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Mill roll company sees the light

Company turns to Butler Builder® for bright, unified production and office space

Sometimes one decision can change a life. One moment in time can pave the way toward an entirely different future. For Brent and Julie Niccum that moment came in 2009 when they decided to leave successful careers in research and development, and marketing at 3M to become small-business owners.

The 3M project Brent was working on at the time was finding a buyer for its mill roll product line. A mill roll is a specialized piece of equipment that helps flatten sheet metal (similar to a giant rolling pin).

The industry-leading product aids in the production of high-quality pieces of metal for use in the automotive industry. It has a soft material and unique structure to prevent sheet metal damage that frequently occurs when debris gets caught on traditional mill rolls with harder surfaces. It also offers a longer life, extra strength, cut and temperature resistance, and provides fluid control. These features reduce the imperfections that can delay and impair the competition when flattening metal for automotive factory work.

Knowing that the product line offered a lot of potential and that his experience with developing new technologies and process improvements could serve him well as a business owner, Niccum hatched a plan that proved mutually beneficial for himself and the company. He and his wife, Julie, would acquire the 3M technology, patents and intellectual property, and create their own company to produce and sell the mill rolls, putting his years of experience to continued use.

Thus, NCCM Company was born in River Falls, Wisconsin, in 2009, with Brent as its CEO.

Launching a new business venture during the heart of a recession was a risky move, but a calculated one, given Niccum's experience working on the product

(Above) Numerous windows flood the lobby with light and highlight the wooded area that surrounds the NCCM facility.

PHOTOGRAPHY BY CHAD JACKSON PHOTOGRAPHY

"Derrick did a great job of hitting our punch list and making sure all our needs were met even when we faced unanticipated challenges."

BRENT NICCUM, NCCM COMPANY

line and the built-in customer base. During the first few years of operation, NCCM experienced success and a growing product demand, which eventually spurred demand by late 2013 for a new, larger production facility.

Opportunity for improved functionality

NCCM took a holistic look at its previous facility and identified opportunities for improvement, including functional and environmental changes. With a new building, the company wanted to centralize production at the facility, create an environment that emphasized quality control and unify production with administrative offices while infusing natural light into the facility.

Additionally, NCCM sought a facility that could accommodate expansion within five to 10 years. As the process for a new building started, the Niccums toured industrial parks in River Falls and noticed a trend: many of the buildings were Butler® buildings. At the same time, NCCM received strong recommendations from city administrators and local business leaders to consider Derrick Building Solutions (Derrick), a local Butler Builder® specializing in commercial and design-build construction in Wisconsin and Minnesota.

Chad and Bill Derrick, project manager and president, respectively, of Derrick Building Solutions, met with the mill roll leaders to

Brent Niccum (right) and his wife, Julie (center), wanted NCCM Company corporate headquarters to reflect the organization's values. Builder Bill Derrick (left) made it happen.

showcase a portfolio of Butler buildings it had completed in the area. The facilities and Derrick's reputation as the highest-quality builder available spoke volumes. During conversations with Chad and Bill, the Niccums learned the two companies had some things in common.

"We're a faith-based company, and Derrick is an industry leader in building churches," said Julie Niccum, president, NCCM. "It was really fun to realize we had common core values and business principles that aligned, which really sealed the deal for the partnership."

A clear vision for the design

As planning began for the new NCCM facility, Julie and Brent Niccum had a clear vision for the look of the building. Natural light

CITY OF RIVER FALLS LENDS A HAND

The City of River Falls, Wisconsin, jumped at the opportunity to aid in the growth of NCCM by providing a business loan and land grant. The local River Falls government viewed the expansion as a positive sign for the community and hopes to draw similar high-quality companies to the area with the addition of more local business parks.

The NCCM Company facility boasts custom-painted exposed steel beams along the exterior to tie into its brand colors.

"You can combine conventional construction with architectural ambition, and that's what we did on this project with the help of Butler's engineering team."

BILL DERRICK, DERRICK BUILDING SOLUTIONS

was a priority, and they wanted the building design to tie into the beautiful wooded area surrounding the industrial park. DJ Medin Architects collaborated with NCCM and Derrick to ensure the design incorporated the proper vision and building function.

"We knew a Butler building would work, but we needed to fit the cultural feel we were aiming to achieve," Julie Niccum said.

The final design called for a vaulted foyer with glass walls in the conference rooms and office space so exterior light flowed freely into the building. NCCM also expressed an interest in having a corporate brand identity represented in the facility. So Butler custom-painted exposed steel beams to match the colors of NCCM.

Design impacted by pitfalls of the recession

Unfortunately, upon completion of the design, the bank conducted a market analysis and compared the NCCM building design with buildings that were built and foreclosed on in 2008 and 2009. The findings of the bank's evaluation caused it to reduce financing and $300,000 from the design budget. Gone were the large windows planned for the production plant area of the building.

"NCCM was very level-headed when it came to what they needed in their building, versus what they wanted," said Chad Derrick. "We worked to amend the design and provide a solution that would give the building a similar, naturally lit feel within the revised budget."

Luckily, the Widespan™ structural system combined with a dozen 6-foot-by-3-foot windows positioned high on the building were able to deliver the open and light feel the Niccums desired.

"Even when the build process presented challenges, Derrick was so capable and experienced that we were able to move through issues quickly and smoothly," Brent Niccum said.

Bringing in the Butler engineers

To unify the architectural aspects of the two-story office space with the production area, Derrick relied on the Butler engineering team to ensure the integrity of the structural design.

"What NCCM liked about Butler is that you can make your building into whatever you want," Derrick said. "You can combine conventional construction with architectural ambition, and that's what we did on this project with the help of Butler's engineering team."

"We're happy to be in our own building, and expansion is already in the plans for the near future."

JULIE NICCUM, NCCM COMPANY

The rear of the facility features both the Shadowall™ and StylWall® wall systems to add visual interest.

Mother Nature offers no favors

Weather was one of the biggest challenges during the building process. During the winter of 2014, Wisconsin experienced one of the worst combinations of freezing temperatures and snow accumulation on record. Because of safety protocols, Derrick canceled multiple workdays as the snow came down and biting temperatures offered no relief. As a result, the team from Derrick Building Solutions often worked weekends to take advantage of mild weather breaks to complete the project by early June.

The extra weekend work paid off. Upon completion of the building in June 2014, NCCM moved into its beautiful new facility. NCCM immediately noticed the amount of daylight flooding into the building, and the company has hardly needed to turn the lights on during the summer months.

NCCM spreads the exciting expansion news.

"We're extremely happy with the final look of the building and how it presents our company," Brent Niccum said. "Derrick did a great job of hitting our punch list and making sure all our needs were met even when we faced unanticipated challenges."

During the build process, NCCM heavily marketed the move via customer and partner outreach, in addition to significant communication via NCCM social networks. Customers stayed up to date on construction as images filled the Web from the ground-breaking ceremony right through to the building's completion. Customer interest has soared.

"We have opened a floodgate. Our partners and customers want to come and visit us now that we're in the new facility," Julie Niccum said. "We're happy to be in our own building, and expansion is already in the plans for the near future." ▲

NCCM COMPANY

Butler Builder®: Derrick Building Solutions
Architect: DJ Medin Architects, Inc.
Size: 33,450 square feet
Butler® Systems: Widespan™ structural system, MR-24® roof system, Shadowall™ and StylWall® II fluted wall systems

Private Industry Council goes new school

Nonprofit organization provides education for parents and children under one roof

For many low-income mothers and fathers, finding and completing the training they need to get a good job can feel like an insurmountable challenge. Balancing the demands of finishing their educations with the responsibilities of child care is a heavy load for parents to shoulder, but a vital task in creating a brighter future for their families.

In southwestern Pennsylvania, Private Industry Council of Westmoreland/Fayette, Inc. (PIC) identified a new way to help parents in this situation. Backed by both state and federal funding, PIC provides Head Start early childhood development programs for newborns through age 5, as well as adult education and workforce development opportunities. Head Start is a nationally run grant program that works to combat the impacts of poverty through education.

Since 1983, PIC has helped more than 80,000 community members create brighter futures. Its president and CEO, Tim Yurcisin, has been with the organization for more than 30 years, as it grew from an on-the-job training program to the vital resource it is today, comprised of numerous locations spanning southwestern Pennsylvania. For its latest facility in Lemont Furnace, Pennsylvania, the group put its years of experience to work and sought to provide a place that would eliminate some significant barriers for students who have young children to get the education and training they need.

(Above) Private Industry Council combined early childhood and adult education into one facility to help make its services more accessible to the community.

PHOTOGRAPHY BY CHAD JACKSON PHOTOGRAPHY

"Fairchance Construction is the most respected and well-known construction company we have in Fayette County, with a reputation for great quality work."

TIM YURCISIN, PRIVATE INDUSTRY COUNCIL

"A lot of times the folks in our program who meet low-income guidelines first want to feel comfortable that their children are in a safe environment," Yurcisin said. "Then they can focus on obtaining training or finding a job." With that in mind, PIC developed a new approach that would house both adult and early childhood programs in the same building.

Making it happen

Given the innovative nature of its joint adult and early childhood education approach, PIC anticipated a fair amount of national attention would be placed on the building, and its quality needed to be up to par. However, because the group obtained funding from the U.S. Department of Agriculture's Communities Facilities Direct Loan and Grant Program to cover real estate and construction costs, budget was an important consideration in outlining the building's design.

Fairchance Construction Company educated the project architect on the design versatility Butler products offer. The finished facility features three different wall systems to achieve the modern aesthetic.

With this in mind, PIC turned to an old friend in Fairchance Construction Company, its local Butler Builder®. "Fairchance Construction is the most respected and well-known construction company we have in Fayette County, with a reputation for great quality work," Yurcisin said.

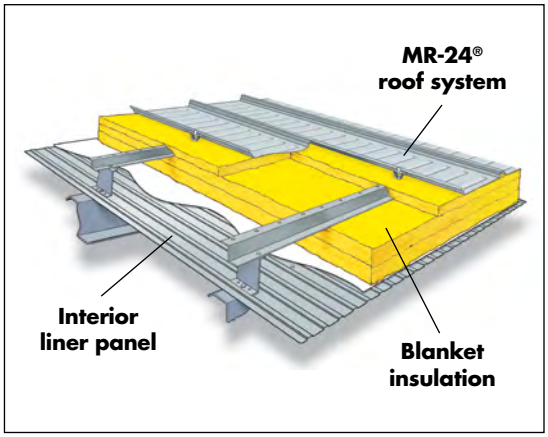
It is a family-owned and -operated corporation with more than 99 years of experience offering construction services across the United States.

PIC first worked with Fairchance and Butler Manufacturing™ in 2004, when building the organization's headquarters in Greensburg. It was so pleased with the final product in Greensburg that it not only opted to work with Fairchance Construction again on the Lemont Furnace building, it also sought to replicate the building design of the Greensburg facility.

Ultimately, the building design had to change from a one-story facility to a two-story facility so the site could accommodate parking requirements, but the planning process still moved ahead smoothly thanks to close collaboration between Fairchance Construction and the architect, RW Sleighter Engineers and Architects.

"We worked with the architect to educate them on Butler products that would correlate best with their desired aesthetics," said Ed Balling, president, Fairchance Construction. "Our versatile materials can meet a wide variety of building designs and needs, so working directly with the architect created an efficient time frame."

Fairchance Construction combined multiple wall systems: Shadowall™ wall system, StylWall® ll flat wall system and StylWall® ll fluted wall system, to meet the desired



Tim Yurcisin (left) strolls outside the new PIC facility with Jim and Ed Balling (center and right, respectively).

(Right) The new facility features the ThermaLiner™ insulation system, which delivers enhanced energy efficiency and a low-profile interior finish.

aesthetic. All three wall systems helped the architect give the facility multiple textures and a modern appeal.

Adding efficient features

Several building features were selected with efficiency in mind. For example, the MR-24® roof system covers the entire facility. It offers a long life span and requires minimal maintenance.

To enhance the roof system, Fairchance Construction recommended the ThermaLiner™ insulation system because parts of the second floor ceiling are exposed. It was an ideal fit for this project because the ThermaLiner system has an effective R-value of up to 38.7, delivering superior thermal performance while still providing an attractive interior finish.

"The new facility is affordable and helps us operate more effectively and more efficiently," Yurcisin said. "It is exactly what we were hoping to get."

Thinking of the kids

Research has shown the environment in which children are educated is key to the way they learn and the way their brains develop. The quality of a space can determine a student's level of engagement and excitement. With more than 100 students being served in the five Head Start classrooms, PIC wanted a space where students felt excited to learn every day, and every inch of the new building was constructed as a space for optimal learning.

Fairchance Construction paid close attention to access control systems and to the configuration of the lobby and entrance, to ensure a safe atmosphere for the children. The Widespan™ structural system by Butler allows for maximum use of interior space, giving students wide hallways and large classrooms.

"The two-story building offered the ability to place programs in specific locations within the facility," Balling said. "Special care was taken through the design to ensure that the safety of the children was top priority."

The new Head Start program and administrative offices were built on the first floor; the adult education and workforce development programs upstairs.

"We have about 140 kids in the Head Start classrooms who will be the workforce for Fayette County in the future," Yurcisin said. "We want to give them a good knowledge foundation so they can develop a love for learning, growing up strong and successful."

Along with bright colors and a modern design, PIC added something to its classrooms that is not common in elementary education. Technology was installed in each Head Start classroom to improve the school experience.

"We installed high-level technology that's seen in middle and high schools, but not in early childhood education," Yurcisin said.

"The new facility is affordable and helps us operate more effectively and more efficiently. It is exactly what we were hoping to get."

TIM YURCISIN,
PRIVATE INDUSTRY COUNCIL

PRIVATE INDUSTRY COUNCIL

Butler Builder®: Fairchance Construction Company
Architect: RW Sleighter Engineers and Architects
Size: 26,048 square feet
Butler® Systems: MR-24® roof system, Widespan™ structural system, Multi-Story structural system, Shadowall™ wall system, StylWall® II flat wall system, StylWall® II fluted wall system and ThermaLiner™ insulation system

"Butler offers versatile materials that can meet a wide variety of building designs and needs, so working directly with the architect created an efficient time frame."

ED BALLING, FAIRCHANCE CONSTRUCTION COMPANY

At the new PIC facility, young children have a safe place to learn and grow while their parents attend workforce development and adult education programs.

"We want parents to know that their children have an opportunity to work with this technology at a young age."

Achieving national acclaim

The Department of Health and Human Services, which oversees Head Start programs, is paying close attention to the new Lemont Furnace facility and the positive impact combining early childhood and adult education programs creates.

"We're getting a lot of play from the early childhood folks at Health and Human Services," Yurcisin said. "Where else in the country can mom bring her child to Head Start, take an elevator upstairs, enroll in training and obtain a job?"

The number of parents with children in classes downstairs continues to grow, and, though the facility just opened in March, PIC is excited about the results it's seen thus far. It's also excited about the efficiencies they've achieved with the new facility.

Previously, the workforce training, adult education and early childhood programs were housed in three separate leased facilities. With the new building, they were able to condense three locations to one (and stop paying rent). The decision to combine the three buildings into one reduces building operating costs by about 40 percent per year, according to Yurcisin, which means more resources are available to better serve the community.

With an innovative educational model, a beautiful facility and an efficient building envelope, PIC is poised to continue to help foster learning and development for years to come. ▲

USDA'S COMMUNITY FACILITIES DIRECT LOAN AND GRANT PROGRAM

The Community Facilities Direct Loan and Grant Program provides affordable funding to a facility that offers essential services to a local community. The facility must be primarily located in a rural area, which includes cities, villages, townships and federally recognized tribal lands, with, according to the latest U.S. census data, no more than 20,000 residents.

Public bodies, community-based nonprofit corporations and federally recognized tribes are eligible for the program. Funds can be used to purchase, construct and/or improve essential community facilities, purchase equipment and pay related project expenses.

Burr Oak Tool builds for tomorrow

Looking at life cycle costs helps a Michigan manufacturer find the best value

It was a mild fall day in 2013 and the sun was shining as the Burr Oak Tool Inc. management team plunged their shovels into a muddy field in Sturgis, Michigan.

Business was booming for the heat transfer and tube processing machine tool provider. It had recently developed several innovative, industry-leading products, and it was well on its way to gaining market share.

But that was not always the case. In 1944, when Newell Franks worked with two other men to open Burr Oak Tool, they struggled at first. From acquiring capital to finding suitable manufacturing space and machinery, challenges abounded in the early days.

In fact, when the founders secured their first major order, they were short on specialty equipment to finish the job. It was creative thinking and tenacity that got those first parts shipped, and that same spirit of ingenuity, combined with a strong Midwestern work ethic, has helped drive the company's success ever since.

"My grandfather worked 50 hours a week until he was 95 years old," Newell Franks II recalled. "He instilled an ethic of hard work and good people doing good things."

Investing in the future

It's no wonder that, as the management team planned a new 120,000-square-foot assembly facility, they focused on making decisions that not only make good business sense today, but also set the company up for maximum success in the future.

This project marked the company's largest expansion to date. It is Burr Oak Tool's sixth Butler® building, and the management team was determined to ensure they made smart decisions — decisions that could benefit the business for the next 30 years or more.

(Above) The new Burr Oak Tool assembly facility offers three acres of additional production space to keep up with customer demand and changing industry standards.

PHOTOGRAPHY BY CHAD JACKSON PHOTOGRAPHY

"We want the business leaders of tomorrow to look back and appreciate that the decisions we made today are still relevant in their time."

NEWELL FRANKS II, BURR OAK TOOL

The facilities group at Burr Oak Tool started by working with James Ware Construction, Inc., a Butler Builder®, to identify a design for a building that could be expanded up to four times its size. They installed a 12-inch deep concrete slab to support any possible manufacturing processes as the business grows. They used an open-loop water-source heat pump to cut heating and cooling costs by half. They even found doors rated for 150 mph winds that will withstand the cruelest of Michigan storms.

"We want the business leaders of tomorrow to look back and appreciate that the decisions we made today are still relevant in their time," Franks explained.

"It's easy to think about what's the least expensive course of action today and to take it without a second thought," he continued. "But that type of thinking will not really result in maximum savings. To truly identify the lowest-cost option, future maintenance and operating costs must be factored in. By considering costs over the life cycle of a product, you'll find that, often, the least expensive option today will end up costing you more over time."

Examining life cycle and maintenance costs, along with initial prices, enables businesses to make total cost-of-ownership projections. This allows them to ensure they are identifying the most efficient options for capital expenditures.

"It cost us a little bit more to do the thermal block system, but it will more than pay for itself," Franks said. "In fact, it's cheaper, at first, to have a flat membrane roof than to do a standing-seam metal roof, but you'll have to replace a membrane roof every 10 years, whereas the Butler roof will last 40 or 50 years if you take any kind of care of it. Think about the life cycle cost."

Bringing it to life

The building design for this new assembly facility was driven by the need for square footage. Franks, an engineer himself, worked with the design team at James Ware

Burr Oak Tool efficiently heats its new facility using an open-loop heat pump and helps mitigate heat lost through the building envelope with the Shadowall™ wall system.

The Widespan™ structural system easily accommodates massive crane equipment.

Construction to develop a plan for a facility that was 400 feet wide to avoid the need for internal gutters. The internal crane dictated the 38-foot eave height. The crane can lift 50 tons and spans 100 feet.

The versatile functionality of the Widespan™ structural system was easily able to accommodate the massive crane equipment while also maximizing use of interior space. The facility features panels from the Shadowall™ wall system, which requires 33 percent fewer fasteners than the typical ribbed panel, thus helping with energy efficiency.

Choosing a Butler® building system was an easy decision for Franks, who has been working with James Ware Construction and Butler since the late 1980s. In his experience, there never has been a problem with roofing or siding across multiple projects.

"When you deliver a quality product that customers can depend on, that's what keeps them coming back," builder James Ware said.

"For nearly 30 years, we've watched Burr Oak Tool grow, and we've helped them create new space to build their business. Newell is just one of those people who gets it. He gets that buildings are business decisions, and it's great to see the company thrive."

The original plan was to construct the facility throughout the winter, but just like in days past, there were challenges there, too. The project was forced to come to a standstill for months until Michigan thawed from its most severe winter in decades. But, as soon as they were able, Ware and his crew were in action.

"James Ware Construction has always done a good job for us. They get things done on

BURR OAK TOOL

Butler Builder®: James Ware Construction, Inc.
Architect: Raymond A. Ware
Size: 120,000 square feet
Butler® Systems: Widespan™ structural system, MR-24® roof system, Shadowall™ wall system

"You'll have to replace a membrane roof every 10 years, whereas the Butler roof will last 40 or 50 years if you take any kind of care of it. Think about the life cycle cost."

NEWELL FRANKS II, BURR OAK TOOL

"When you deliver a quality product that customers can depend on, that's what keeps them coming back."

JAMES WARE, JAMES WARE CONSTRUCTION, INC.

time and on budget," Franks said. "Engaging them on this project wasn't a hard decision. They are local and care a lot about the local community. They try really hard to do a good job, and they do."

The finished product

Now that the facility is finished, more than 100 employees work there, swiftly moving their way through a backlog of customer orders and maintaining their commitment to dependability. And, every day, they welcome visiting customers from among more than 70 countries Burr Oak Tool serves. Most often, customers react with awe — it's not every day you're able take in the magnitude of an open building with nearly three acres of floor space.

The building was completed just in time for the firm's 70th anniversary celebrations. The new assembly facility stands as an emblem of the progress and power of America's family-owned businesses. It housed the anniversary celebrations and will no doubt be home to additional innovations and ingenuity for years to come. One thing is for sure, the Burr Oak Tool management team can rest easier knowing they have paved the way for future generations to build on the progress they made by thinking about tomorrow. ▲

HOW IT WORKS: OPEN-LOOP WATER-SOURCE HEATING AND COOLING

This method of geothermal heating and cooling can be highly efficient because it uses water from an aquifer or another source as the means for heat transfer. After the water moves through the system, it's returned to the ground. The U.S. Department of Energy (DOE) reports this approach can cut electricity use by as much as half compared with a conventional heating and cooling system.

Along with lowering heating costs, this option tends to have lower maintenance costs because the equipment is protected from weather-related damage or vandalism. One major consideration, however, is the quality of the outside water pumped in. There must be an adequate supply of water, and the water needs to have a neutral pH to avoid corrosion. This approach also may require additional permitting.

Closed-loop heat pump systems are another option, and, while less efficient than open-loop systems, they are still a highly efficient choice. This approach differs from an open-loop system because, instead of returning the water to the source, it closes the loop with a network of plastic tubing that is either underground or submerged in water.

According to the DOE, it often takes 10 years or less to recoup the initial investment through lower utility bills.

An additional benefit these solutions offer is the capability to provide zone heating or cooling, making it possible to heat or cool different sectors of a facility to different temperatures. Heat pump systems are viable options for new construction and retrofits.

Clearlite Glass achieves comfort in new offices

Ending the age-old temperature debate

If you've ever shared a space with multiple people, chances are you've been privy to a temperature war. In fact, some 80 percent of office employees have complained about their office temperature, a recent survey shows, making the "it's too hot/it's too cold" argument a workplace staple.

One Canadian company is working to end the debate. In its office, at least.

Clearlite Glass is a major regional glazing supplier known for quality. The business frequently tackles projects with designs too ambitious for its competitors to handle, including one of the first LEED-certified facilities in Saskatoon. To maintain its sterling reputation, the business depends on its

"We've worked a lot with Wright on Butler buildings in the past, and they're phenomenal to work with."

COREY HUNCHAK, CLEARLITE GLASS

CLEARLITE GLASS

Butler Builder®: Wright Construction Western Inc.
Designers: Brad Barber/Corey Hunchak – Clearlite Glass Ltd.
Construction Drawing Provider: Edwards Edwards McEwen Architects
Size: 18,000 square feet
Butler® Systems: Widespan™ structural system, MR-24® roof system, Shadowall™ wall system

(Above) The new Clearlite Glass facility highlights the glazing company's design capabilities with a massive 2,900-square-foot curtain wall.

PHOTOGRAPHY BY GRANT ROMANCIA PHOTOGRAPHY

dedicated employees to continually deliver a premium product.

Company president, Corey Hunchak, and vice president, Brad Barber, see a strong connection between a comfortable work environment and retaining both top-tier talent and motivated employees.

"Many of us spend more waking hours at the office than we do at home," Hunchak said. "At Clearlite, we want people to enjoy being here — enjoy working here — and that means ensuring the facility offers a comfortable environment."

And the research backs him up. Physical comfort is "critical to work effectiveness, satisfaction and physical and psychological well-being," said Dr. Jacqueline Vischer, a University of Montreal professor of interior design.

"Uncomfortable conditions in the workplace … restrict the ability of workers to function to full capacity and can lead to lower job satisfaction and increased illness symptoms."[1]

On average, employees waste more than 32 hours per year adjusting to workplace temperature, a recent survey found, putting a hefty productivity price tag on the issue.

The challenge lies in the fact that comfort is subjective, and no single temperature suits all people. That's why when Clearlite Glass needed a new facility to better handle its increased workload and showcase the design possibilities its products afforded, it opted for a building design that gave each employee control over his or her own thermostat for maximum comfort in every office.

"Working with the owner in such a close capacity helped expedite the process."

LOGAN HJELTE, WRIGHT CONSTRUCTION WESTERN INC.

"We knew Butler offered the best systems solutions out there. We had the structural components on order prior to finishing the full design, and we're extremely happy with the final result."

COREY HUNCHAK, CLEARLITE GLASS

Shared history leads to efficiency

Clearlite Glass collaborated with Wright Construction Western Inc., a Canadian Butler Builder® with more than a century of experience, to marry the owner-designed vision for the ideal office/manufacturing space with the efficiencies of Butler® building systems to create an 18,000-square-foot manufacturing and administrative facility.

Wright Construction and Clearlite Glass have a long, shared history of working closely on regional building projects. In fact, each has served as customer and supplier to the other. The relationship is so strong that Clearlite Glass knew it wanted to award its new building contract to Wright without formally considering other options.

"We've worked a lot with Wright on Butler building systems in the past, and they're phenomenal to work with," said Hunchak.

The crown jewel of Clearlite Glass' new facility is the exterior two-story curtain wall (a wall that doesn't carry a structural load, often made from glass). It features 2,900 square feet of high-performance triple-glazed blue reflective units and the highest-performing aluminum curtain wall extrusions available. The Clearlite Glass curtain wall achieves a thermal resistance value (R-value) of almost R-8, a substantial improvement over more typical curtain wall solutions that offer R-values of R-4 or lower.

The close Builder/customer relationship was especially important for this project because of the curtain wall. Typically, vast amounts of glass can create heating and cooling issues when not properly considered in the mechanical design (thus exacerbating employee comfort concerns). Luckily, Wright Construction and Clearlite Glass have a history of collaborating particularly closely on HVAC and window glass needs. For this project, that meant using high-performance Clearlite Glass glazing systems and an energy-efficient zoned HVAC system. This approach, combined with a building design that features individual offices for each Clearlite Glass design and administration team member, provides the ability to heat or cool different building areas to different temperatures and ensures comfort year-round.

Beyond delivering employee comfort, the close attention Wright Construction and Clearlite Glass gave to the glazing and HVAC systems is a best practice. Often, when building designs maximize glass surfaces to create dramatic facades, thermal performance is not as closely considered. In these cases, the curtain wall can create an extremely high relative heat gain (and a low thermal resistance), which taxes the mechanical system to a point where it can never keep up to the heating and cooling needs of the building or its occupants.

Stretching design limits

The curtain wall also required careful consideration from a structural perspective. Integration of this architectural marvel required custom-designed components from Butler to attach the curtain wall to the structural and wall systems; however, marrying Clearlite Glass and Butler products is nothing new. The Builder and building owner have applied this combination in numerous other facilities in the past, helping to simplify the detailing process.

Inside the building, the two-story office area is flanked by glass partitions, giving the space

(Left) The Clearlite Glass facility boasts rich interior textures, large windows and a clerestory entrance area.

a high-end and sophisticated feel. From a structural perspective this required a building system that could handle the wide expanse and multiple stories, as well as a clerestory entrance area. As one of Butler's most versatile structural systems, the Widespan™ structural system offered the design flexibility needed to realize Hunchak and Barber's dramatic building design.

Additionally, the building features high-end interior finishes and architectural elements, including dramatic stone facades in the lobby and conference rooms, a glass-railed staircase, as well as ceramic-tiled floors.

Major manufacturing

Along with delivering a beautiful and comfortable office environment, a main reason Clearlite Glass embarked on building a new facility was to expand its production capabilities. The manufacturing space needed to deliver the muscle required to meet the company's growing workload.

The new facility manufactures all of the company's curtain wall, storefront and window products, and it houses its computer-controlled fabrication equipment.

Curtain walls require a complex manufacturing process because they must be cut and drilled per the exact design specifications for each building project. Labeling and delivering individual pieces in the proper order also is critically important to efficient on-site installation and to the integrity of the building envelope design.

Special efforts were taken to ensure the floor was configured to handle the manufacturing process, which includes larger cranes and cutting machines. Several pieces of equipment required deeper bases that had to be separate from the main concrete slab to make sure performance was not infringed.

Building to reality

From start to finish, construction took just five months, and the Clearlite Glass team, with its industry experience, took a very hands-on approach.

"Working with the owner in such a close capacity helped expedite the process," said Logan Hjelte, project manager with Wright Construction. Hjelte points to the customer's ability to make decisions without any delays as a key factor in expediting the design phase.

Individual offices for the design and administrative team members allow each employee to control his or her own thermostat.

"We knew what we wanted and how we wanted it," Hunchak said. "We knew Butler offered the best systems solutions out there. We had the structural components on order prior to finishing the full design, and we're extremely happy with the final result."

In particular, Hunchak credits the Butler® systems with contributing to the speed of the construction process and the ability of the Widespan™ structural system to offer design flexibility.

A clear vision

With the new facility in place, Clearlite Glass has just about everything it needs to continue its reign as a leading regional provider in the industry. The company built its reputation on delivering quality products and getting projects right. Its new facility helps ensure the business can continue to stay true to that reputation with enhancements that help streamline the process.

"The building is exactly what we wanted," Hunchak said. "It demonstrates how our products can be used to raise the bar from a design perspective, and even when we have different vendors in, such as lawyers and accountants, frequently, we get comments about how they wish their offices were like ours."

The focus on employee comfort is (literally) paying off. Clearlite Glass qualified for a substantial energy rebate because it employs controlled motion sensors, so the lights and heating units are engaged only when needed.

Thanks to its new building, in this corner of Canada, Clearlite Glass employees are comfortable, clients are wowed and the manufacturing floor runs smoothly. ▲

The Widespan™ wall system allows building owners to maximize the functionality and productivity of the facility's interior space, easily accommodating both large manufacturing floors and office areas.

FINDING EFFICIENCIES

While many energy-saving technologies take years to pay off, here are some resources to help put more cash back in your pocket now.

Your electric company: Major utilities offer incentives for becoming more energy efficient (and ideas on changes you can make).

Energy Star®: The Buildings & Plants section on its website offers resources to find regional or sector-based efficiency incentives.

Dsireusa.org: Run by North Carolina State University, this web resource offers a comprehensive source of information on incentives and policies that support renewables and energy efficiency in the United States.

Natural Resources Canada: This organization's website offers information on grants and other financial incentives for each province.

[1]"Home sweet office." Herman Miller, 2008.

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