mom-and-pop shop. The current manager, Aaron Dunn, wants to carry on the legacy that his parents, James and Margaret Dunn, created. Now in a new 32,000-sq.-ft. building, with a team of about 20 employees, sales goals have increased and put the company on track for one of its best years.

"We've developed goals and sales strategies, quarterly reports, monthly meetings. We didn't have that before, so we've increased visibility for sales, we've increased profitability for all the employees, and we set goals on how we shave the hair off this thing to get it fine, and it's really worked out well," says Dunn.

"This year we're on track to have another record-breaking sales year and record-breaking profitability, more because we have a better facility and an easier flow, less mistakes because we've invested in good technology, better training, and we've tried to really reiterate to our

guys our decisions and actions have an impact on all of our numbers."

Working closely with a core group of well-established residential contractors, the company provides a variety of decorative and functional custom architectural elements for residential interiors and exteriors, including cabinetry, mantels, staircases, trim, doors, and windows.

EARLY STRUGGLES & SUCCESS

Dunn's parents, who are still active with the company, are originally from the West Palm area of Florida. They married out of high school and went to work for themselves as remodelers.

"Dad (James) had a real passion for woodworking. He wanted to do something in that field, so his job after school was picking up anything he could do to apprentice under somebody, and he had shop class to help steer him in that direction. Mom (Margaret) was creative but more business-minded, so they were a really good pair," says Aaron.

Jennifer Hicks



Aaron Dunn, son of the shop's founders.
Below, employees Ben Young (left) and Shawn Berryhill.



When they started having children, James and Margaret moved to the Smithville area of Tennessee where a family friend was building a cabin. They slowly built a business with repairs, remodeling work, and flipping houses.

"During the 70s and 80s, there was about a 10-year period of scraping to get work," says Aaron. "But at the beginning of the 80s, a millwork company in Nashville started buying their products they were making for custom homes."

In 1987, the couple purchased a warehouse in Nashville's Wedgewood Houston neighborhood for the growing business. They hired two full-time employees, Keith Patterson and Steve Johnson, who are with the company today. Back then, Aaron and his younger sister, Elizabeth, would help tidy up the shop as kids. The employee count grew as jobs picked up.

"It started out with two employees. Then there were four and within a year or two, there were 15 to 20 people in the shop. The heyday of sawdust flying was probably from 1995 to 2000 with maybe 30 employees, tops. But now, with better technology and increase in productivity, we think 20 people works well."

Around 2022, the Dunns purchased land and a building for the current shop in Fairview. "This property became available during Covid. So, we sold (the old shop) and got this up to code and speed. It was a shell of a structure, but we have nine acres here and had two in Nashville. This is also centrally located to major access points for servicing Nashville," says Aaron.

A NETWORK OF PARTNERS

The shop gets about 90 percent of its work from the Nashville region. As a whole, Vintage mostly serves a high-end residential demographic.

"New residential construction is our bread and butter," says Aaron. "When you're doing renovations, they're very time consuming and there are more meetings, and my experience is you're not making any money"

In any given year, the company completes 200 to 400 projects, primarily from its network of contractors.

"We try to steer away from homeowners. Our market is this core group of general contractors that regularly perform at a high level," says Aaron. "They're constantly looking at new leads and developing relationships. We are more of partners to them and they depend on us to be part of their team with all of the other trades that they've developed a relationship with."

Aaron says the company's annual gross is between \$4 to \$6 million. He, along with Dan Fraser and Alex Solimani, have taken on managerial roles since starting in the new building. The three are working feverishly to make changes and improvements in efficiency as Dunn's parents step back from the operation.

Company departments include general managing, accounting, purchasing, estimating, project management, shop foremen, benchmen and rough mill workers, and shipping and receiving.

The production area features state-of-the-art machinery and eight work stations.

"We're in the process of getting a new 5-axis router," says Aaron. "When we moved, we sold our 20-year-old, 3-axis (Northwood) router rather than take it with us. We



Dunn and Fraser next to a stack of arched moldings.

have a trade partner who does our CNC routing right now, that's all they do. We wanted a new router right away, but we had other expenses we had to incur — lighting, a new dust system, air compressor, sprinklers. It was a lot."

The shop's business software has also been updated.

"Our work orders were formerly [completed] by hand or with Excel. We purchased TradeSoft estimating and job management software and it's really taken us to the next level."

A PAUSE WITH PURPOSE

Aaron is currently on a personal sabbatical, working in south-central Alaska as a charter fishing captain. He will return in early October. His goal is to step away from the daily grind and recharge.

"For 20 years I've done nothing on the weekend but work," says Aaron, who lived in Alaska for a dozen years. "We have relatives up there. My son was born up there and goes every summer. He works in the shop now but is going back with me and will be working for a friend at boat company doing sightseeing tours while I'm doing fishing tours."



"I'm going to take a break for about four months. I realize that I need it and that it should be something for everybody else to think of, too. You can work yourself to death. I truly believe that. There are people that go and go and go, and I don't think it's healthy."

When he returns, Aaron's hoping to have some of the younger workers be the face of the company. He considers himself in a stewardship position now and wants to prepare the company for success after he's no longer involved.

"Being able to see the craft being promoted, the business, the facility, the clientele base, I would like to see that continue, and I'm going to do everything in my power to promote that and make an easy transition for the younger generation," he says.

"There are opportunities out there in the shop. They don't have to start from scratch. We've already got an awesome template and a beautiful foundation of a company. This would be a wonderful family for somebody to join if they want to learn this trade and be respected in the industry."

Learn more at vintage-millworks.com. **W**



Keith Patterson, one of the shop's first employees.

WHAT'S IN THE SHOP

Altendorf sliding table saw • Delta spindle shaper & lathe • DeWalt radial arm saw • Diel single-line rip saw • Doucet automatic wood clamping system • General Fabricators 16' x 25' spray booth • Felder Format 4 planer • Gomad spindle shaper • Höcker dust extraction system • JET edge sander & table saw • Kölle jointer • Maggi 3/50 edge bander • MAX spindle sander • Mereen-Johnson multi-rip gang saw • Moak band saw • Powermatic band saw, drill press, jointer, shaper, mortiser & table saw • SawStop table saw • SCMI overhead router • Tannewitz band saw & table saw • Timesaver wide belt sander • US Concepts arch molder • Weinig 9" Profimat 23 molder with a Rondamat profile grinder

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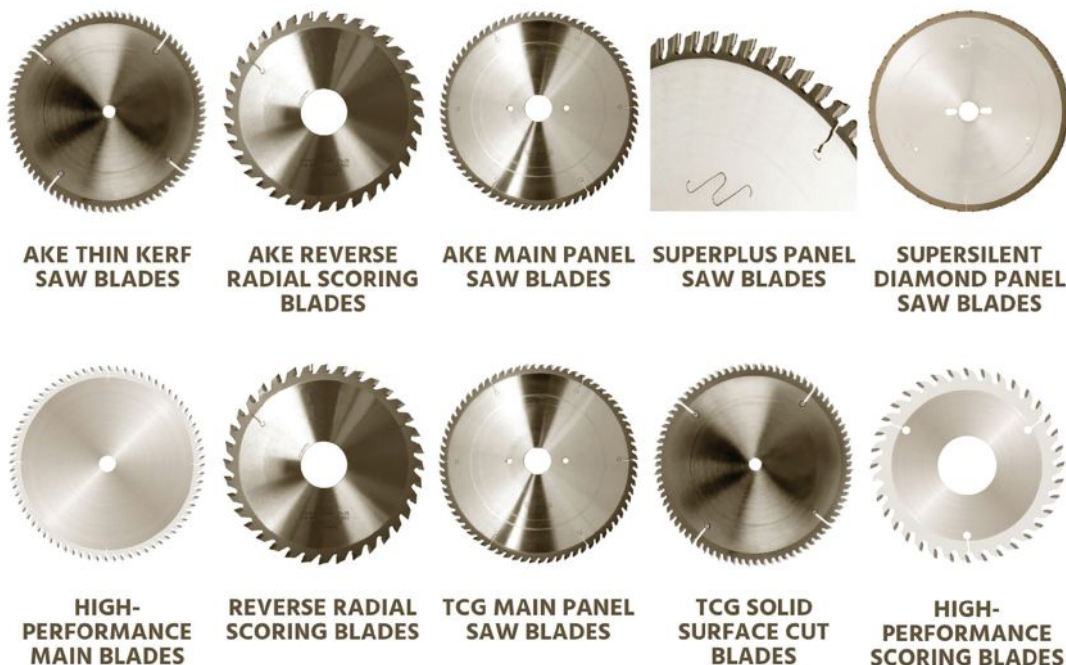
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Peak Toolworks offers a full range of tooling including bits, knives, and rip, combination, crosscut and panel saw blades (shown).

A sharp reminder

Exploring the coatings, geometry and materials used in today's cutting tools

By John English

No matter how automated a woodshop becomes, a woodworker should know how to hand sharpen chisels and plane irons. Understanding the mechanics and geometry of manual sharpening is a core skill that can influence how well a shop runs its machines. It's one of those tasks where experience trumps knowledge: you have to sharpen to understand the nature of cutting edges.

On both CNCs and portable tools, that edge has changed a bit over the years. It has traveled through high-speed steel to carbide and diamonds, along with new geometry and new coatings that can lube and cool a cutting edge.

TYPES OF COATINGS

There's an air of mystery around coatings on CNC tools because they seem a bit illogical. How can a thin layer increase hardness or wear resistance, or protect an edge from heat? Most coated tools don't even look any different — clear, black or chrome, so they go unnoticed once the package they arrived in has been discarded. Others are designed to be noticed — bright orange, red, blue, yellow, and even rainbow colored such as Amana Tool's Spektra.

The function of a coating is to expand the number of linear feet that can be machined before sharpening or replacement. Their durability can be measured in machine hours or feet milled, but challenges are involved. Some tools cut grooves while others form edges, and cabinet or furniture parts are all different shapes and materials, so it's difficult to estimate when a bit might get dull. Fortu-

nately, machine controls are becoming more sensitive to issues such as drag and heat build-up, so CNC panels and software apps are doing a better job of telling us when we need to change a tool. There is a substantial volume of anecdotal evidence that coatings work and work well. There is also some empirical (scientific research based) affirmation, but not enough yet.

The most common coatings are titanium nitride (TiN), aluminum titanium nitride (AlTiN), and various carbons that emulate some of the qualities of diamonds. On a microscopic level, these metal and carbon additives can bond an edge so that it's less prone to chipping. By doing so, they deliver a slightly smoother cut, which reduces micro-vibration along the tool shaft.

If the coating reduces friction, it can reduce heat. Temper is a critical factor in holding an edge, and heat build-up can draw the temper in an uncontrolled manner and cause the metal to lean toward brittle. In a 2009 study at Purdue University, professor Rado Gazo, whose expertise is in wood processing and industrial engineering, examined this property. He found that cryogenically treating tungsten carbide router bits that were cooled while they cut resulted in more than twice the longevity of untreated tools.

Cryogenics involves cooling bits and blades to minus 300 degrees F and then warming them back up to the ambient factory temperature. It's not an especially expensive or complicated process. The study discovered that blowing cold air across a standard bit as it made cuts in



wood might increase the life of a cutting edge by up to 25 percent. But cryogenically treated bits with no cold air saw about 65 percent longer life. Add cool air (40 degrees F) to the treated bits and the result climbs to 85 percent. But use cold air (20 degrees F) on cryogenically treated bits and the numbers jump to an impressive 217 percent longer life.

Woodshop owners understand that the savings from longer cutting-edge life aren't confined to the price of replacing tools or making fewer trips to the sharpener. They also include less downtime while bits are being changed, and fewer rejects or parts that need to be reworked because of chatter or burn. Plus, the spindle can travel faster under load if the cutting edge is sharp and performing well, so feed rates and production schedules benefit.

Professor Gazo also confirmed something that has always been obvious: sharp bits consume less power and run quieter. And he found that heat build-up in particular affects the cobalt that holds tungsten-carbide on router bits together. At high temperatures, it vaporizes.

TiN is the most widespread coating for wear and heat resistance. AlTiN is a bit tougher and is preferred in higher speed situations. The Surface Solutions website (tincoat.net) notes that TiN is inert and reduces friction, and that the coating can vary from just two to five microns in thickness. A micron is only one millionth of a meter, so we're talking very thin here.

As coatings are being applied, the edges of tools collect more vapor, so they end up with a thicker layer than the flat surfaces. Each coat can add thickness, but as it builds the possibility of spalling (breaking into little pieces) in-



Freud Tool's new Diablo Metal Demon wood and metal drill bits (left) and the Spektra line from Amana Tool feature coatings.

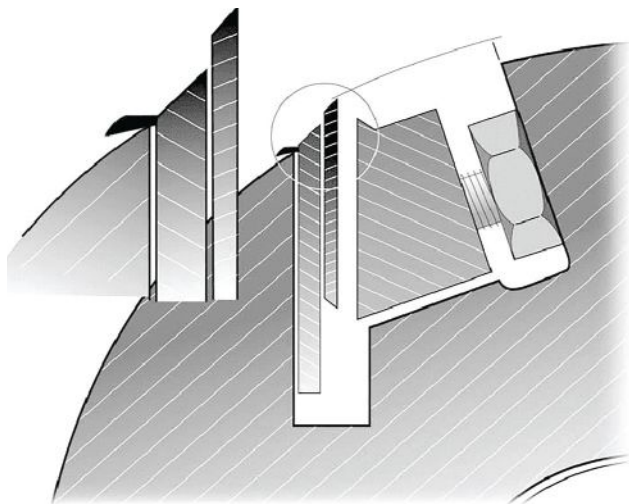
creases so there's a point of diminishing returns.

TiN is considerably harder than carbide, and doesn't oxidize until it reaches 850 degrees F. A router bit might reach about 400 degrees F in hard, abrasive materials at high revolutions and slow feed rates, but is usually less than half that in wood. A variety of TiN called TiCN also contains titanium carbide-nitrate, and it's more common in metal shops than woodshops.

AlTiN adds aluminum to the titanium and nitrogen in a TiN coating, and this increases the heat resistance and improves the bit's ability to stay hard without getting brittle. That's the magic formula in cutting edges. Another variant, TiAlN, is less than 50 percent aluminum, while AlTiN coatings are more than 50 percent. Amana's dramatic Spektra is a nanocomposite coating based on AlTiSi, which is a combination of aluminum, titanium and silicon. It's delivered via physical vapor disposition (PVD) and exhibits excellent wear resistance properties along with high temperature resistance and a low coefficient of friction.

Another coating class, diamond-like carbon or DLC, is a coating that provides a lubricant that is literally baked into the metal surface of the cutting tool and has a high degree of hardness. These are not diamonds, but rather carbon atoms that are arranged so they evince many of the qualities of diamond. In some industrial applications DLC can exhibit poor adhesion on a variety of metals, and it can delaminate over time or when subject to excess load. But they work well in wood, where working temperatures are relatively low. DLC coatings degrade at temperatures above 750 degrees F and router bits in wood usually operate in a range from 150 to 400 degrees F. If the bit exceeds 400 degrees F, it will dull quickly and chip easily and may burn the wood.

There are also coatings that embed very fine real diamond (PCD, see below) grit over a cutting edge, and those bits are favored by woodshops that cut a lot of resin-based materials and composites. Such diamond-based coatings are among the most expensive and the most durable, but some are not as fine as others and may not deliver quite the same cut. Given that subjective nature, woodshops may wish to conduct their own tests on their own machines, at various depths of cut and a variety of feed rates and rotation speeds, and do so in their most machined materials.



The Self-Set system from Charles G. G. Schmidt & Co. precisely and easily locates knives in a cutterhead.

PCDS AND CHIPLOADS

Woodworkers are by now used to the enhanced performance of polycrystalline diamond (PCD, or simply 'diamond') router bits, which have a significantly longer lifespan than traditional carbide cutters. We're talking about the actual cutters on the bits here, and not an applied coating. PCD bits deliver high quality, precise cuts and clean edges,

but they also come with their own set of rules. It's important to follow the manufacturers' guidelines on optimum rotation speed and feed rates.

PCD is basically a diamond powder that is fused into an amalgam using high pressure and temperature. Most of the 'diamond' bits used in woodworking only have PCD cutters, and often just PCD cutter faces. The body and shank are usually steel or more often carbide, to which PCD tips are attached using a welding or brazing technique. Diamonds retain their cutting edge far longer than traditional bits, and they're almost impervious to the level of heat generated by a CNC spindle. (The brazing isn't, though.)

PKD, which is a common marking on diamond tools, isn't quite the same thing as PCD. The terms are often used interchangeably, but PCD is the actual diamond material and PKD is a specific form of PCD. Another distinction worth noting is the one that exists between PCD and CVD lab-grown diamonds. PCD is almost all diamond powder with a cobalt binder and a hardness of about 6000 Vickers (an industry hardness test), while the even more durable CVD is 99 percent pure diamond and has a hardness rating of about 8500 Vickers. The test involves pressing a diamond into a surface and measuring the imprint it makes. It was developed in 1921 at the British engineering company Vickers Ltd.

Diamonds are definitely harder and last longer than carbide, but they also cost more. However, there is some evidence to suggest that they can also deliver a more precise and refined cut, especially in hard materials, and they

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can handle faster feeds and speeds. Their durability also means fewer tool changes, so less downtime.

When woodworkers talk about PCD, the word 'chipload' often enters the conversation. The term (also called 'feed-per-tooth') refers to the amount of wood/MDF that each cutting edge on the bit removes during each revolution. Theoretically that's measured in precise thicknesses and depth, but in reality it's a more convenient average. Chipload is calculated by multiplying the spindle RPM (how fast it spins) by the number of flutes on the cutter and dividing the feed rate (how fast the spindle is traveling across the bed) by that number. It can be expressed in terms of inches or millimeters per minute (IPM or MM/Min).

For example, if the spindle is rotating a two-flute router bit at 22,000 RPM and it's traveling at 400 IPM, the chipload would be 0.009 IPM. That's 400 divided by 44,000 (22,000 x 2). Carbide Processors (carbideprocessors.com) suggests that the optimal chip load is between 0.007 and 0.012 IPM for its Southeast brand router bits. The company also notes that "if there is too little of a chipload, you risk burning out the tool, or too high of a chipload and you risk breaking the tool."

So, the chipload indicates ideal travel and rotation



Vexor Custom Woodworking Tools has created the MIDE-PRO plunge system for detail routing, which uses 2mm thick carbide inserts.

speeds for a cutting edge. Operating at the recommended chipload means that a CNC operator can reduce vibration and heat build-up. That helps avoid issues such as snapping thin shank tools or perhaps breaking fine points on the tips of V-tools, or burning or polishing the edges of parts. Chipload also coincides in most cases with optimal

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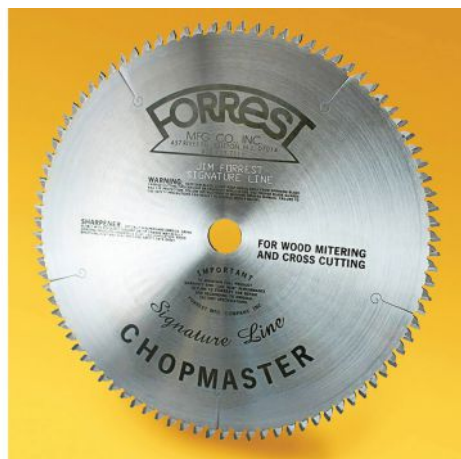
waste removal, where the chips are evacuated from the toolpath before they're cut repeatedly. Doing that makes sense because having a bit cut the same material more than once will reduce the life of the cutting edge.

Most tool manufacturers supply charts or online resources that help a woodworker determine the optimum chipload values. The shop simply needs to dial in those speed and feed numbers and perhaps make small adjustments for elements such as the material being milled, the geometry of the cutter, and the depth of cut. Peak Toolworks/NAP GLADU has an online chipload calculator at peaktoolworks.com.

CUTTING EDGE GEOMETRY

This is a dynamic field where a great deal of research is being done, especially in the area of compression bits. Geometry (the physical shape of the cutting edges on the flutes) can determine the quality of the finish, the way chips are removed, and the resistance level that exists at the cut.

Resistance describes the stress on the bit. If a flat cutter were to approach the wood or MDF face at exactly 90 degrees (maximum resistance), it would not be very effective. As the angle changes, the cutter finds it easier to penetrate the surface, up to a point. If the face is too open, the cutter will slide across the surface rather than shearing into it. The angle also directs waste and pressure, as in up-spiral and down-spiral bits. The cutter can be altered in two



The new ChopMaster Signature saw blade from Forstner features 90 teeth.

planes. For example, think about a two-flute straight bit. The most obvious manipulation is to angle the flute top-to-bottom along the length of the shaft, which is essentially what happens in up and down spiraling. But the angle at which a cutter intersects the shaft can also be altered, and this opens or closes the rake. For a visual, imagine looking at a bit from the bottom. You'd expect the flutes to be at 90 degrees, but they can be leaning a little bit forward (more aggressive) or backward.

We are increasingly seeing intelligent and creative use being made of the possibilities that such manipulation offers. Bit geometry can include such variations as a near-flat flute arranged in either a spiral or straight configuration, or a chamfering cutting edge such as a V-bit, or round and tapered ball configurations. Combining these pro-



The edge on this chipbreaker and finisher from CNCRouterBits in Australia can both hog and smooth simultaneously.

files can reduce stress and prolong a cutting edge. For example, hogging and roughing bits use a serrated cutting edge, but a new breed of finishing chip-breakers combines a roughing profile with a partially smooth flute. These work best in phenolics (resin or plastic materials) because the cutting edge is arranged so that the impact switches on each revolution from aggressive for fast removal to gentle for a clean final surface.

Solid carbide bits are the workhorses of the cabinet trade. They perform exceptionally well in plywood, especially in up-cut and down-cut spiral configurations. Be-

yond straight bits, ball-nose bits are the most adept at carving and V-grooves are the perfect choice for fine detail such as lettering or sign-making. A rule of thumb is that the harder the material, the more expensive the bit. HSS bits work well in softwoods and diamonds in dense plastics. It will say on the package what materials each bit is rated for.

In general, thicker shanks and shorter lengths will produce cleaner, more vibration-free cuts. Long bits have a greater tendency to flex or wobble, and even though they do so on a minuscule scale, it can be enough to cause vibration and chatter. It's not unknown for bits to work loose or snap, so anything that can be done to avoid vibration is a good idea.

There is a trade-off between speed and performance. A router bit will either excel at cutting fast or cutting smooth, but rarely at both simultaneously. This goes back to chipload. It might be best to use a rough bit at lower speed to hog out most of the waste and then change the tooling to a fine finishing bit for the final pass. Higher travel speed (feed rate) makes bigger chips than faster rotation, so a quick glance at the waste can give some indication of the chipload. If it's all powder and fine dust, the cutting edge is going to get dull in a hurry. If it's all chunks, resistance is too high and there's a possibility of damaging or even breaking the bit.

Up-cut bits deliver a cleaner bottom edge, down-spirals leave a cleaner top edge, and compression bits can leave a sharp edge top and bottom. Up-cut bits will also try to lift parts (and waste) off the table, so adequate fixturing or vacuum is essential.

One final thought: care for bits properly and they'll deliver better results. Woodworkers who have manually sharpened a plane iron will place the plane on its side so that it doesn't get nicked. That awareness is programmed into handwork, but machines distance us from the immediate consequences of poor husbandry. One shouldn't throw router bits in a drawer where they can collide, because they will damage each other. That includes bits removed from the toolholder for sharpening.

Store them well, and they'll serve you well. **W**



Panels, doors and components from Talbert Architectural can be factory pre-finished with Perfecta UV coatings.

The advantages add up

Buying pre-finished panels allows shops to save time and get more creative

By John English

It's a great idea — using panels that already have a coating applied. It makes sense on so many levels, not least of which is the time saved in the spray booth. Pre-finishing also requires a smaller investment in coating equipment and inventory, and the finish is often more consistent and durable than a shop-applied coating.

Pre-finishing initially gained popularity with hardwood flooring and gradually spread to UV, post cat lacquer, or conversion varnish on moldings and then whole panels. The definition of the process is a bit imprecise. The big box chain Menards says that “pre-finished panels are similar to particleboard panels, but with the added feature of a melamine or decorative laminate on the surface”. But some shop owners only consider stained and clear-coated hardwood veneer panels as pre-finished, while others accept the retail definition above that can include perhaps a printed grain laminate or a colored melamine. Some high-volume shops think only of coated Baltic birch plywood when they hear the phrase, while others include thermofoil in the description.

The bottom line is that prefinished panels are coated or

covered to the point that the shop shouldn't need to do anything other than cut them to size. But as with anything that seems too good to be true, there are caveats here. The most obvious is that paints and clear coatings need to be thick and hard enough to withstand being passed across the likes of table saws or edge banders, or maybe being milled on a CNC. That kind of handling can cause scratches, so the appearance face of the panel should always be facing up. Almost all cabinet parts need to be close to perfect on one face, but the other isn't usually so critical. And depending on the coating, minor scratching can generally be treated on the B side with a little wipe-on poly or other compatible touch-up product.

But even stacking panels, or sliding one off the stacked pallet, can cause scratches, so working with pre-finished stock requires a holistic approach. Care must be taken at every stage to protect the product. (And while you're taking time to do that, just think of all the sanding hours you're avoiding.) In European woodshops, where pre-finished material is more popular, it's quite common to see woodworkers wearing thin gloves to protect pre-finished faces, and



Shinnoki pre-finished wood panels, veneers and edge banding are available from Hardwood Specialty Products.

those also protect the employees' hands because some pre-finished panels have sharp edges. The gloves are thin but they still reduce the tactile interaction with parts, which is one reason why they're still quite rare in North American woodshops. It's a very personal preference — kind of like wearing a helmet on a bike.

Many woodshops coat the interiors of cabinets before the backs are installed, as this gives great access. The backs are then sprayed flat, which eliminates runs, but everything then needs to cure and maybe recoated. With pre-finished panels, that whole process can be eliminated and the back can be installed as soon as the box is assembled. The face frames, doors, drawers and even shelves can be installed right away, too, so the booth isn't creating a bottleneck.

For custom work, ordering prefinished painted or stained panels requires an understanding of color matching, and client approval of samples. Those should be viewed on the jobsite where they will live, subject to ambient lighting, as color perception can change significantly in different environments.

WHAT DOES IT COST?

Well, that's very subjective. We've seen several comments online that pre-finished panels run about 25 percent more than unfinished, but that depends on the finish. For sprayed coatings, that number is probably in the ballpark, but not for foil, melamine or laminate.

When pricing panels, it's important to compare apples to apples. The pre-finishing will eliminate a lot of shop time



Kerfkore can build a lightweight or curved panel and apply a decorative layer that is supplied by the woodshop.

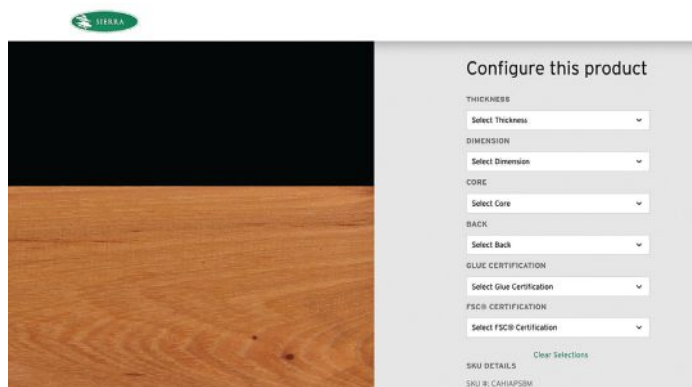


Pre-finished maple plywood from Parkerville Wood Products is a C2 grade with UV finish applied to both faces.

and effort, but it may also create some tasks that eat into the clock. For example, just taking extra time and care to avoid scratching might slow down the building process. Edges may need to be banded or coated or even just touched up, and getting a great match can take time. Small shops find that when they're busy they tend to buy more prefinished panels. But if they have more time than money available, then they do more in-house coating.

Comparing costs has everything to do with time saved. One of the challenges with prefinished panels is that the sidewalls of any glue joint won't have great adhesion, so they require a little attention. Most coatings are impervious, so liquid glues won't penetrate them to create a mechanical bond. If all the panels on a job are floating, this shouldn't be a concern. But if pre-finished panels are set in dados or grooves to build cabinet boxes or drawers, gluing can be a time-consuming challenge. The raw MDF or plywood substrate within the joint may need to be revealed, which will require a skim pass with a router or a pass on edge across a table saw. The idea is to remove a little bit of the factory finish so that the glue can soak in.

Shops that are building custom cabinets may need to order



The Sierra website lets woodshops research pre-finished panels using half a dozen selection parameters.

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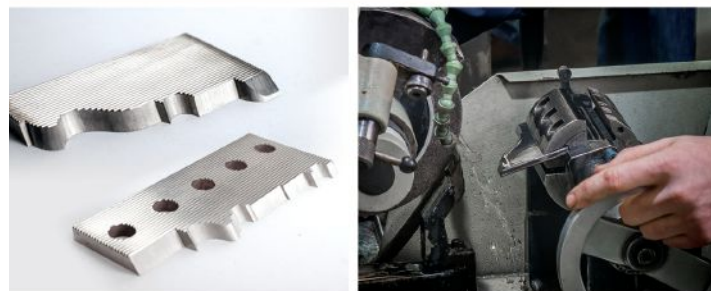
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a species of pre-finished plywood that has to be specially made up, and that may require a minimum purchase and longer lead time. For example, **Crosscut Hardwoods** (crosscuthardwoods.com) notes that shops who need something other than their stock birch and maple panels can special order prefinished ash, beech, cherry, hickory, mahogany, red or white oak, or walnut. Depending on the species and thickness, the minimum order is 10 sheets and the lead time is two to three weeks.

WHAT'S AVAILABLE?

Pre-finished panels are large and heavy, so shipping is an issue. That can limit the choices in smaller markets where everything needs to be ordered as needed. But there are several manufacturers that distribute nationwide, and many have familiar names. **Sierra** (sierraftp.com), for example, is part of the USC Forest Group. Its catalog includes ten different textures, five kinds of substrate and more than a dozen stocking locations across the U.S., plus half a dozen in Canada. There are more than a hundred pre-finished panels available in a huge range of species, along with matching edge banding, plus materials that are FSC certified, and TSCA VI and LEED v4 eligible.

Another large producer, **Timber Products** (timberproducts.com) has eight manufacturing facilities and is best known for its hardwood plywood panels. The company has newly introduced RhinoCoat pre-finished panels that are treated with an antimicrobial technology. This is specifically formulated to mitigate the growth of certain microorganisms such as fungus (mold and mildew) that may cause unpleasant



Shown is a small sample of the pre-finishing stain and paint options available from Keystone Wood Specialties.



Wire brushed Ridgemont prefinished panels from States Industries can also be ordered as pre-cut parts.

odors, degradation, discoloration, decay, or staining of panels. Available in virtually any species on a veneer, particle-board, MDF or the proprietary ProCore, they come in sizes up to 4x10 and thickness from 5/32" to 1-1/2". RhinoCoat is available as an FSC certified product and can be SEFA compliant upon request.

The Ridgemont line of panels from **States Industries** (statesind.com) is made from real wood, so no two are exactly the same. A meticulous wire-brushing process enhances the natural beauty of the wood grain. Ridgemont brushed veneer panels can be customized with a variety of colors and finishes to meet exact specifications. The company offers a wide range of pre-finishing options including the UV-cured, flatline finish NOVA line; the anti-microbial NOVA SI; the laboratory-grade NOVA LAB finish; the popular NOVA Peak options, or completely custom color matching if needed. Parts can also be ordered pre-cut.

As mentioned earlier, some woodworkers include laminates in the pre-finished panels category, so it's worth noting that **Wilsonart** (wilsonart.com) introduced several new inspired-by-nature collections at the 2025 Kitchen & Bath Industry Show. The new designs are available in the company's Quartz, Solid Surface and Thinscape products, and together they elevate the aesthetics of natural-appearing manmade panels.

Kerfkore (kerfkore.com) makes both lightweight and flexible architectural panels. The former can be up to 80 percent lighter in weight than traditional materials, and both types of panels offer huge time savings over building in-house. This manufacturer can press a laminate, veneer, metal,

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Timber Products' new RhinoCoat protects pre-finished panels from microbes such as mold, mildew and bacteria.

leather, or similar semirigid material onto most of its flexible and lightweight custom panels. The woodworker can specify the decorative surfacing materials and either supply them or have Kerkore source them.

As of late spring 2025, the catalog at **Richelieu Hardware** (richelieu.com) included more than 400 premium panels, 60 multi-layer plywood panels, and 59 Wetwall panels for damp locations such as tub or shower walls, backsplashes and the like. The list includes dozens of pre-finished panels in many different materials from solid surfaces to laminates, and some interesting new green options such as HP laminates coated with a layer of brushed aluminum, copper or stainless steel. The decorative layer is either lacquered or anodized and provides permanent protection against corrosion and oxidation.

Most outsourcing suppliers will stain and coat panels, and even cut them to size. For

example, **WalzCraft's** finishing program (walzcraft.com) offers thousands of wood stain, glaze and SolidTone finish combinations that can be applied to any of the company's available wood species and grades. **Keystone** (keystonewood.com) offers more than 50 stains, glazes, and paint colors, as well as the ability to produce professional distressing effects. And **Elias Woodwork** (eliaswoodwork.com) offers sheet goods in whole sheet and cut-to-size options. The company's standard sheen for clear finishes is a low gloss post catalyzed lacquer (conversion varnish). Flat sheen is optional for stained or clear-coated products, and a low 10-degree sheen is the default for solid color lacquers.

The bottom line here is that pre-finished panels don't just save time: they also let a woodworker get very creative because they can add new levels of color, texture and tactile properties to the things that we build. **W**

Images: Courtesy of manufacturers



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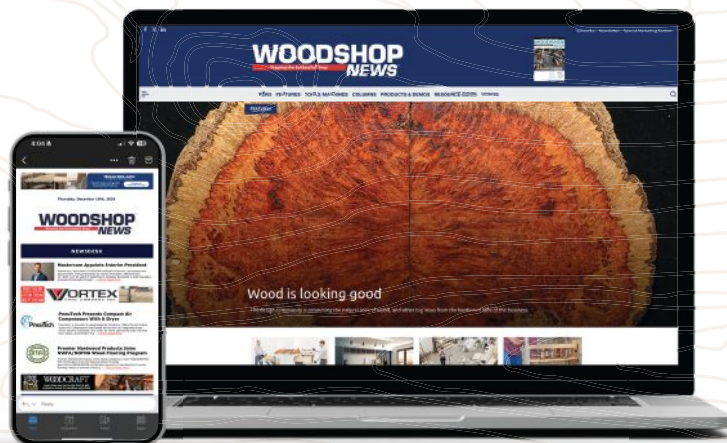
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(From left) "Two Energies Revisited" by Brian Sargent; Art Deco side table by Richard Oedel, and "Long Road Home" by Jeffrey Cooper in the Chairman's Show.

NHFM presents the Chairmen's Show

By Jennifer Hicks

The New Hampshire Furniture Masters hosted the Chairmen's Show, an exhibition of fine furniture, Apr. 8 through June 13, at the organization's gallery in Concord, N.H.

"For 30 years, the New Hampshire Furniture Masters has been led by volunteer chairmen who dedicate tremendous time and energy towards the management and direction of the group. The Chairmen's Show is an opportunity to recognize members who have taken on the highest role in the group and have shepherded the organization over the last 30 years," the guild said in a statement.

The exhibition included works by Jeff Cooper, Owain Harris, Garrett Hack, David Lamb, Tom McLaughlin, Terry Moore, Richard Oedel, Brian Sargent and Bill Thomas.

An opening reception was held on April 18 for the public to meet members of the organization and hear updates about events and programs associated with the 30th anniversary. Learn more at furnituremasters.org.

Graduate show

The Sam Beauford Woodworking Institute (SBWI) in Adrian, Mich., hosted its 2025 Graduate Show, May 30 -31, at the Adrian Armory and Events Center. It featured the work of 23 graduating students from the school's Wood Design program.

Free to the public, the annual exhibition invites visitors to view, purchase and commission unique pieces by



Work by Adam Davies (left) and Caroline Racine from the 2024 Graduate Show.

emerging furniture makers. Each student spent the past year honing their craft, and this show celebrates their creativity, technical skill, and artistic vision, the school said in a statement.

"SBWI's Wood Design program represents the highest level of training in furniture making," added Luke Barnett, president of the SBWI. "These students are entering the field as professionals, and the Graduate Show is their moment to share their work with the public and connect with collectors, designers, and patrons of the craft."

The SBWI draws students from across the country and around the world interested in everything from small projects to full-time careers. Learn more at sbwi.edu. **W**



STILES MACHINERY,

a provider of automation solutions, introduces the Homag Centateq N-300 Pro CNC router. The new Pro model features an auto-lubrication system to cut maintenance time and ensure optimal operation; enhanced air conditioning to extend run times and component life, and vertical safety light curtains to protect employees while allowing easier access to the machine "The N-300 series is the do-it-all workhorse of so many shops, whether they're doing cabinetry, doors, millwork, you name it," says James Swanson, CNC Project Manager at Stiles Machinery and Homag North America. "With the Pro, we've tailored the N-300 to be an even better solution to the increasing demands of manufacturers." Learn more at stilesmachinery.com.

MAKITA U.S.A.

introduces the 40-volt XGT 16-5/16" circular saw, model GSH06, for large timber, pressure treated lumber and wood logs. Billed as the 'world's largest cordless circular saw' the GSH06 can cut 6x material at 90 degrees and 4x material at 45 degrees in a single pass, according to the company. Learn more at makitools.com.



E-Z Lok,

a manufacturer and master distributor of threaded inserts for metal, plastic and wood, offers E-Z Hex (Hex Drive) inserts along with drive thread insert kits. "Generically referred to as Type D (flanged) or Type E (flush) insert nuts, E-Z Hex inserts provide sturdy machine threads in soft woods," the company explains. "These hex drives are an ideal solution for any application where assembly or disassembly could lead to thread erosion or stripping." Learn more at ezlok.com.



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introduces the UR15 cobot that can be quickly and effectively deployed and redeployed across a variety of work cells. The company says the "UR15 is our fastest cobot yet, reaching a maximum speed of up to 5 m/s, reducing cycle times and increasing productivity. Its lightweight design and small footprint deliver unmatched flexibility. UR15 removes the heavy lifting and repetitive motions in symbiotic collaboration with your workforce." Learn more at universal-robots.com.





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GUFFEY SYSTEMS, maker of the PivotPoint and PivotLine vertical finishing solutions, introduces the Drawer Box Hanger, a fast, easy, space-saving way to finish drawer boxes, according to the company. Designed for seamless integration with both PivotPoint stationary and PivotLine rolling spray hubs, the hanger lets finishers lift a drawer box to eye level, spray every side in one pass, and leave it hanging to dry. Learn more at guffeysystems.com.



DENIOS introduces Asecos under bench cabinets for the safe storage of undamaged lithium-ion batteries. The cabinets feature 90 minutes of fire protection from outside in or inside out, as well as a pressure relief valve that is normally closed but will open to release excess internal pressure should it build up, according to the company. Designed to fit underneath a desk or workbench, the cabinets are mounted on wheels for quick and easy relocation. Learn more at denios-us.com.





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Organizations sponsoring meetings, classes or shows of interest to professional or hobbyist woodworkers are invited to submit items to editorial@woodshopnews.com.

Include name, dates, location, description of event and a contact address or telephone number. Calendar items, which should be typed or printed clearly, must be received at least 60 days before the event.

Please note that fees, as listed, might not include materials or shop fees. Check with a specific class for further details.
— Compiled by Jennifer Hicks

ARIZONA

July 28-Sept. 4 — Fundamentals of Traditional Woodworking III. Students will practice various joinery and construction techniques to build a Shaker-inspired table. Location: Southwest School of Woodworking in Phoenix. sw-sw.org

Nov. 9-11 — Specialty Tools & Fasteners Distributors Association (STAFDA) annual convention and trade show. Location: Phoenix Convention Center. stafda.org

CALIFORNIA

Monthly — San Fernando Valley Woodworkers meetings are held on the third Thursday of each month at 7 p.m. at the Balboa Sports Center in Encino. sfvw.org

Monthly — San Joaquin Fine Woodworkers Association meetings are open to all experience levels at members' shops. For locations and dates, visit sjfwa.com.

FLORIDA

Ongoing — The Dunedin Fine Art Center is offering six-week woodturning classes at its Cottage Campus taught by AAW professional member Tony Marsh for beginners and intermediate-level participants. Full-day classes are held on Thursdays. Call 727-298-3322 or e-mail education@dfac.org.

Monthly — Woodcrafters Club of Tampa meets every third Thursday evening at 3809 W. Broad St. in Tampa. tampa-woodcrafters.org

MAINE

Ongoing — The Center for Furniture Craftsmanship offers year-round classes in woodworking to the highest degree of craftsmanship. One- and two-week workshops from June through October; 12-week Furniture Intensives; a nine-month Comprehensive; eight-week Turning Intensives, and Fellowships. woodschoool.org

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July 24-27 — Maine Japanese Woodworking Festival, featuring timber frame raising, hands-on workshops, expert instructors, and more. Location: Never Stop Building in Mercer. neverstopbuilding.com

Aug. 9 — The Maine Woodworking Event. Woodworking enthusiasts of all levels gather for demos, hands-on activities tailored to enhance skills and inspire creativity, artisan interaction and vendors offering tools and materials. Location: Black Tenon Furniture in Scarborough. themaine-woodworkingevent.com

MICHIGAN

Oct. 1-3 — Cabinet Makers Association's National Conference featuring keynote presentations, educational sessions, plant tours and more. Location: Westin Book Cadillac Detroit. cabinetmakers.org

MINNESOTA

Monthly — The Minnesota Woodworkers Guild meets on the second Tuesday of each month at various locations. mnwwwg.org

Monthly — The Minnesota Woodturners Association meets on the first Saturday of each month (except July) in Plymouth. They also offer a wide range of classes for

beginners and advanced turners. mnwoodturners.com

Oct. 11 — Sixth annual Woodworkers Expo, hosted by the Minnesota Woodworkers Guild, featuring over 70 exhibitors showcasing custom work and products, demos, and more. Location: Minnesota State Fairgrounds Progress Center in St. Paul. mnwwwg.org

NEVADA

July 22-25 — AWFS Fair, featuring over 500 exhibitors, educational seminars, networking opportunities, and more. Location: Las Vegas Convention Center. awfsfair.org

NEW HAMPSHIRE

Nov. 9 — Third annual New England Woodworking Competition hosted by the Guild of New Hampshire Woodworkers. Location: Granite State Room, MUB Center, University of New Hampshire in Durham. gnhw.org

NEW JERSEY

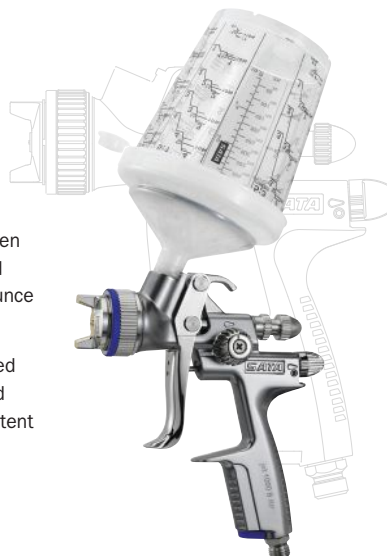
Monthly — The North Jersey Woodworkers Association meets the third Monday of every month. njwawoodworkers.org

Monthly — The Professional Woodworkers Guild of Upper New Jersey meets the third Wednesday of every month. njwoodguild.com

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NEW YORK

Monthly — The Woodworkers of Central New York holds meetings on the first Thursday of each month at 6:30 p.m. at the Belgium Cold Springs Fire Department in Baldwinsville. woodcny.org

Monthly — Northeast Woodworkers Association holds meetings on the second Thursday of the month at various locations in the Albany area. woodworker.org

Monthly — The Long Island Woodworkers meet on the first Wednesday of each month at 7 p.m. at the Frank Brush Barn of the Smithtown Historical Society in Smithtown. liwoodworkers.org

NORTH CAROLINA

Monthly — Triangle Woodworkers Association meetings are held on the third Tuesday of each month at 7 p.m. at Klingspor's Woodworking Shop. Location: MacGregor Village in Cary. trianglewoodworkers.com

Monthly — Charlotte Woodworkers Association meets the third Tuesday of each month, except December, at 6:15 p.m. Location: 8801 Park Road in Charlotte. charlottewoodworkers.org

Oct. 25-29 — Fall High Point Furniture Market. The furniture industry trade show features showroom tours,

vendors, speakers, educational seminars, and networking events. highpointmarket.org

PENNSYLVANIA

Monthly — Lehigh Valley Woodworkers Guild meets at 6:30 p.m. every third Tuesday of the month at the Woodcraft in Allentown. lvwwg.com

RHODE ISLAND

Nov. 7-9 — 30th annual Fine Furnishings Show. Location: WaterFire Arts Center in Providence. finefurnishingsshows.com

TEXAS

Sept. 13-14 — Texas Woodworking Festival. Location: Austin. texaswoodworkingfestival.com

Oct. 1-3 — National Hardwood Lumber Association Annual Convention. Location: San Antonio. nhla.com

VIRGINIA

Oct. 10-13 — Society of American Period Furniture Makers' annual conference, featuring presentations and more. Location: Williamsburg. sapfm.org **W**

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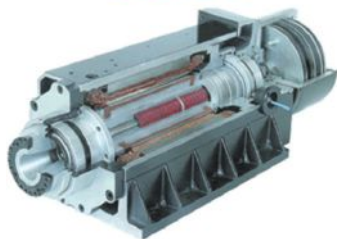
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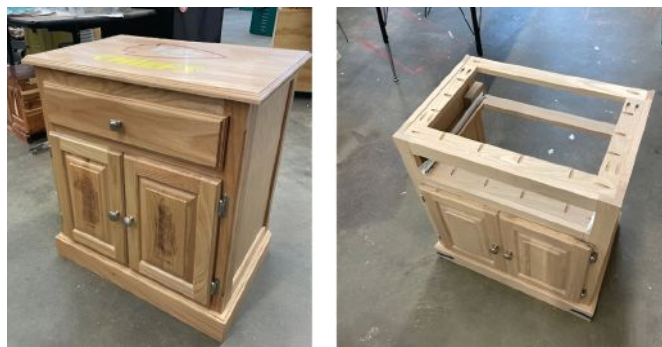
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Students pocket prizes in Castle USA contest

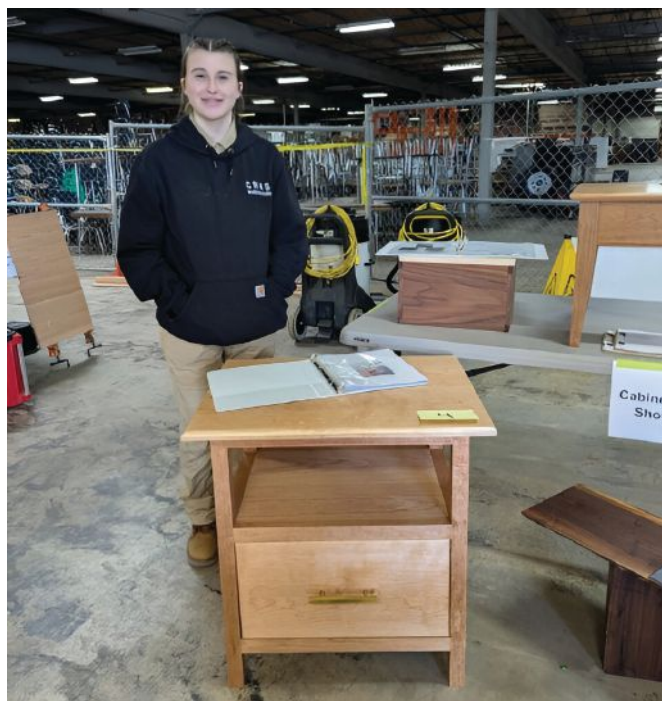
Castle USA, a manufacturer of pocket-hole joinery machinery, has announced the winners of its 2025 "What's Your Angle" student woodworking contest.

The annual contest honors winners in class and individual categories for work created using pocket hole joinery methods, though the use of Castle machinery or products is not required.

"We are all incredibly impressed by the craftsmanship of this year's entries," Mathias Forsman, CEO of Castle USA,



Class winner: Solid oak, raised panel nightstand by students at Wyandotte High School.



Honorable mention: Ava Smith of Cedar Ridge High School for a cherry nightstand.



Individual winner: Thomas Matthews for a modern farmhouse coffee table.

said in a statement. "Supporting excellence in student woodworking is an important part of our business here at Castle USA."

The Class winner was a solid oak, raised panel nightstand, constructed entirely with pocket joinery, by students at Wyandotte High School in Kansas City, Kan. The school won a Castle TSM-12 pocket cutting machine.

The Individual winner was Thomas Matthews of Cedar Ridge High School in Hillsborough, N.C., for a modern farmhouse coffee table. Matthews won a Castle 110 pocket cutter professional bundle.

Ava Smith, also representing Cedar Ridge High School, won Honorable Mention for a cherry nightstand. She also won a Castle 110 pocket cutter.

More photos of the winning projects and contest details are available at castleusa.com. **W**

60 Grit

Rough humor by Steve Spiro



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