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- Bag capacity: 12 cu. ft.
- Impeller: 14 $\frac{1}{2}$ " w/o balanced steel, radial fin
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- Static pressure: 14.6"
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- Intake port: 10" w/o manifold, 4" x 4 holes with manifold
- Collection bags: 2
- Bag filtration: 2.5 micron
- Approx. shipping weight: 326 lbs.

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10 HP DUST COLLECTOR

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- Airflow capacity: 5360 CFM
- Static pressure: 17.9"
- Impeller: 17" balanced steel, radial fin
- Intake port: 10" w/o manifold, 4" x 5 holes with manifold
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- Bag filtration: 2.5 micron
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- Switch: remote controlled magnetic
- Impeller: 16" steel
- Suction capacity: 2184 CFM @ 1.9" SP
- Filtration: 99.9% at 0.2–2 microns
- Steel collection drum: 55 gal.
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G0442 Single-Phase ONLY \$2495⁰⁰

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7½ HP CYCLONE DUST COLLECTOR

- Motor: TEFC Class "F", 7½ HP, 220V/440V*, 3-phase
- Cycle/RPM: 60 Hertz/3450 RPM
- Switch: remote controlled magnetic
- Impeller: 18" steel
- Suction capacity: 3468 CFM @ 4.3" SP
- Filtration: 99.9% at 0.2–2 microns
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- Table surface area: 23½" x 31½"
- Air suction cap.: 1040 CFM
- Approx. shipping weight: 208 lbs.

QUIET
OPERATION



H2936

- Motor: ½ HP, 110V, single-phase, open capacitor start induction, 6.5A
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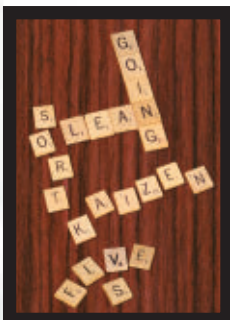




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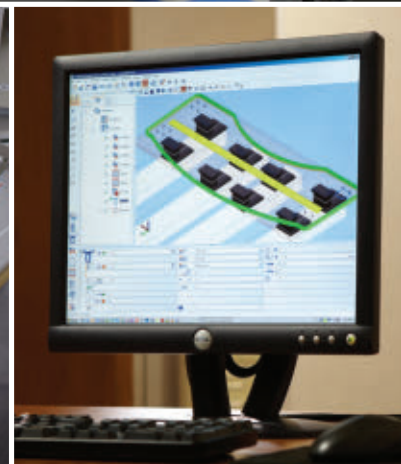
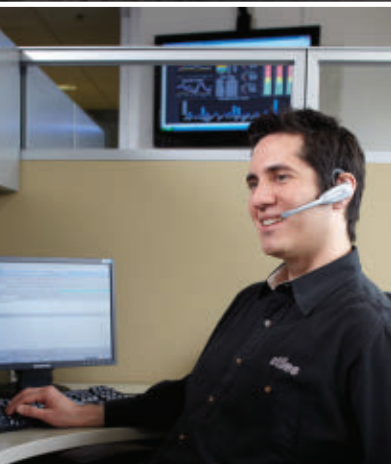
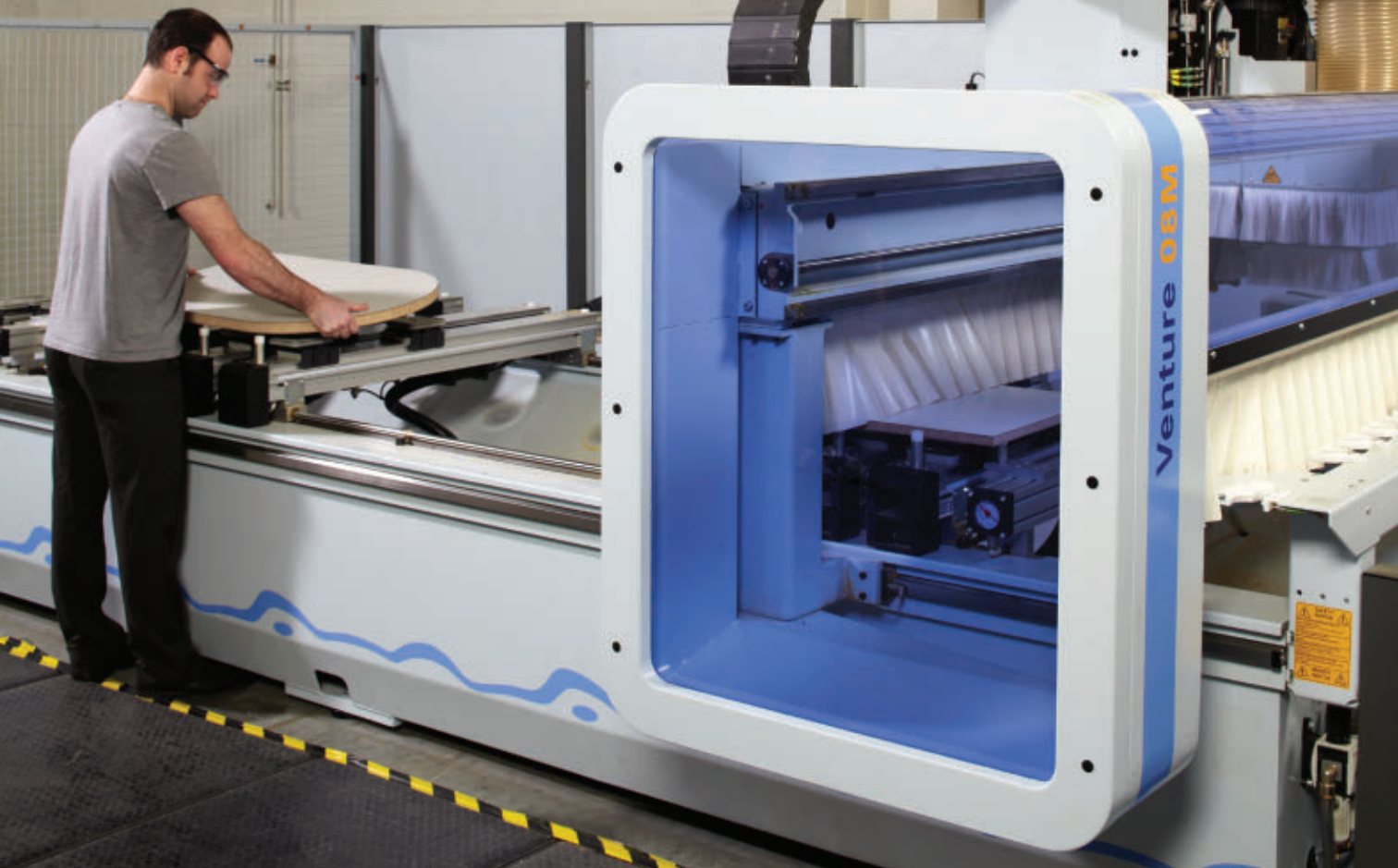
Software, equipment upgrades part of overall effort to reduce costs.

38 Changes in the FDM 300 in 2011

We list 11 new companies in the 2011 list, replacing woodworking firms that have closed or been combined with other companies.

60 Testing two new glues

Titebond offers translucent and no-run, no-drip formulations for woodworking.



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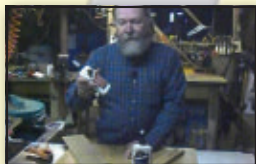
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Corporate headquarters

CCI Media LLC

P.O. Box 470, Fort Atkinson, WI 53538
414 807 3540

Publisher/President Tim Fixmer

tim.fixmer@ccimedia.net 414 807 3540

Editorial Team

Magazine Editor William Sampson

will.sampson@ccimedia.net 203 270 0025

Online Editor Karl D. Forth

karl.forth@ccimedia.net 815 966 5416

Contributing Writers Jim Lewis, Art Raymond,
Gero Sassenberg, Gene Wengert

Community Manager/

SEO Editor Kathleen McLaughlin

Managing Content Editor Tara Leitner

Art/Production Team

Senior Art Director Elizabeth Crosby

Production Director Bill Spranger

bspranger@wattnet.net 815 966 5428

Advertising Production

Coordinator Connie Miller

Sales Team

Market Manager Rob Roszell

*New England, Mid-Atlantic,
Southeast, E. Canada*

rob.roszell@ccimedia.net 919 967 0460

Regional Manager Lee Kulbarsh

West, Southwest, Midwest

lee.kulbarsh@ccimedia.net 760 720 0333

Europe Sales Anthony Rochman

anthonyrochman@btinternet.com

+44 208 880 8485

Taiwan, Hong Kong, China Sales Robert Yu

sales@wwstaiwan.com 886 4 2325 1784

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Changing for the better

It's funny that lean manufacturing is considered by so many in the woodworking industry as some new-fangled idea. After all, it was way back in 1984 – 28 years ago – when I met Shigeo Shingo and first heard the concept. Dr. Shingo and Taiichi Ohno led the 1950s team that developed the Toyota Production System, which is the foundation of what we call lean manufacturing today.

When I met Dr. Shingo, he was in his mid-70s, but he was just being discovered by American productivity experts even though his key principles had been in use for years. The humble Dr. Shingo told me himself that many of his production ideas were largely based on early 20th century concepts developed by American efficiency pioneers such as Frederick Winslow Taylor and expanded in the 1950s by Dr. W. Edwards Deming.

Resistance to change

So, what keeps the woodworking industry from adopting these ideas and benefitting from increased productivity and efficiency? There are a number of issues at work here that go beyond basic resistance to change. One factor is terminology. Many lean consultants and advocates bask in a sea of acronyms and special terms, many of which are Japanese. That can be very off-putting for the average American business owner who can't tell a *kanban* from a *poka-yoke* (see page 25). Such confusion helps consultants seem important but does little to improve efficiency.

Many concepts of lean manufacturing seem counter-intuitive at first. How can making one product at a time be more efficient than big batches? How can a lot of minor changes add up to huge gains in efficiency? One has to see the results to believe.

The tire change lesson

When I asked Dr. Shingo about this nearly 30 years ago, he smiled and asked if I'd ever had a flat tire on my car. Then he asked how long it took me to change the tire myself. I guessed about 10 minutes. He then asked if I'd ever seen how fast the pit crews at the Indianapolis 500 could change a tire – a matter of seconds. Now apply that kind of change to every part of your factory and see how much time you save. Woodworking industry lean experts share other examples in this issue. Sum it up with in another Japanese lean word: *kaizen*. But all it really means is making a change for the better. What are you waiting for? ◀



by **William Sampson**
will.sampson@ccimedia.net

A champion for reshoring

The new upholstery plants being built in Mississippi and the furniture factories reopening in North Carolina are part of a larger trend, and a good one. Reshoring is now part of the dialogue on American manufacturing and the economy.

Harry Moser, the founder of the Reshoring Initiative and former executive for an American high-tech metalworking equipment manufacturer, took part in the Insourcing Forum hosted by President Obama in the White House in January. The meeting included panel discussions with industry leaders and cabinet members and a speech by the president. Participants shared their experiences in bringing manufacturing jobs back to the U.S.



by **Karl Forth**
karl.forth@ccimedia.net

Hidden costs of outsourcing

Many American companies make sourcing decisions based on price and ignore the total cost of sourcing offshore, Moser explained. Increasing awareness of the total cost of ownership has been one of the Reshoring Initiative's primary objectives and the January event represents a major milestone in that effort.

Stateside manufacturers can go to www.reshorennow.org to see the Total Cost of Ownership Estimator, a free tool that companies can use to determine costs and make comparisons in the sourcing decision.

The Reshoring Initiative wants to bring manufacturing jobs back to the United States by helping U.S. manufacturers recognize the profit potential of local sourcing and production.

Lower volume, innovation priority

Moser told *CabinetMaker+FDM* that companies that are bringing manufacturing back to the U.S. are generally those that should not have offshored in the first place. These companies may deal in lower volume, require lower labor content, and place a priority on innovation. Overlooked costs in outsourcing include intellectual property risk, delivery, quality, and the impact on innovation from separating manufacturing from engineering.

For 2012, the Reshoring Initiative plans to analyze its database of users of the Total Cost of Ownership Estimator, and look at the cost to society of offshoring. The initiative plans to develop a library of 300 published articles on the reshoring trend, and templates for companies, magazines, and associations to post reshoring successes in a standard branded format. We'll have more about this important group at www.cabinetmakerfdom.com. ◀



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Vaughan-Bassett opens plant, add jobs in Virginia

Vaughan-Bassett Furniture Co. will create 115 new jobs when it reopens an old furniture manufacturing plant in Galax, Va., according to The Business Journal.

The furniture maker purchased a former Webb Furniture Enterprises bedroom factory, which closed in 2006, for \$1.5 million. Vaughan-Bassett says it will invest about \$8 million into the facility, which will machine, assemble and finish bedroom furniture, in addition to expand the company's rough lumber cutting operations. The new Vaughan-Bassett factory is expected to open in March, and an expansion to the company's existing factory is expected to be completed in July.

To read further, please go to www.bizjournals.com/triad/news/2012/01/26/Vaughan-Bassett-opening-factory.html.

Manufacturing jobs from China to return to U.S., Obama says

President Barack Obama's recent State of the Union speech provided some hope for jobless Americans as he said his administration will work to bring jobs sent overseas by American manufacturing companies back to the U.S. over the next decade.

As many as 600,000 to 800,000 manufacturing jobs may be added in the U.S. as production shifts from abroad, said Harold Sirkin, a partner with Boston Consulting Group. Sirkin estimates gains could be 2.3 million to 3.2 million when accounting for the creation of additional construction, transportation and retail jobs needed to support the manufacturing industry. He says a "manufacturing renaissance" in the U.S. will make up nearly \$2 trillion in

annual U.S. consumption and a share of 70 percent of U.S. imports from China.

This shift in manufacturing jobs can be attributed to China's rising cost of labor and coupled with declining domestic labor costs, increasing costs to transport products back to the U.S., and companies looking to manufacture a better product and have more control over the process.

"So we have a huge opportunity, at this moment, to bring manufacturing back," Obama said. "But we have to seize it. Tonight, my message to business leaders is simple: Ask yourselves what you can do to bring jobs back to your country, and your country will do everything we can to help you succeed."

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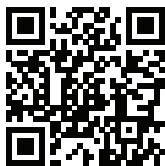
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Gluing tips: How to make strong joints

Here are 15 ways to ensure better adhesion in wood joinery applications.

Q. I recall that you stated in your column that the adhesives we use for wood are stronger than the wood itself. True? If so, I need to know what factors are critical in making a strong joint. The reason I ask is that we are getting glue joint failures and not wood failures.

A. With the adhesives we use for making furniture, cabinets and so on, the adhesive joint has the potential to be 50 percent stronger than the wood itself. In other words, if a panel or other item breaks, it should never crack (even a small crack) or break along the glue joint. If it does, you are doing something wrong. So here are the main factors in developing a strong joint.

1. You need a fresh surface for the wood and the adhesive to bond chemically. The strongest joint will be made when a surface is glued minutes after it is prepared. As time goes on, the surface attraction for glue (technically called surface activation) drops. Within a week, there would be a measurable drop, especially if the wood is in a dusty atmosphere. See also No. 3 below.
2. A glue joint between two pieces of wood starts to weaken when the two pieces of wood are further than 0.006 inch apart. (Note that 0.006 inch is one-fifth of a 1/32 inch; really small indeed.) (Also, if closer than 0.002 inch, there is not enough glue to form a strong joint.) It is critical that the wood pieces being joined be perfectly flat. You should strive to make the tolerance in preparing these surfaces about 0.003 inch if you want the strongest glue joint possible. Of course, with 50 percent extra strength in a glue joint compared to the wood's strength, we can be a small bit sloppy and still be OK.
3. After a surface is prepared, there is a risk that moisture changes can occur in the wood strip while waiting to be glued. (Many times the wood is at 8 percent MC but the plant's atmosphere is only at 5 or 6 percent EMC, especially during the wintertime. Such moisture differences mean moisture changes in the wood and these changes will cause the surface to become non-flat; gaps over 0.006 inch are likely. To prove to yourself that prompt gluing after the surfaces are prepared, walk a few pieces through the system without delay and see how good the quality is. In one plant, their rejects after gluing dropped from about 10 percent to 2 percent when they avoided a delay.
4. Although it is a bit more critical in handling, I do believe that for many operations using a liquid system rather than powder will give you a more consistent glue mixture and will eliminate a potential problem with lumps, poor mixing, and so on. At the same time, handling the liquid system is a bit more critical.
5. Both the glue and the wood must be

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The adhesive joint has the potential to be 50 percent stronger than the wood itself.

at room temperature. This may mean that the heat, if turned down for the weekend in the wintertime, will need to be turned back up Sunday night so that the wood is warmed up by Monday morning. Be aware that in the hot summer months, it is necessary to use a slightly different glue mix to avoid the thin, more liquid, more "runny" glue because of the warm temperatures.

6. You must have enough glue in the joint prior to applying pressure. We cannot develop a strong joint if there is too little glue. The glue application and spreading system must be adequate. Employees involved in gluing should be alert to situations where glue spread is inadequate; someone needs to immediately figure out why there is a problem and fix it.
7. When the pressure is applied, it takes a few seconds for the excess glue to be squeezed out. Once the pressure is applied, it is super critical to make sure that the actual pressure does not

drop (such as might happen if the hydraulic pump performs poorly). A drop in pressure, even a small drop, will allow the joints to open slightly and because there is no longer excess glue, a weak joint will be formed. Likewise, if a problem arises when the pressure is first applied and then the pressure is released to realign the wood pieces (or whatever) and then pressure is reapplied, the resulting joints will likely be substantially weaker.

8. We will get the strongest joint when the wood has a clean, but slightly rough, surface. With the nooks and crannies formed by planing, sawing or sanding a surface with sharp tools or sandpaper, the glue will be able to also mechanically attach to the wood (in addition to the normal chemical attachment). At the same time, we do not want the surface to have loose fibers. The sanded surfaces should be inspected with a 10x to 15x magnification glass to check the surface quality.

9. It is critical that surfaces being joined were not heated to more than 160 F when they were prepared. Overheating will inactivate the surface and this means poor chemical bonding. The source of heating could be if the strip stalls in the sawing, moulding or sanding operation. Dull tools or dull sandpaper will also generate excessive heat. Measure the temperature of the surface immediately (seconds) after the surface is prepared using a portable temperature sensor gun.

10. It should be appreciated that the maximum strength of the joint will not develop right when the panel leaves the press, but will develop in the 12 hours afterwards. Avoid excessive stress on the joint until the joint is fully cured.

11. If one of the pieces being glued is slightly warped, but is then pushed straight in the press, this piece will try to return to its warped shape after gluing. This stress that is created will be subtracted from the useful strength of a glue joint; in other words, the joint will not appear to be as strong. Avoid using warped strips.

12. Normally, the wood fibers (also called the grain) will run lengthwise (parallel to the length) of a piece of wood. You can get a slope of grain (SOG) when the sawmill is sawing crooked logs, when the sawmill uses incorrect sawing procedures, and around a knot. A small SOG of 1:12 can substantially

reduce the strength of the wood, but perhaps more importantly is that such SOG also is prone to weak glue joints as the liquid in the glue is soaked up by the grain before pressure can be applied.

To help avoid a problem, work with the sawmillers, especially those in



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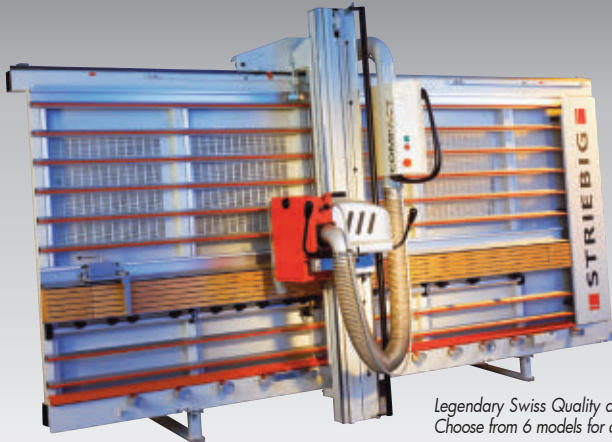
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smaller mills, to avoid sawing pieces that will have steep SOG. Also, when defecting lumber, especially on a larger knot, do not defect too close to the knot. Allowing a bit more wood around the knot to be defecting will lower yield, but the strips produced will be better in quality and will glue better.

13. The adhesives we use on wood are designed for a specific moisture content, especially PUR adhesives. Wood that is too wet will not develop the maximum strength joint. Also, wood that is too dry will also not develop the strongest joint. Moisture control is a critical issue for strength; 6.5 to 7.5 percent MC is ideal in most cases. I might add that the only way you will know the moisture in a piece of wood is to measure it yourself; do not rely on someone else's information.
14. The pieces being glued must have the surfaces being glued at 90 degrees to the faces. If the surfaces are a bit off of true, then the pressure will cause a panel to bow up slightly. To correct this, oftentimes pressure is applied to the top of the panel; sometimes a hammer is used to pound the panel flat. Either technique is a big mistake. This top pressure actually will open a few joints a few 0.001 inch, and, because the excess glue has already been squeezed out, the open joints will be without enough glue to form a strong joint. Get square surfaces before gluing. One source of un-square surfaces is cupped lumber that is fed to a gang rip saw; work on eliminating cup. Oftentimes planing before ripping will help, but better drying is also important.
15. Be picky; accept nothing but the best. ◀

Gene Wengert, "The Wood Doctor," has been training people in efficient use of wood for 35 years. He is extension specialist emeritus at the University of Wisconsin-Madison.

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Office furniture manufacturer KI to expand Green Bay, Wis., plant

KI, a manufacturer of educational, office and health care furniture systems, is beginning work on a \$3.3 million expansion project for its Green Bay, Wis., manufacturing location.

KI says the expansion will add 100,200 square feet of manufacturing, shipping, receiving and warehousing space to its current plant, and add 30 to 50 jobs over the next 12 to 24 months, once completed in June.

The facility manufactures KI's contract seating and educational furniture. For more information, visit www.ki.com.



KI will begin construction on its 100,200-square-foot addition in February at its Green Bay, Wis., manufacturing facility.

C.H. Briggs to distribute Valspar wood finishes in mid-Atlantic U.S.

C.H. Briggs Co., a distributor of specialty building products, was awarded distribution rights for Valspar wood finishes in the mid-Atlantic region.

C.H. Briggs will distribute Valspar's full range of stains, varnishes, lacquers, topcoats and other wood finishes. The company says a full stock offering will be available to ship in February. For more information on the company's offerings, go to www.chbriggs.com.

Blum to manufacture new cabinet drawer runners at U.S. facility

Blum, a manufacturer of functional hardware for cabinets, is currently installing production lines to manufacture new Tandem plus Blumotion drawer runners at the company's U.S. facility in North Carolina.

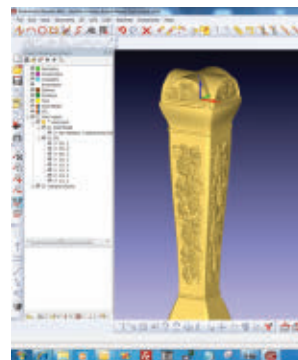
Blum says it plans to launch the Tandem plus

Blumotion runners by the end of summer 2012. The new Tandem plus Blumotion concealed undermount runners will have four-dimensional adjustment, with increased stability and an increased load rating, according to the company. For more information, please go to www.blum.com.

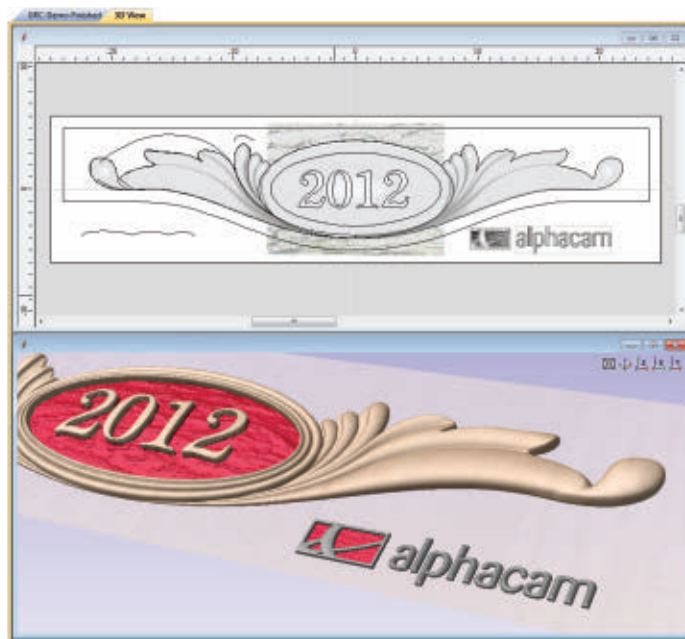


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Why lean?

Lean thinking means more than increased efficiency; it boosts stakeholder value, too.

A question was posed to me recently that I have addressed many times, and it is one that is alluded to in every article I write. The question is, "Why lean?" It's a simple question, and it deserves a simple response, but the question isn't as simple as it appears.

I could respond that lean makes good business sense, but that only captures the intent, not the dynamics of the lean business philosophy. Maybe the best response can be found in my new, soon to be released book, "Testaments to Lean – Cases for Change." It was shared with me by a businessman whose career spanned all areas of the furniture industry's organizational structure in both manufacturing and retail. Here's what he said:

Reasons for lean

Of all of the options that are intended to make a company more competitive and profitable, why are so many executives turning to lean? There are a number of philosophical reasons why lean is important, such as the elimination of waste and non-value-adding activity, the creation of flow that links demand with delivery capability, tapping into the creativity and innovation of the workforce, increasing margin and profit, maximizing existing resources, and positioning the company for growth, but the fact of the matter is, when Lean is properly applied it will increase stakeholder value.

Increasing stakeholder value requires two primary business strategies:

1. Productivity strategy
2. Growth strategy

Lean contributes significantly to these strategies, specifically:

1. Lean increases productivity by:
 - a. Improving the cost structure
 - b. Increasing asset utilization
2. Lean creates growth in a company by:
 - a. Expanding revenue opportunities
 - b. Enhancing customer value

Lean increases stakeholder value through increased profit by:

1. Increasing the agility of company staff to respond to customer expectations
2. Increasing production flexibility to handle the complexity of multiple product lines
3. Increasing visibility across the supply chain to accurately track raw materials, work-in-process, and finished goods.

The only things that
are missing are your
commitment to changing
the way you do business
and your willingness to
unleash the bottled-up
creativity and innovation
that resides in every one
of your employees.

Optimizing plant operations for maximum cash flow and return on investment requires the business leader to improve all production-impinging processes. Gaining better control of these processes will help him simplify complexity, manage cash flow, avoid over-producing or under-producing, and



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compress manufacturing cycle times. These improvements lead directly to a higher return on assets employed and enhanced customer value.

Lean builds long-term stakeholder value by improving cost structure and increasing asset utilization. Similarly, because every dollar not lost to labor, equipment, facilities, or inventory can be used to generate revenue, lean expands revenue opportunities and enhances customer value. Aren't these values and objectives exactly the results you are trying to achieve?

Lean to compete

Not only will lean enhance and improve your company's financial position, but lean will position your company competitively as well. Your company, regardless of its size and business segment, is not alone in its struggle against domestic and global competition in today's marketplace.

Competition from the Pacific Rim and from around the corner are encroaching on every industry that's perceived as a profitable center of activity and where market penetration is relatively easy. The playing field in this flattening world is becoming far from level. Unfortunately, many domestic managers and executives are so immersed in the daily survival mode that they can't focus the attention necessary to retain competitive advantage as the playing field levels around them. Decisively embracing the lean business philosophy is the only way

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+ LEAN

for domestic manufacturers to once again become dominant players in the marketplace.

There is no reason why that status cannot be attained at your company, regardless of its size. The only things that are missing are your commitment to changing the way you do business and your willingness to unleash the bottled-up creativity and innovation that resides in every one of your employees.

It really works

I'm sure the emphatic references to how lean "will enhance" and "will position" your company to be more profitable and more competitive seem like bold statements, but they are true. It has been my experience that every business that is led by executives who are committed to lean and staffed by an empowered and actively engaged workforce has enhanced profits and positioned the

Executives
side-step lean often
because they are
unwilling to commit
to change.

company for growth, regardless of the economic climate.

Maybe the answer to the question, "Why lean?" is so simple that it seems too easy to be true. If that's how you perceive it, you're right. The answer is very simple, but the primary reason why so many executives and business leaders are side-stepping lean is because they are either unwilling to make the necessary commitment to change or they don't understand what that commitment entails.

You don't have to stay in that group of business leaders. If what you are doing today isn't delivering the desired results then it's time to turn from your current business practices and embrace lean thinking. If you are wondering what a "commitment to change" entails just pick up the phone and dial 616-295-8077 and ask for Jim. You'll be glad you did. <

Jim Lewis has worked in the furniture industry for more than 30 years with a special emphasis on facilitating the transformation to the Lean Business Philosophy. He is an independent lean business consultant, author, and writer. Jim's most recent book, "Story of a Lean Journey," chronicles the journey of one company through the lean transformation process. The book is available through the Society of Manufacturing Engineers (SME.org), and amazon.com

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Carl Spencer has rigorously applied the Toyota Production System to his small cabinet shop in Monroe, Wash.

Every business wants to be more efficient and profitable, but the majority of wood-working businesses in North America have not embraced a system that promises to do exactly that. We are talking about what is commonly described as lean manufacturing, but it has its roots in the Toyota Production System, which has transformed not only that company but also many others around the world.

Because of those Japanese roots, a blizzard of terms, acronyms, and some counter-intuitive concepts, lean manufacturing has not been as widely adopted in the woodworking industry as one might think. But from those who have really embraced lean, the success stories are often spectacular.

To help demystify lean and make it easier for more manufacturers to take the first steps toward lean thinking, we talked to experts drawn from the woodworking industry. They range from corporate consultants to small shop owners. Some have written books on the subject. One turned a garage-based cabinet shop into a multi-million-dollar product development company. They all have in common the language of lean thinking.

Paul Akers: 2 second lean

When you meet Paul Akers, president of FastCap in Bellingham, Wash., you have to be impressed by his boundless energy. He's always moving, always enthusiastic and always on the lookout for good new ideas. That's

how he started FastCap, with one good idea: an adhesive screw hole cover. That changed his business from a cabinet shop to selling products to other cabinet shops. But early on it took a setback to introduce him to lean thinking.

"It was a rude awakening," Akers recalls. "We were doing incredibly well. The bank was willing to give us a big loan to expand. But then a guy walks in to help us with an inventory problem and he basically told us our business was a piece of crap."

FastCap was generating way too much inventory and not moving it fast enough, the consultant said. Akers was taken aback. About the same time two young men fresh from studying lean production techniques in Japan offered their services. "I hired these guys, and they wanted to tear (the whole operation) apart, and I let them do it," says Akers. "Oh my God, I was clueless. It was brutal. It was rude."

But adopting lean techniques put FastCap on the fast track. Akers tells how it affected one of his products, the LaserJamb laser leveling device. "We were making 100 at a time," Akers explains. "Everything was done in big batches." That seemed efficient, but if they found out something was wrong, they had to rework 100 units. He didn't believe it when the consultants told him they were going to make them one at a time. "We took a



Paul Akers talks about lean during a daily meeting at FastCap in Bellingham, Wash. All of his employees take turns leading the meetings.

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45-minute process and turned it into 7 minutes,” he says. “You just don’t realize how much waste there is.”

Akers has become a vocal advocate for lean. He’s visited factories around the country and in Japan. He even promotes lean thinking in a weekly radio broadcast. His advice to those starting their lean journey is to be consistent. “It’s better to do a tiny bit of lean every day than do a ton of it and stop and start,” he says. He wrote a book to that effect called “2 Second Lean.” It talks about his experience and recommends a process of continuous improvement to try to save at least 2 seconds every day.

Akers is also very people oriented and emphasizes training. Through extensive training he has created a complete lean culture at FastCap. “You have to train people on a daily and weekly basis,” he says. “The number one thing is leadership.”

Jim Lewis: **Transforming a factory**

Involved in furniture manufacturing for decades, Jim Lewis first encountered lean in the 1980s. “I was first awakened to it when I was a senior manufacturing engineer at Steelcase in 1989,” he recalls. Undergoing a plant reorganization and consolidating operations in a larger facility introduced him to concepts of cellular manufacturing and flow. “It got me excited about the things that could be done,” he says.

Jim Lewis
discovered
lean when he
was working
at Steelcase
in 1989.



Lewis has long worked as a lean consultant helping manufacturers transform their operations. One of the most dramatic examples he recalls involved the Hallagan Furniture plant in upstate New York. The century-old business was under new leadership from the fourth generation of family ownership. “We wanted to implement a team cell. That’s the toughest cell because it was going against the culture, getting everyone cross trained,” Lewis says. “Now they have one cell with nine people who can support all the operation. It’s an amazing transformation to see that happen there. They’ve been able to expand their market in a down time for upholstered furniture. They’ve expanded product offerings and the region they serve, and they have increased their flexibility, all through lean.”

Lewis says it is crucial to the success of lean to get everyone engaged. “Don’t leave anybody out,” he cautions. He says the Hallagan project worked because ownership embraced lean thinking and was adventurous. He says the place to start is with basic workplace organization using the lean 5S system (see the glossary of lean terms). Just as it takes engaged people and strong leadership to succeed, Lewis warns that all affected need to grasp what’s involved. “There has to be understanding of what the commitment to the process means for the leadership of the organization,” he says, and he urges seeking professional advice.

Bob Buckley: **Lean and the one-man shop**

Lest one think that lean is only for big factories, take the example of Bob Buckley. He has never had more than a handful of employees and now is actually

+ **Glossary of lean terms**

5S: A lean workplace organizational tool. In Japanese, the 5S stands for seiri, seiton, seiso, seiketsu and shitsuke. In English, they are usually translated as sort, set in order, shine, standardize, and sustain.

Gemba: The shop floor. Often used as in a “gemba walk,” meaning a tour of production to see what can be improved.

JIT: Just In Time, a process for reducing inventory and carrying costs often relying on kanban to streamline production flow.

Kaizen: An improvement or literally “change for the better,” the process of continuous improvement. Often used as in a “kaizen moment” or a “kaizen session.”

Kanban: A tool to trigger production activity such as a card in a bin that triggers reordering of a part. In fact, the original Japanese meaning is a “visual card” or “signboard.”

Muda – Waste: Anything not perceived as value by the end user is waste. Lean thinkers refer to seven wastes: Transportation, Inventory, Motion, Waiting, Over-processing, Over-production, and Defects (TIMWOOD), but some add an eighth, unused employee genius.

Poka-yoke: Something that ensures no defective parts can go past a certain point; a no-go gauge.

SMED: Single-Minute Exchange of Dies. Rapid tooling changeovers are key to reducing batch sizes and streamlining production.

TOC: Theory of Constraints. Production flow strategy promoted by Eliyahu Goldratt in “The Goal” and often used by lean thinkers.

TPS: Toyota Production System. The manufacturing method developed by a team at Toyota, including Taiichi Ohno and Shigeo Shingo has been generalized and was first described as lean manufacturing in an MIT study led by Jim Womack, who founded the Lean Enterprise Institute.

+ GOING LEAN

down to being a very productive and profitable one-man shop in LaVergne, Tenn. He first encountered lean thinking at a seminar featuring Stephen Covey talking about efficiency expert Edward Deming. That eventually led him to Eliyahu Goldratt's book "The Goal," a business novel that introduces the Theory of Constraints, which is all about effective production flow.

Buckley strongly believes that lean thinking enhances TOC, but they need to be used together. "It's like a steel chain with one plastic link," he says. "Tell me what you are going to do by improving any one of those steel links without doing something about the plastic one. I use my lean toolbox once I find my constraint. TOC leads me to the core problem."

Buckley's company, True32, is named for the 32mm cabinet manufacturing system he uses and promotes. "True32 has been on a mission of continuous im-

provement since 1999," he says. He fairly recently pared his operation down to just himself. In one nine-week period with just one man in a 5,600 square foot building, he was able to produce \$92,000 in cabinets. He has a lead time of just three days to a week, but he knows of one lean small shop that successfully operates with a lead time of just one or two days.

Buckley says systems such as lean manufacturing work best when the people involved understand everything in the process start to finish. He recommends people start off by reading "The Goal" with its accessible novelized format. "People can put names on the characters in the book (from their own experience)," he says. "It allows them to personalize it."

Buckley echoes what others say about encouraging full involvement. "You've got to build the culture where everybody is empowered," he says. "Lean has to be bottom up. TOC is more top down. Not everybody has profound

Bob Buckley combines lean and Theory of Constraints techniques to run his cabinet shop in LaVergne, Tenn.



knowledge of the entire process."

He is very interested in automating processes, confessing that he is a "horrible manager of people." So, he takes a systems approach wherever possible. "A cabinet shop is a series of dependent events. With TOC, I design systems for those events," he says, pointing to the example of his kanban system that automates ordering processes. Buckley describes his processes in great detail in his book "True32 Flow Manufacturing."



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Gero Sassenberg: It's all about value

It was a book that first opened Gero Sassenberg's eyes to the value of lean thinking. "Basically I read a book about it, and the logic of it made such good sense, although a lot of it is counter-intuitive," says Sassenberg, who has spent some 40 years in the woodworking industry, working in South Africa, Europe, and the United States.

For some years he was a consultant to California Closets. "We set up 70 plants, going from a mixed approach to supply and setting them up to flow manufacturing," he says. "That made a big difference to their bottom line." Sassenberg focuses on a key tenet of lean thinking: waste and value. "When you start, you have to understand the only thing that has value is what's seen through the customer's eyes, and everything else is waste," he says. "That's the simplest and most poignant reason to consider lean."

He advocates a straightforward approach, especially in small plants. "Smaller companies don't have the luxury of having lean teams," he says, recommending motivating staff to do very simple things. For example, tabulate all go-backs and put a number up on the wall every day. "It's a simple approach to monitor your progress."

Sassenberg says shops must identify their core competency. "Smaller companies take on all aspects of business and they don't have expertise in all of them," he says. He advocates extensive use of outsourcing where appropriate.

Objection to any change is the biggest stumbling block to adopting lean, says Sassenberg. "It's the comfort level that people have, the attitude that if it's not broke don't fix it. They fight it. They fight new machinery. They fight new technology. It's not even funny." He gives the example of resistance to use of the metric system. "I tell them 300mm is about 12 inches; 600mm is 24, etc. Then

I give them metric tapes. For four days they hate it, and then they love it. You have to do it with a little wileyness," he says with a chuckle.

Carl Spencer: A cabinet shop powered by TPS

After working for large manufacturers and trying diligently to adopt the Toyota Production System with only limited support from senior management, Carl Spencer has finally found his dream job.

Gero Sassenberg has found lean to be a valuable tool in his 40 years in the woodworking industry.



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+ GOING LEAN

He owns and operates a small cabinet shop in Monroe, Wash., that has completely embraced TPS. His introduction to lean thinking came in a class when he was employed by Fleetwood and working on his masters degree at Cal State San

Bernardino. He immediately saw ways that Fleetwood could benefit from lean even though he describes Fleetwood as a very lean company for its times.

Then his eyes were really opened when he went to work at the Starmark plant in Lynchburg, Va. "In a matter of less than six months we turned the worst

plant we had into one of the best," he says. "We took a 10 day lead time and got it down to 3 to 3-1/2 days." The company previously had a terrible record for on time and complete, with the naturally ensuing customer service issues. After the lean transformation, Spencer says the customer service person had to be moved to scheduling because he had nothing to do in customer service.

Spencer suggests it is important for

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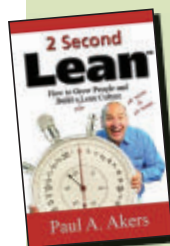
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Carl Spencer has worked to implement lean manufacturing at large and small operations and says top management involvement is crucial to success.



+ A lean library

Here are some books that provide a good foundation for understanding lean manufacturing and adopting it in your workplace.



2 Second Lean, by Paul Akers. Subtitled "How to Grow People and Build a Fun Lean Culture," this quick and entertaining read follows Akers' adventures going from a garage-based cabinet shop to a multi-million-dollar international product development corporation. Available as a Kindle book.



The Goal, by Eliyahu Goldratt. This book is written as a novel but introduces the Theory of Constraints. TOC is not strictly a lean concept, but many lean thinkers, including Bob Buckley and Carl Spencer, highly recommend this book.

those considering lean to visit other lean operations. "Visit a plant that is already well down the line. I had the benefit of that. I persuaded Fleetwood to let me visit Lantech Engineering. You could see how well everything worked," he says.

"Many of the consultants I've dealt with start and end with 5S," he says. "It's easy to get discouraged. But if you see the entire comprehensive thing that brings in several years of continu-

ous improvement, then you know what you want it to look like at the end."

Naturally, Spencer says the biggest stumbling block to avoid is not getting enough support from top management. "If top management doesn't get it and they aren't deeply involved, you might as well forget it," he says. "Top management

has to be on the floor. They have to basically live on the gemba (shop floor). Top management is usually more interested in sales dollars and rarely grasp the strategic importance. Think of a company that can fabricate and ship in one or two days in an industry where everyone else takes one to two weeks." <

+ Want more?

Two experts mentioned in this article are available to consult on lean transformations. Columns by them are available at www.CabinetMakerFDM.com or contact them directly.

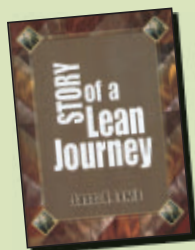
Jim Lewis: 616-295-8077;

usti@wmis.net

Gero Sassenberg: 704-907-9891;

woodnet@carolina.rr.com

The Gold Mine, by Freddy and Michael Balle. A novelized depiction of a lean turnaround. **Lean Thinking**, by James Womack and Daniel Jones. The book that really popularized the term "lean manufacturing." Many consider this the fundamental text on the subject.



Story of a Lean Journey, by Jim Lewis. This book chronicles the journey of one company through the lean transformation process.



True32 Flow Manufacturing, by Bob Buckley. This book goes into great detail to explain how the author adopted the 32mm system, TOC and lean thinking in his cabinet shop.

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Pietsch, Hale



Often fixtures and millwork items are loaded on trailers in the reverse order the installer will need them, to make sure that the next items needed for installation is next off the truck.

At a glance

Who: TJ Hale/A.J. Pietsch

What: Merger of two long-established companies -- Pietsch (1916), Hale (1950), combined 2011

Where: Menomonee Falls, Wis.

Primary products: Retail environment needs and architectural millwork

Plant size: over 105,000 sq. ft. office/manufacturing, 165,000 sq. ft. warehouse/fulfillment

Employees: 130

Annual sales: \$30 million plus.



When Hale purchased Pietsch in September 2011, it created a company with 130 employees and upwards of 300,000 sq. ft. of manufacturing, office, and warehouse space.

merge histories, manufacturing expertise

Two Wisconsin companies form unique partnership in store fixtures, millwork.

Two strong Wisconsin companies recently joined to form a hybrid manufacturing firm through a seamless transition. TJ Hale Company, a retail interior environments manufacturer, joined forces with another Milwaukee area company, A.J. Pietsch Co., to form an alliance of two companies with more than 150 years experience in the secondary wood processing industry.

When Hale purchased Pietsch in September 2011, it created a company with 130 employees, upwards of 300,000 sq. ft. of manufacturing, office, and warehouse space, as well as a national presence in retail interiors (Hale) and specialty architectural millwork (Pietsch).

Combining cultures

So what were the major challenges re combining the two companies? Was there a “culture” difference between the two companies? “The cultures were rather similar,” says Hale CEO Robert Rosean. “Differences existed due to size and markets served, but were also seen as complementary and perhaps synergistic in terms of serving existing customers of both organizations.”

Still, there were some adjustments, particularly on the production side. “The processes at TJ Hale are more developed, and the scope of the organization allows for more specialization in roles,” Rosean says. “The ERP system in place at Hale formalizes and documents many of the functions done ad hoc in a smaller organization. There is obviously a learning curve for the veterans of the smaller shop (Pietsch), but also more resources and depth of experience are available to serve our clients here.”



Demanding installations like this one at Perimeter Sporting Goods in the Milwaukee area required the newly merged Hale staff to reverse calculate all production and delivery dates from the ship date to meet customer requirements.

Increased payroll

The combined organizations have grown payrolls over 35 percent and revenues over 50 percent in the last 12 months, according to Rosean. The combined company is located in Hale’s facility in Menomonee Falls, north of Milwaukee. “Future growth for the combined company is the key goal,” says Rosean.

“We’re very excited to see this combination to its full potential over the next three to five years” Rosean adds. “We have great confidence in the Wisconsin talent brought to bear and in the potential of increased manufacturing expertise this brings to our clients. An essential key to our past success and that of our future is the skill of our companies – as we bring new generations into our business, we are excited to see the experience of all these years bestowed unto these next generations.”

The combined organization continues to serve local architectural millwork needs as well, and site-specific perimeter retail opportunities that were not a major focus of either organization before the combination.

“In addition to the addition of skilled employees, it was a purchase of selected assets of A.J. Pietsch by TJ Hale,” says Rosean. “The prior location of Pietsch, which was an older building with a less efficient layout, was not included in the deal. Much of the existing machinery at Hale was larger and newer than what Pietsch used, and likewise was not included.”

Personnel roles examined

Materials manager Dave Nodolski explained how the merge of employees was accomplished, relative to job description, duties, and other factors.

“Each Pietsch employee went

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through the screening and interview process of TJ Hale," says Nadolski. "Skill levels and interests were determined, and ultimately every former employee of A. J. Pietsch was offered a job with TJ Hale."

He says most job descriptions and roles translated directly from one organization to the other, such as cabinetmakers, finisher, estimator, etc. "In the several instances where there was not a direct fit, there were needs for roles that matched the skill sets of the Pietsch folks," Nodolski says.

Rosean says the transition day was well-planned in advance, and new employees already had the benefit elections, physical exams, and related issues completed. Then on Sept. 29, 2011, employees reported to the Hale facility for their first day of work for the combined organization.

New procedures

The manufacturing sequence from order taking, order entry, manufacturing transfer, production, software integration, assembly, and shipping was altered slightly to accommodate the merger.

"Clients will often begin to relate their needs in terms of how many stores and when during the year they will outfit them," Nadolski says. "Client management teams stay engaged to fill in the details and refine the order as it draws closer. Much of the information is captured in our ERP system, and it forms the basis of most downstream activities. Sales orders are entered, and the needs generated in the system for outfitting stores are broken down into items, and further into component manufactured and purchased items."

The company reverse calculates all production and delivery dates from the ship date, backing into order and production dates, Nadolski says. That challenges engineering with new requirements to fit the 3D modeling and detailing/production sequencing tasks into the tight windows required to meet customer needs.

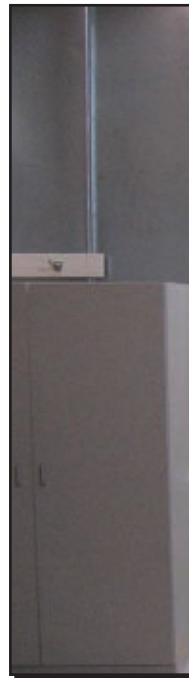
Modified production scheme

Under the modified production scheme, scheduling juggles the dates and generates the production orders to feed the shop work in the right order to meet the demands. Much of the production is shipped to Hale's second facility where it is staged and combined with other production orders to ship as full-store orders.

Often the fixtures and millwork items are loaded on the trailer in the reverse order the installer will need them, to make sure that the next items needed at the store is next off the truck. Some installations are handled by Hale, and some by the client's installer of choice.

Recession and beyond

So, how has Hale dealt with the recession? "The economic slowdown affected Hale just as it affected all businesses -- sales





TJ Hale's satellite production area includes the finished goods, warehouse, and shipping area.

slowed down. Belts were tightened and nobody benefited during the slump," Rosean says. The difference was that Hale's customers, taken as a group, used the opportunity in 2011 to continue building their presence in their target geographical markets. The rebound was dramatic and robust, Rosean says.

Continued growth in sales to existing customers is forecast for 2012

Looking ahead, Rosean is optimistic about the outlook for 2012 for Hale/Pietsch. "Continued growth in sales to existing customers is forecast for 2012," he says. "Margins are under some pressure due to pent up raw material and wage inflation, as they are throughout the marketplace. The challenge is to respond with continued productivity gains. More productive machinery and continued ingenuity from engaged employees are the tools of choice."

Rosean sees continuing economic recovery, and the resulting growth rate of retail as the recovery takes hold, will continue to boost sales in the industry. "Growth in metals capacity and other non-wood materials are being fostered to continue to serve customer needs along with our current competencies," he says. "All lean organizations that have survived the downturn are challenged to increase capacity and grow while remaining lean, plus delivering the best value to the customer." ◀



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QUICK CUTS

Virginia Tech and *CabinetMaker+FDM* conducting lightweight panel reader survey

Virginia Tech and *CabinetMaker+FDM* are conducting a reader survey about lightweight panels. Lightweight panels are used in a variety of products in Europe, but North American wood products man-

ufacturers and consumers have remained cool to the technology. Improvements in lightweight panel manufacturing techniques, better connecting hardware and the surging cost of energy to move heavy

products have caused many manufacturers to take another look. But information on perceptions of this technology and what manufacturers need is incomplete. What do you think about this technology? What characteristics would you like to see in lightweight panels? What are your perceptions of this product? Which markets and product applications are best suited for this technology?

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The results of this survey will appear in *CabinetMaker+FDM* magazine.

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NeoCon announces dates, speakers for Chicago furnishings show

The contract furnishings trade show, NeoCon, will take place June 11-13, at Chicago's Merchandise Mart. The trade show features new home furnishings products, seminars and speakers, including former Chicago mayor, Richard M. Daley, who will address the economy, government stewardship and sustainability. Other speakers include Primo Orpilla, principal of Studio O+A, on design; Gary Lee, principal of Gary Lee Partners, on interior design and planning; and Ian Schrager of Ian Schrager Co., on hospitality-related topics. Other highlights include a seminar for those looking to become LEED certified; the Fine Design home furnishings showroom; the LuxeHome showroom for residential furnishing, kitchen, bath and building product resources.

Registration for NeoCon will be available in March. For more information on seminars, speakers and more, please go to www.neocon.com or call 800.677.6278.

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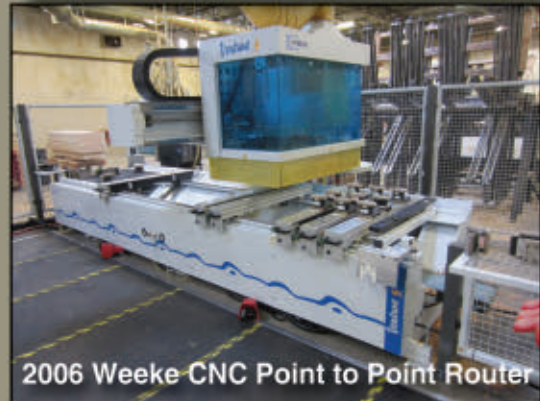
Homag CNC Point to Point Router



Holzma 14' CNC Panel Saw



2006 Homag CNC Double End Tenoner



2006 Weeke CNC Point to Point Router

Partial List of Equipment: 2007, 2000 Weeke Optimat, 1999 Homag CNC Point to Point Routers; Holzma 12', 14' CNC saws; 2007 2007, 2002 Klessman Edge Banders; Timesavers Sander; Weinig Powermat & Hydromat Moulders; Merein Johnson Optimized Rip Saw Line; Ultimizers Optimized Chop Saw; Rip, Panel, Chop Saws; Resaws; Newman Planer; Jointers, Horizontal Chippers; (4) Dust Collection Systems; Compressors; Shop Equipment; Hand & Power Tools; (5) Toyota Forklifts

Partial List of Equipment: 2006 Homag CNC Double End Tenoner; 2006 Weeke CNC Point to Point Router; 2005, 2003 Costa Levagatrici Sanders; Merein Johnson Rip Saw; DMC Sander; (3) Wadkins Moulders; Gannomat Boring Machine; Table, Rip, Beam, Band Panel Saws; Shapers; Jointers; Planers; Sanders; Clamping Systems; Chippers; Dust Collection Systems; Compressors; Shop Equipment; Hand & Power Tools; (3) Forklifts; Sawdust Truck; Office Furniture & Equipment

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Consistency helps to cut costs, meet low bids

Software, equipment upgrades part of overall effort to reduce costs.

At a glance

Who: Antique & Modern Cabinets, Inc.

Where: Jacksonville, Fla.

What: Custom cabinets and millwork

Employees: 25

Plant size: 40,000 square feet

Web site: www.antiqueandmoderncabinets.com

In this economy, there is always someone out there with a lower bid. Antique & Modern Cabinets has focused on its own costs to keep it competitive with these too-low-to-be-real bids.

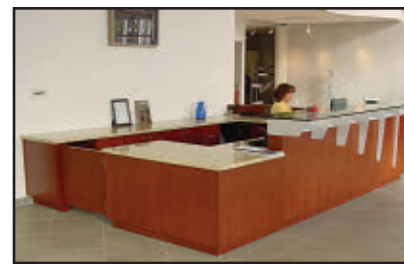
"We've had to lower every number you can think of," says Antique & Modern's Ben Patterson. "From our suppliers to lowering the cost of installation that we would normally charge."

Equipment and software upgrades have been at the center of the cost-cutting effort. "If we were doing things the old way, I don't know how we could do the job for less, and some of the competition seems to be doing work for free," Patterson says.

Meeting deadlines

The Jacksonville, Fla., company specializes in custom projects, including cabinets, reception desks and conference tables. "We meet time frames/deadlines and have good customer

Antique & Modern specializes in custom projects in northeastern Florida.



Reception desks are a major emphasis for the company. Law firms represent an important customer base.

service," Patterson says.

Antique & Modern works for general contractors that serve customers in medical, schools, banks, tenant build outs and private firms (mostly law firms). The company does mostly commercial work with a small percentage of residential (5 to 10 percent).

Previously, every job that went

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through Antique & Modern was drawn on paper. Today, Patterson says it all starts with inputting the job into Microvellum software. Items for that job then are divided into groups to be built by the CNC router or a by skilled shop employees depending on the job. Some items are too complex or just don't make sense to put through the CNC router.

Speeding CNC process

"We use Microvellum software to feed our CNC and drill/dowel machines. It has been a great change to increase speed and accuracy," Patterson says. "Accuracy (is the main advantage) over speed. It's fast if you know how to use it, but it does take time to (learn). Basically, the little extra work you do up front, takes out (the inconsistencies). When five different people were sending out jobs, others could interpret drawings differently.

"With Microvellum, what you put in



Antique and Modern built this basketball locker room for a university team based in Florida. Upgrades have helped the company achieve cost savings.

is output into the CNC router. It puts out what you put into it, whether it's good or bad.

"We also upgraded our shop with new machinery: Biesse Rover G router, Accu Systems HPJ drill and dowel machine and Biesse Cosmo case clamp.

The upgrades were a big cost savings for us, and allowed us to lower prices.

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Kitchen made by the Jacksonville, Fla., company for a new housing development. Antique & Modern sees a stronger second quarter after a weak first quarter.

were having before we bought it. The front end labeling option is also a great feature that eliminates human error and labor."

Antique & Modern's 25 employees work in a 40,000-square-foot shop in Jacksonville. Finishing, both stain and paint, is also offered there.

Looking at costs

Patterson says the company survived the economic downturn by looking at costs all over the plant. "We did other upgrades, like lighting that is more energy efficient," he says.

Patterson says that business was

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looking good a few months earlier, then slowed down. He expects a slow 2012 first quarter, but is seeing tenant buildouts and jobs being bid that would suggest a stronger second quarter. Finance and medical are still looking strong for later this year, and the company is picking up some business from private firms building out. "Right now, we want keep our prices competitive and get more efficient to hang around until the economy turns," he says. ◀

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Changes in the FDM 300 in 2011

We list 11 new companies in the 2011 list, replacing woodworking firms that have closed or been combined with other companies.

The FDM 300 group of companies has never been carved in stone. Some companies are expanding, some have had lower sales, and a few close their doors each year. The year 2011 was no exception, and some well-known names have closed. Since the FDM 300 is a report for the most recent year, there are a few buyouts and changes that took place in late 2011 that will not be reflected until the 2012 compilation.

Of special note are three companies that changed their identification in 2011. Belmont Cabinet Co. is the new name for Pacific Crest Industries, the Sumner, Wash., cabinet manufacturer. In Kansas City, Profile Cabinet & Design is how the former Quality Wood Products is listed. Component producer Alexandria Moulding in Alexandria, Ont., is now listed as Moulure Alexandria Moulding.

Front and center among new companies listed in 2011 is Swedwood Danville LLC in Ringgold, Va. This is IKEA's U.S. plant that makes RTA household furniture, tables, shelves and desks. Also new is Foliot Furniture, based in Saint-Jerome, Que. *CabinetMaker+FDM* visited and wrote about their new Las Vegas plant last year. We also visited Mock Woodworking Co. in Zanesville, Ohio, this past year and included them in the list. Another Canadian furniture producer, Buhler Furniture, is listed for the first time. Returning to the FDM 300 are Concordia Furniture Ltd., Tropitone Furniture, JSI Store Fixtures, and Columbia Showcase and Cabinet Co.

Company closings in 2011

Here's a summary of FDM 300 closings and consolidations in 2011:

Berkline Benchcraft Holdings LLC, The largest closing, Berkline manufactured upholstered chairs, recliners, sofas and leather upholstered furniture in its Morristown, Tenn., plant. In 2010, it was listed in the FDM 300 with 1,000 employees and an estimated \$200 million in annual sales. As recently as 2007 the company had reported sales of \$450 million and several thousand employees.



Closings in the FDM 300 group of companies were about equal to 2010.

FDM300 snap it!



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to www.CabinetMakerFDM.com/FDM300.aspx

A total of 600 employees lost their jobs when the company closed in March 2011. Sun Capital Partners had acquired Berkline in 2007. According to a statement from Berkline, they had been pursuing a "going concern" asset sale, but were unable to find a buyer. A large auction of equipment followed.

Continental Cabinets. In 2010, RSI Holding Corp. purchased Continental Cabinets in Dallas, Texas. Continental was listed as a separate company last year. For 2011, it is included in RSI's listing. There have been auctions for equipment in the Dallas operation, along with RSI operations in Coffeyville and Columbus, Kansas. RSI sells large volumes of cabinets to the big box home improvement stores. One-half of RSI was purchased by Canada's Onex Corp.

DesignCrafted Bardon Cabinetry Inc.

Bardon's showroom in Miramar and cabinet manufacturing plant in El Cajon, Calif., were both closed in May 2011, according to local media reports. An auction was scheduled in November to sell the contents of the showroom and various articles. The company was in the 2010 FDM 300 with 120 employees and estimated \$15 million in sales, making custom cabinetry for high-end new construction and remodeling.

Distinctive Designs Furniture Inc.

We were not able to contact Toronto-area upholstery maker Distinctive Designs, and phone numbers and website are inactive. According to an August 2011 report in *Furniture Today*, Zsemba Apron & Upholstery in Vaughan, Ont., acquired

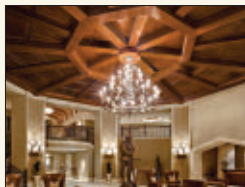
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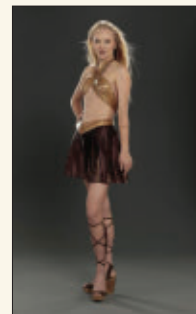
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The Veneer Tech Craftsman's Challenge™ competition recognizes excellence in woodwork and architectural woodwork that features natural veneer and wood product applications—regardless of what company provided the source material. Impartial judges from all segments of the industry will select winning entries that use veneer products in the best way while achieving the projects' stated goals.

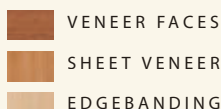
Award categories are Architectural Woodworking, Cabinetry, Furniture, Store Fixtures, and Specialty Items. There is also a Student Design category. One Grand Prize winning entry will be selected.

In addition to valuable publicity afforded all entrants, the Grand Prize entry merits one \$3000 award to the designer/craftsman; one \$2000 award to the supplying distributor; and one \$1000 award to the supplying sales rep. Each of the six categories winning entries may also be awarded \$1000. Non-cash awards may be given at the judges' discretion.

Deadline for entry is June 1, 2012. Award winners will be notified prior to the official announcement to be made at IWF 2012 in Atlanta.

Entries are now being accepted at veneertech.com!

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FOLLOW-UP

the property rights of Distinctive Designs Furniture, but not the factory or equipment.

Zsemba reportedly acquired the rights to the Kroehler, Kroehler Lifespaces, Distinctive Designables and Distinctive Designs brand names, product designs, product catalog and customer informa-

tion. In recent years Distinctive Designs was listed in the FDM 300 with annual sales of \$25 million and 380 employees in plants in Toronto and China. Zsemba, a private label upholstery producer, is being listed in the FDM 300 for the first time, in effect replacing Distinctive Designs.

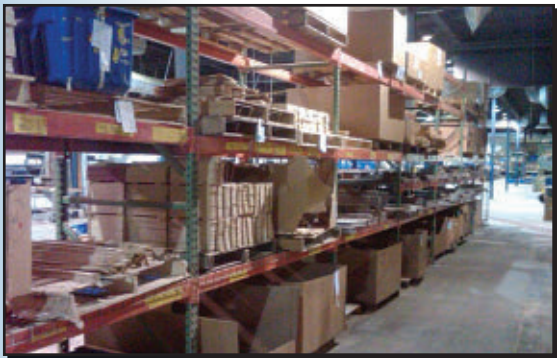
Huck Group. Headquartered in Naples, Fla., the firm shut down its store fixture

manufacturing operations in early 2011. The company closed its main location in Quincy, Ill., and another plant in Harrison, Ohio. Equipment auctions were held in March. Telephones were disconnected and the website down during later checks. The company had earlier bought Lincoln, Ill.-based MII in 2008 and had annual sales of \$40 million and

more than 200 employees in 2009.

Kessler Industries. We contacted the El Paso, Texas, company directly and learned that it had shut down its manufacturing operation and is renting out space to other companies. From earlier interviews, we found out that sales had been affected by imports from China. The company may restart its manufacturing operation in the future. The company made dining room and kitchen furniture and occasional furniture, and had 250 employees and annual sales of \$30 million as recently as 2008.

Luxe Cabinetry LLC. Company closed its cabinet manufacturing operation in Temecula, Calif., and reportedly held an auction in June. Walker Wood Products was acquired by JMH Capital, a Waltham, Mass., private equity firm, and became Luxe Cabinetry, beginning operations in Walker's Temecula location in December 2008. Luxe Cabinetry had been listed in the FDM 300 as a manufacturer of kitchen and bath cabi-



Berkline closed its Tennessee plant and ended operations in March.

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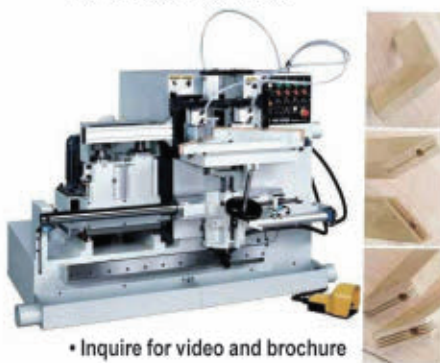
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nets, vanities, desks and bookcases with 100 employees and an estimated annual sales of \$15 million.

McConnell Cabinets Inc. The company closed its cabinet manufacturing operations in City of Industry and El Monte, Calif., in April 2011. About 130 people lost their jobs. A major auction of equipment was held in June 2011. In 2009, the company employed 170 and had annual sales of about \$25 million. The company made stock and custom kitchen and bath cabinets, and custom laminated panel products.

Moralmar Kitchen Cabinets. The Hialeah, Fla., company reportedly closed in early 2011, with equipment auctioned. Phones were disconnected and website down. Company sold stock and custom cabinets to south Florida builders and developers, with 160 employees and an estimated \$12 million in sales in 2008.

Robinson and Robinson. This San Diego firm was one of the Southern California-based companies with a

large Tijuana plant. They reportedly had stopped shipping leather upholstery products in January 2011. There was no answer to phone calls and emails, and their website was down in November and December. According to past FDM 300 data, the company employed some 2,000 with annual sales of \$150 in 2008. The company made leather furniture, upholstered chairs, motion furniture under the LeatherTrend, SofaTrend, EasyTrend and Richter Designs name.

WM Coffman Resources LLC. P & F Industries bought Coffman Stair several years earlier and ultimately closed the Marion, Va., stair plant. The company was listed as an importer a year ago. The closing was confirmed by an interview with the parent company headquarters in Plano, Texas. As recently as the 2008 FDM 300, Coffman employed 230 in three plants in Marion, making millwork, stair parts, curved and spiral stairs and components and mouldings,



Much of Berkline's equipment was later sold at auction.

with annual sales of \$40 million. One other note: Furniture by Thurston reportedly closed in November 2011, according to the Grass Valley (Calif.) Union. Company reportedly has re-opened to handle several large orders. They have not responded to our email and phone requests for information. ◀



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QUICK CUTS

Hettich awarded for ArciTech drawer system

Hettich's ArciTech drawer system recently received two awards at the IF Product Design Award 2012 and the OWL Innovation Prize 2011.

Both accolades acknowledge the product's outstanding qualities, its design and overall concept, Hettich says. The IF Product Design Award 2012 honors design achievements for volume products that have not been on the market for more than three years or will go into mass production in the award year. The OWL Innovation Prize goes to innovative products, services and processes from the Ostwestfalen Lippe region of Germany.

"The special prize is a tribute to company growth from forward-looking corporate policy and the courage to invest in Germany, but also to social responsibility and continuous commitment to the Ostwestfalen-Lippe region," the jury said in its decision.



Hettich recently received two awards for the design of its ArciTech drawer system.

Woodwork donations sought for WoodLINKS benefit auction in May

The 2012 Woodworking Industry Conference is seeking donations for an auction of woodwork pieces to benefit WoodLINKS USA.

The conference is looking for companies to donate wood pieces created by employees, friends of member companies and WoodLINKS USA-supported students, all of whom will receive recognition at the event. The conference will take place May 2-4, in Delray Beach, Fla.

If you have questions or wish to donate, please contact Frank Kobilsek at 815.866.5757 or via email at fkobilsek@blackbros.com.

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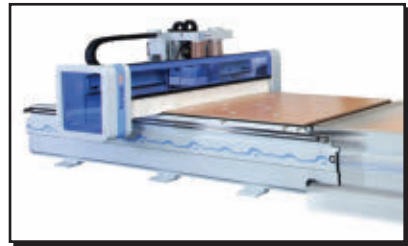
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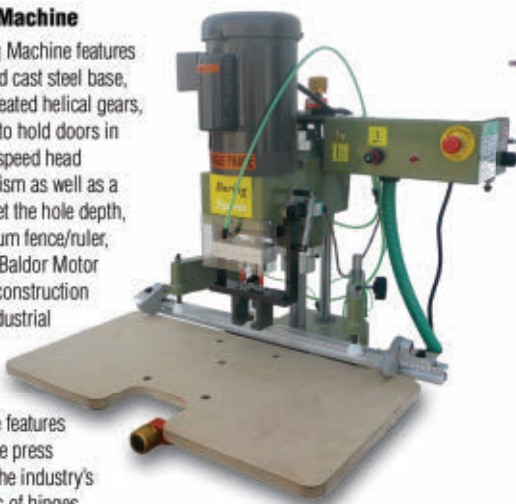
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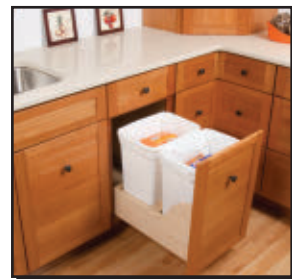


Grizzly Industrial Inc. model T21888 air compressor

Grizzly Industrial Inc. makes the model T21888 air compressor with a 2.5 HP, 110 V motor and 6.34 gallon tank. The air compressor delivers 4.9 CFM at 40 PSI and 4.0 CFM at 90 PSI, according to the company. The machine includes a regulator, pressure gauges, safety valve and quick-connect hose coupler.

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Blum Inc. offers Tandem and Tandembox waste-recycle sets. The waste-recycle drawer solutions are designed for 15-inch, 18-inch and 21-inch base cabinets. The waste-recycle sets feature Blumotion soft closing and are available with a Servo-Drive touch-to-open feature. Two versions are available: one using Tandem heavy-duty runners for wood drawers and one using the Tandembox heavy-duty drawer system in silk white.

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Delcam International's ArtCam Insignia is a design software for creating 3-D shapes and 3-D face profiles and designing 3-D models for rotary machining and other applications. Features include: the Shape Editor, which can make a selected vector or color into a 3-D shape with chosen shape profile, angle and height; sculpting tools to smooth over blemishes, visible joins or sharp edges; and a Two Rail Sweep tool to create 3-D sweep shapes using vectors to determine a shape's edges and cross sections.

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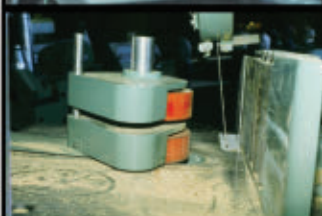
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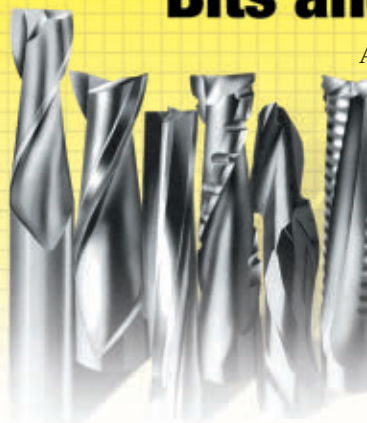
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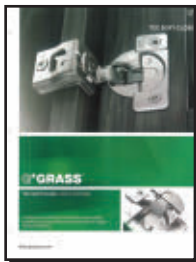
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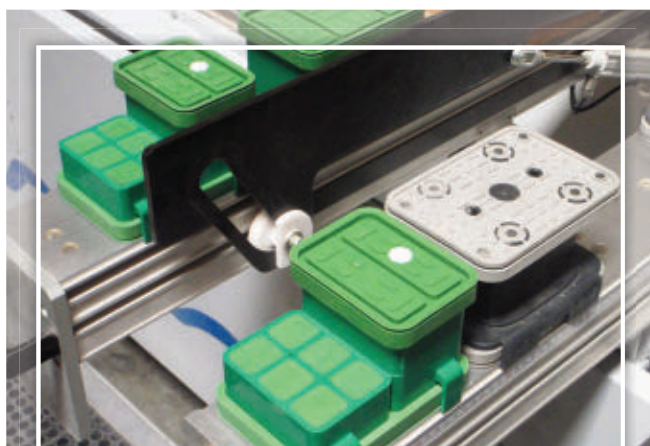
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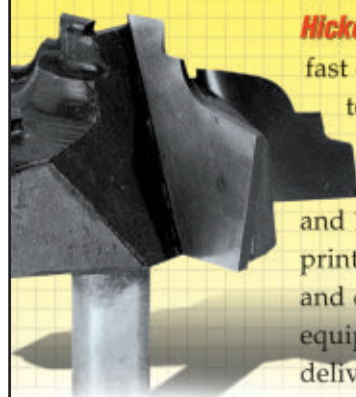
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creativity to flourish in your enterprise.

Efficiency, Lean Manufacturing, Kaizen, World Class and so forth, to be sure are all great ideas which have been pursued for years now. In these times any one of these concepts or all combined, while certainly very important if not mandatory for the betterment of any organization, alas they no longer cut it on their own. What is now required of each and every one in the pursuit of success in business is creativity.

Creativity can be found in all human endeavor, whether it be art, science, education, politics or business. Creativity is not only highly beneficial to the creator but also to mankind at large.

Creativity will triumph

Creativity when expressed with success is also highly rewarding in several ways. For instance just the personal achievement of having discovered something new. The quickening during the pursuit of the answers. Perhaps next the acclaim of once peers. Eventually even financial rewards may follow. So no matter what the objective, creativity will triumph.

When thinking about creativity, the term "thinking outside the box" comes to mind. What is this box? It is our inert desire for things to be constant, to be safe and secure with what we know and have done before. To apply new thinking is difficult for most of us but not for all. Steve Jobs presented products to the

The old axioms of doing
the good work, satisfying
a range of existing
customers with products
made as always are no
longer fully valid.

world, which he liked and believe in, and changed it. While many creative people -- historically and now -- toil alone, creativity can be generated by groups as well through openness and sharing.

Promoting creativity

Most business are managed, a term derived from getting on the back of a beast, digging your knees in, and heading it in a certain direction. Not very

conductive in allowing creativity among those so governed. Creativity can really flourish in a company if everyone working there can be engaged in pursuit of it. To be sure, in such demeanor there is risk and also abandon. Even chaos. Is that not stepping out of the box? Several of our phenomenally well known Internet giants are taking this approach with enormous success.

We in the wood-working business need to step back and reexamine our stance toward the new realities. The old axioms of doing the good work, satisfying a range of existing customers with products made as always are no longer fully valid. The market has changed; younger customers have new ideas toward life and their lifestyle. Therein can be found new opportunities.

I have always associated the United States with inventiveness, excitement and a can-do attitude. Historically, this stance invariably manifested itself when "our backs are against the wall." Maybe now, that time has come.

Gero Sassenberg's experience in the woodworking industry spans more than 30 years on three continents. He has provided valuable advice to a wide variety of businesses over the years. For more information about his consulting services, contact him directly at woodnet@carolina.rr.com.

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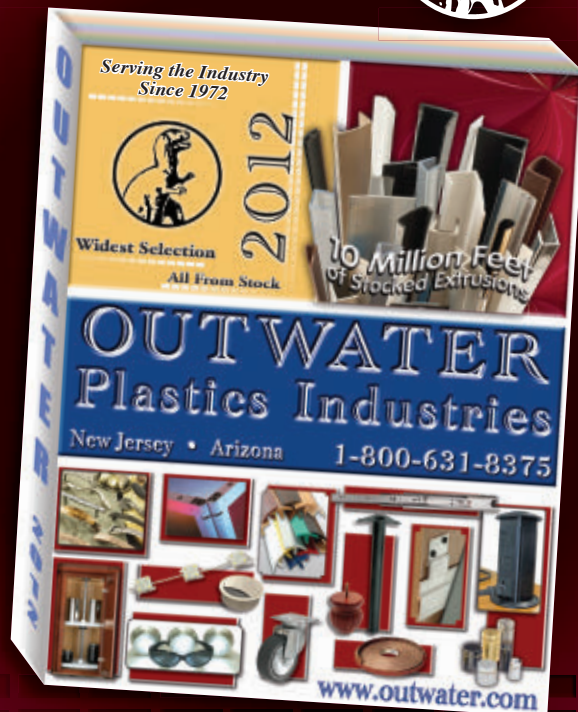
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Testing two new glues

Titebond offers translucent and no-run, no-drip formulations for woodworking.

Glue is not a one-size-fits-all commodity. For both performance and esthetics, there are good reasons to have a few choices in your adhesive tool kit. Franklin, the makers of the popular Titebond brand of wood glues, recently added two new formulations to the Titebond family. One addresses mostly esthetic issues and the other addresses a performance need. Let's take them one at a time.

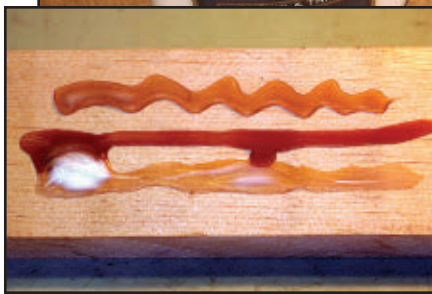
Translucent wood glue

Titebond's translucent wood glue is designed to dry mostly clear and therefore help hide the glue line. Coming out of the bottle, glue has the look and consistency of traditional white PVA glue and seems to perform about the same in the areas of glue-up and drying time. In our tests it did deliver a mostly clear glue line that was especially good for gluing lighter color wood.

Franklin says the new glue is heat resistant, sands easily, and is paintable when dry, although it is unaffected by finishes. Again, in our tests, the performance was about like traditional white PVA. Franklin recommends a heavy spread and clamping time of 30 minutes with no stress of the joints for 24 hours. This is not a waterproof glue and is not recommended for exterior applications. Cleanup is with water.

No-run, no-drip glue

Titebond no-run, no-drip glue has been specifically formulated for applications where you need the glue to stay put, such as gluing mouldings and other trim pieces. This glue comes out of the bottle in a much thicker consistency with a kind of beige or off-white color.



In a test of the new glues compared to Titebond III we found the no-drip, no-run version (top) stayed where it was put, while the Titebond III (center) and translucent (bottom) formulations ran into each other. This picture was taken about 24 hours after application of heavy beads. You can see the translucent has dried mostly clear.

It has similar handling and performance specifications as the translucent glue and similarly uses water cleanup.

In use, we found this glue did indeed stay where we put it. In a vertical test with the translucent and Titebond III glue samples, we put similar beads of each of the three glues down on a piece of wood and then oriented the wood on edge and in other directions off the horizontal. The Titebond III and translucent formulations ran into each other, but the no-run version stayed in place.

Two new glues from Franklin are Titebond translucent wood glue and Titebond no-run, no-drip wood glue.

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Special needs glues

While it's nice to standardize on supplies for efficiency, you do need to have some ready choices for special applications. In my shop, Titebond III is the standard, but these two glues will definitely get some use when special jobs require their specs. You can obtain more information about them at www.titebond.com. ◀

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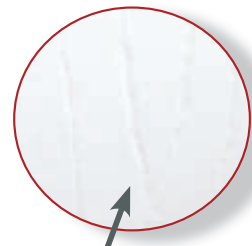
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