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"Manufacturers' Perspectives on Material Handling" by Brigit Frank with Bob Becht, David Green, John Herring, Dan Holland & Jon Uldrich

When you boil it down, material handling seems like a simple concept: Raw materials are moved from point A to point B, from point B to point C, etc., ending in a completed product at a jobsite. When it is considered more closely, however, most component manufacturers know that material handling is a complex area that can determine if a company will make it to the next level of success. Part of what makes it so complex is that individual needs in the area of material handling are different for every company because of their size, location and the products they produce. Despite this, one thing is common to all companies, those that have a good system for material handling, with an eye toward the future, are better prepared for growth.

To get a better understanding of how different companies are dealing with material handling issues *WOODWORDS* asked Bob Becht, President of Chambers Truss; David Green, Director of Manufacturing for Heart Truss & Engineering; John Herring, President of A-1 Roof Trusses; Dan Holland, President of Clearspan Components and Jon Uldrich, General Manager of 84 Components' Charlotte, North Carolina plant, to give us their views on this topic. We also asked them to talk about the future and their visions for ideal systems.

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WOODWORDS: What do you see as the major challenges in materials handling for your operation? For the truss industry?

Becht: Lift trucks are the curse of my life. We are in a lot of buildings that are spread out and require material flow using lift trucks.

Green: For us—we have many challenges in handling and storing our finished product. For the truss industry—we see a great need for better handling of lumber from feeding the saws to unloading the saws and getting the material to the assembly lines prior to the line needing it. The next job must be waiting for them.

Herring: A major challenge will always be the stacking of the finished product. There is equipment available but not for the complicated, cut-up-type jobs that we see today.

Holland: The two root issues, with regard to material handling in the component industry, are that the items we handle are not uniform in size and shape and that the items we handle are large compared to their value (this stuff takes up a lot of space). Another exceedingly important issue is dust control and elimination.

WOODWORDS: Have you implemented any procedures or purchased any equipment to overcome these challenges? Have the results been favorable?

Uldrich: Our facility is the newest in our company. We have purchased "state of the art" equipment to accomplish our mission. This has greatly enhanced our ability to be more efficient.

Green: We have purchased a larger, yard forklift to help with the finished product. We've added an automatic lumber stacker behind one of our saws to help get more throughput on it.

Herring: No, the machines available for stacking trusses do not fit our needs in our market.

Holland: We use machinery to handle the material in our wall panel shops very successfully. The process in our truss shops is more "batch" oriented than our wall operation is. I would like to find a way to make the truss processes more continuous rather than "batch."

WOODWORDS: Do you know of any new technologies that can help solve materials handling issues?

Green: We feel that this new **Turb-O-Web** is helping by eliminating saw time and recuts. We also feel that using a lumber stacker on the off-load side of the saw helps save our employees from fatigue when catching the amount of wood that we cut. This auto stacker is used on heavy loads and we hand stack the others.

Herring: Yes, there are some technologies available that would address the stacking of trusses, but they would have to be customized and therefore very costly.

WOODWORDS: Do you feel that your suppliers are aware of your materials handling problems? Are they addressing your problems with their [new] products?

Herring: Yes, they are aware, but they're not addressing the real problems at all. This is mainly due to the fact that the problems and solutions are too varied and complex throughout our industry. Plus, we still are a "little" hard-headed and think our solution is the only solution.

Becht: Our suppliers know about problems. Some of their solutions are good and some are not practical for us. For example, we do not have room for a lumber carousel.

Green: I feel that our suppliers are working with us to solve some of our problems. The Turb-O-Web is here to stay and our supplier has the engineering to use it. They also have developed a saw to cut it. In addition, one of our suppliers developed the catching machine we're using.

WOODWORDS: If you could set up the perfect plant, what changes would you make to increase efficiency?

Holland: I would want the truss process to be continuous flow, "just-in-time," with a minimum of work in process at all times. I would also make certain that all of the information needed for

the process was transmitted from the office via computer network and information about the process was transmitted to the office via computer network.

Green: We would use all trackless gantry systems with slotted tables. We would put lasers over our large lines and use slotted tables with jig-set for smaller lines. We would put all sawing in one building and all production lines in another building connected by a canopy to store cut lumber ahead of the production lines. We would also have a canopy over the feeder area with covered lumber sheds.

Becht: I would like to have a truss plant under one roof designed for material flow without lift trucks. I would have laser over new all-metal, **MiTek,** easyglide tables.

WOODWORDS: What safety issues are there in the material handling area? What materials handling improvements can be made to make the workplace safer?

Green: Most of the safety issues deal with lifting and bending while catching off of saws or when putting wood on production tables. We believe a stacking machine that can stack vertically would be ideal—this is not available at this time.

Holland: Personal safety is always an issue when people are handling heavy, unwieldy objects like lumber. Reducing work in process and handling objects with machines would increase safety. Dust control would also improve safety.

Herring: There are several issues. Any time you handle lumber, plates or trusses you have liability. The finished product is the biggest concern due to its size, weight and sheer numbers. Robotics would be the most logical way to make the workplace safer.

WOODWORDS: Is your production area split-up for building different types of product? If yes, how is it split? With the knowledge you have now, would you split it up differently to make the flow through the plant better?

Uldrich: Yes, our plant is split up for building different types of product. Each product has a separate building specifically setup for it.

Herring: Yes, it will be in our new facility. We are addressing this and will have very distinctive lines for specific types of orders.

Holland: Yes, we have a separate production area for wall panels, floor trusses and roof trusses.

Becht: We build big trusses on 14' gantries and smaller trusses on 12' and 10' gantries. Jacks are built on a jack machine. Jacks and Valleys are built in separate area by one man or small crews. 4'x 2' floor trusses are built in a separate area as well. We cut webs and chords on separate **CyberSaws.** We have an old web cutter to cut 18" and shorter pieces. We have a speed cut for blocks. We use the speed cut very little. I would like an automated, hands-free speed cut type saw. We are able to adjust flow through the shop as well as our physical plant. A new technology

like Turb-O-Web (which we are about to try) could change our material flow.

WOODWORDS: What, if any, damage happens in transporting the trusses? What improvements have you made to avoid damage? Have your suppliers helped you?

Becht: Delivery is an important part of our Q/C program. We switched to roll-off trailers. Our build and stack order is primarily aimed at reducing delivery damage. This is accomplished by a program which knows our rules. We train our stackers to band at all panel points. We put 2x6 #3 sliders under tall trusses to prevent the webs from pulling out (this was a big help). We nail in blocks to fill in gaps in truss stacks (stubbed truss etc). We also videotape all deliveries.

Herring: Deliveries are not a concern as we have addressed this with roller trailers. Suppliers have addressed this by enhancing the roller trailers to be very specific and sophisticated for our industry (A-1 designed and built the first production run trailers that were the front runner of today's designs).

Holland: Loading and unloading are the times when most damage occurs. We find that proper equipment is almost always the issue. We have developed special equipment for inverting or turning a bundle of trusses from vertical to flat with a very controlled motion. No, our suppliers haven't helped.

Uldrich: We have very little damage while transporting our product. We use an independent hauling company to ship our product. The drivers take great care while unloading the trusses from the trailers.

WOODWORDS: As you look to the future of truss plants, what innovations do you see in materials handling? What help will you need to reach a new performance level that will make your plant more economical, safer and reduce labor?

Green: We believe that the biggest need we have right now is to find some sure way of marking each piece of wood that comes off the saw. We also would like to see an automatic vertical stacker built to replace the catcher behind the saws. We believe that if we could replace all of our track gantry systems with the new trackless gantry systems we would greatly improve our performance as far as safety and reducing labor costs.

Herring: Computer programs available to track every motion, every step and piece as it flows through the shop. I see material shuffling systems that will direct lumber to the saws and directly to the tables. I see simple and efficient stacking systems with no lifting, pulling or pushing by laborers at all.

Holland: I hope to see a continuous flow truss process and effective dust control. Component saws with effective dust control will help us improve.

Becht: There are a lot of products available, like auto stackers that we haven't used due to a lack of confidence in their value. Money also keeps us in our current physical plant, which limits us. The future could be now for Chambers Truss if we had the money and, more importantly, the

confidence in existing technology.

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There will not be one, best material handling solution for structural component manufacturers. This is evident in the different responses given by this small group of manufacturers. It is our hope, however, that this discussion will offer some different insights into material handling solutions. Let us know what your thoughts are on this topic by sending a letter or email to the ***WOODWORDS*** **"From Our Readers"** section. Fax letters to 608/274-3329 or email them to editor@woodwords.com.

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