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SageGlass® plays an integral role in helping Saint-Gobain achieve its sustainability goals while creating a next-generation workplace that puts employee comfort first.

certainteed CASESTUDY

Welcome to the 21st Century Workplace

The new Saint-Gobain and CertainTeed North American Headquarters is the model of a dynamic, sustainable workplace and a living laboratory that focuses on employee comfort.

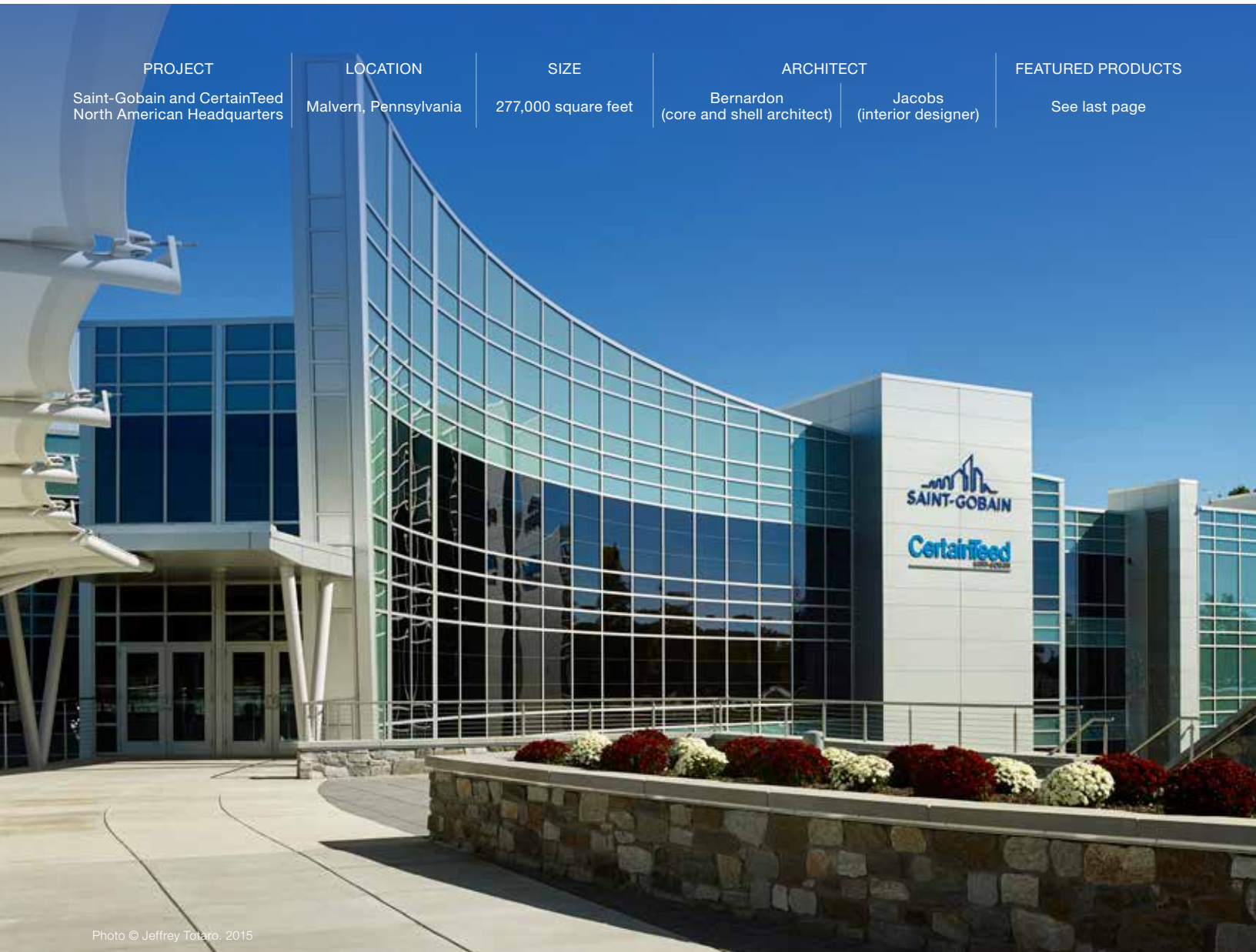
When Saint-Gobain and its subsidiary CertainTeed set out to find a new corporate headquarters for its North American operations, it wasn't your typical relocation project. As one of the world's largest building materials companies, Saint-Gobain realized it had a unique opportunity to create a next-generation workplace using solutions from its own extensive portfolio of advanced building products.

Capitalizing on the chance to finally build its dream home, the company embarked on an 18-month renovation of an abandoned corporate site, stripping the 1960s-era facility down to the steel and concrete and transforming it into a stunning and sustainable showplace that maximizes the health and comfort of its employees.

A next-generation workplace

Situated on 65 idyllic acres 25 miles west of Philadelphia in Malvern, Pennsylvania, the 277,000-square-foot headquarters is just a short drive from the company's former site in Valley Forge, but a world away from the aging facility that served as the company's home base for 45 years.

Encased in walls of glass, the sleek new office space is bright and beautiful, affording employees an abundance of natural light and sweeping views of nature from nearly anywhere in the building. Fresh air and no- or low-emitting materials make for a cleaner indoor environment, while thoughtfully designed acoustics add to the quiet, comfortable atmosphere. On-site amenities like a cafeteria, pantry areas, a fitness center, a pond, outdoor workspaces by a rainwater fountain and 1.3 miles of walking trails further enhance the employee experience.



PROJECT

Saint-Gobain and CertainTeed
North American Headquarters

LOCATION

Malvern, Pennsylvania

SIZE

277,000 square feet

ARCHITECT

Bernardon
(core and shell architect)

Jacobs
(interior designer)

FEATURED PRODUCTS

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Photo © Jeffrey Totaro, 2015

A model of green building techniques and sustainable materials



In keeping with Saint-Gobain's goal of sustainability, the facility was designed to the U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) standard and received Platinum status — the highest level of certification — for the interior as well as the core and shell.

A number of green design and construction features contributed to achieving LEED certification, including superior energy and water efficiency, roof and wall performance, indoor air quality, and the use of materials that were carefully selected for their environmental and health attributes. Although the latest LEED v4 was not available at the time of planning the headquarters, Saint-Gobain pursued select credits under the Innovation in Design category by providing details on CertainTeed's environmental product declarations and health product declarations for its ceilings, insulation and wallboard products, demonstrating the company's commitment to transparency while contributing to LEED v4.

CertainTeed ToughGard® TGR Rotary Duct Liner and SoftTouch® Duct Wrap are used throughout all of the HVAC systems to reduce unwanted crosstalk, air rush, equipment noise, moisture buildup and energy loss.



Photo © Jeffrey Totaro. 2015



In the cafeteria, CertainTeed Cedar Impressions® Individual 5" Sawmill Shingles with CedarLife™ Color Blends are an interesting indoor commercial application of a traditional outdoor residential product.

Utilizing more than 50 Saint-Gobain products

The state-of-the-art design incorporates more than 50 high-performance solutions from Saint-Gobain's family of companies, including CertainTeed — systems and technologies that have been carefully orchestrated to work together in optimizing air quality, moisture management, acoustics, energy efficiency, thermal management and ergonomics.

For the building's designers — architectural firms Bernardon on the core and shell, and Jacobs on the interior — it marked the first time they had worked on a project using a client's own products.

"It's not often that we as a manufacturer get to sit down and talk through the details of each solution with the architects," said Heather Whitaker, sales training and support manager for CertainTeed Ceilings and a member of the headquarters project team. "We helped the design team understand that it's more than just a new building or a showroom for our products. Our main focus was the performance of our solutions and the change it would create for employees."

Maximizing the comfort and health of employees

The new campus features an open-concept office design balancing high-energy collaborative spaces with quiet, concentrative spaces. One of the biggest design challenges was managing the acoustics. The company chose to keep the building's existing HVAC system, but was concerned about intelligible sound traveling from one space to another. CertainTeed's ToughGard® TGR Rotary Duct Liner and SoftTouch® Duct Wrap reduce unwanted crosstalk, air rush, equipment noise, moisture buildup and energy loss, helping to improve acoustic performance, indoor air quality and thermal comfort.

To dissipate noise in the open spaces, CertainTeed's acoustical experts employed an innovative two-part solution offering exceptional sound absorption: Symphony *f*® and Adagio® ceiling panels. For the surrounding huddle rooms and smaller meeting rooms, the team paired CertainTeed's Symphony *m* ceiling panels with SilentFX® noise-reducing drywall. All three ceiling products feature the same smooth, contemporary finish, creating a consistent visual look throughout the office area.



Photo © Jeffrey Tolaro, 2015

Used in interior walls, AirRenew® Essential Indoor Air Quality drywall removes Volatile Organic Compounds (VOCs) from the air, improving indoor air quality and promoting healthier living and work environments.

The company also added a state-of-the-art sound masking system to provide speech privacy in the open workstations and open collaboration areas — highly engineered noise that raises the background noise to a comfortable level and renders speech unintelligible — so employees are not distracted by their colleagues' conversations.

To ensure acoustical privacy and optimal air quality throughout the building, the design team applied a variety of CertainTeed solutions in the walls. Sustainable Insulation® fiber glass batts create a quiet, comfortable environment that conserves energy and resources. AirRenew® Essential Indoor Air Quality drywall actively removes formaldehyde from the air and converts it into a safe, inert compound, while SilentFX reduces sound transmission between adjoining rooms.

In the large training rooms — flexible spaces that accommodate up to 73 people, with a sliding solid partition wall to divide them into two smaller rooms — Gyptone® BIG™ Quattro perforated gypsum on the ceiling absorbs the echo in the room and reduces reverberation while allowing sound to carry within the space, making for a high-performance, healthy learning environment.



Photo © Jeffrey Totaro, 2015

This SageGlass® configuration allows for three different zones of tinting within one pane of glass — maximizing daylight and providing employees with unobstructed views of the natural environment.

A showcase in every sense of the word

A glassmaker that traces its roots back more than 350 years to France, when it was founded by King Louis XIV to manufacture glass for the Hall of Mirrors at the Palace of Versailles, Saint-Gobain naturally wanted to incorporate its premier product into the building's design. While it makes for a dramatic entrance, the idea of a glass façade presented the designers with the issue of how to control heat and glare from the sun.

Enter SageGlass® electrochromic glass. With 17,000 square feet installed on the building's western and southern facades, SageGlass dynamically controls sunlight and optimizes daylight while preventing glare and solar heat gain. It allows for three different zones of tinting within one pane of glass to maximize daylight and provide employees with unobstructed views of the natural environment. SageGlass delivers superior energy efficiency and occupant comfort, ensuring a high-performing workplace for years to come.

Working in tandem with SageGlass to keep the building cool is CertainTeed's commercial roofing system. The CoolStar® cap membrane — surfaced with highly solar-reflective granules — and FlintBoard® insulation significantly reduce heat gain to keep the building and its inhabitants cool while lowering energy costs and extending the life of the roof. In the words of CertainTeed Building Scientist Lucas Hamilton, "It's like moving the building into the shade." A base layer of Flintlastic® Ultra Glass SA fiber glass-reinforced, self-adhering membrane provides increased protection from water intrusion.

The final element of the roofing system — a Solstice® solar array — will be installed in late 2016 to enhance the building's sustainable design, contributing to LEED points and additional energy savings.

To manage sound in the towering main entryway, Decoustics® Claro® custom ceiling panels, installed with a Ceilencio system, are paired with the company's custom wood wall panels — acoustically absorbing products that add to the building's "wow" factor.

In focal spaces like the secondary lobbies and seating areas, an assortment of Ecophon® Focus™ Ds and Solo™ Hexagon ceiling tiles along with Decoustics curved baffles blend high acoustic absorption with a stunning visual design.



Photo © Jeffrey Totaro, 2015

A living laboratory in which to study employee comfort and productivity

Saint-Gobain's new headquarters is much more than just a showcase for its innovative building solutions; it's also a "living laboratory" where the company can test and evaluate the performance of its products in an actual work environment.

Led by its team of building scientists, Saint-Gobain and CertainTeed are partnering with Dr. Ihab Elzeyadi of the University of Oregon to assess the impact of the building's design on the occupant experience, measuring factors such as indoor air quality and thermal, acoustical and visual comfort.

"Our goal is to take measurements, gauge employees' experience and comfort level, and then adjust the building accordingly to make it a better environment," said Stan Gatland, CertainTeed's manager of building sciences and comfort.

The company also installed an on-site auralization lab — a listening studio that will allow it to acoustically simulate the use of different ceiling products to determine the most effective solution for a given space.

"It really is a living, learning laboratory," said Bob Marshall, senior manager of technical services for CertainTeed Ceilings. "If something doesn't work, we can go back and change it based on the occupant experience."

Added Hamilton, "We get to be the living proof that all of these solutions, when properly incorporated, can create a space where people like to come to work and are happier and more productive."

In this training room, Gyptone® and Gyptone Quattro perforated panels and ceiling tiles enhance acoustics to make the workspace more productive.



Photo © Jeffrey Totaro, 2015



Photo © Jeffrey Totaro. 2015

An entryway gathering space just off the main lobby features a variety of CertainTeed's acoustical solutions, including SilentFX® on the walls and ceilings and an exposed structure with Decoustics® Baffles.

Promoting a premier experience

Based on employees' experience less than one year in, the new facility already appears to be a huge success.

"Coming from a closed office, I wasn't sure how the open concept would work," reported long-time Saint-Gobain employee Ken Chiarello, director of Human Resources. "But I was pleasantly surprised. It took me about two days to realize how great it is here. I've seen a big change in morale."

Joanne Forsythe concurred. "You see people with smiles on their faces, and there's a more positive vibe. Everyone seems to enjoy being here."

As part of the IT team, Forsythe started working in the new building a few weeks before the rest of the company arrived. "With the open floor plan, I was concerned that the noise level would rise once everyone else moved in. But that wasn't the case. The sound didn't change, whether there were four or 40 people working in the space."

Jim Leonard, director of business systems for CertainTeed's interior products, noted how his team has benefitted from a dramatic reduction in ambient noise. "The acoustics here have had a very positive impact on our team. Collaboration has increased tremendously."

"It's night and day," summed up Julian Ketchum, technical marketing manager for CertainTeed Gypsum. "We feel like we're home."

CertainTeed's commercial roofing system helps to keep the building cool while lowering energy costs.



Visit www.livinglaboratory.com to learn more about the Saint-Gobain and CertainTeed North American Headquarters or to book a tour.

Featured Products

CEILING

CertainTeed

- > Adagio™ Fiberglass/Mineral Fiber Composite Panels
- > Symphony® *m* Mineral Fiber Panels
- > Symphony® *f* Fiberglass Panels
- > Theatre Black Fiberglass Panels
- > Rx Symphony® Stain Resistant Mineral Fiber Panels

Ecophon®

- > Solo™ Hexagon Free Hanging Fiberglass Panels
- > Texona™ Fiberglass Wall Panels
- > Focus™ Ds Fully Concealed Fiberglass Ceiling
- > Gedina™ A High Density Fiberglass Ceiling

Gyptone®

- > BIG™ Quattro 46 Large-Format Perforated Gypsum Panels

Decoustics®

- > Claro® on Ceilencio Downward Accessible Ceiling
- > Baffles in Custom Fabric-Wrapped Fiberglass Shapes
- > Quadrillo® Acoustic Wood Veneer Ceilings and Walls
- > Solo-M Acoustic Wood Wall and Ceiling Panels

Suspension Systems

- > Classic Stab 15/16" Suspension
- > Elite Stab 9/16" Suspension
- > Drywall Suspension
- > Gyptone® GK Suspension
- > Cloud Perimeter Trim

DRYWALL

- > AirRenew® Essential and M2Tech Indoor Air Quality Drywall
- > Best Mud in the Joint® Lite All-Purpose Joint Compound
- > CertainTeed Standard and Type X Drywall
- > Marco® SPARK-PERF® Joint Tape
- > Diamondback® GlasRoc® Tile Backer
- > EasyFlex™ PRO Joint Tape
- > M2Tech® Mold and Moisture Resistant Drywall
- > ProRoc® Finishing Compound
- > SilentFX® Noise-Reducing Drywall

GLASS FACADE

- > SageGlass®

INSULATION

- > SoftTouch® Duct Wrap
- > Sustainable Insulation®
- > ToughGard® TGR Rotary Duct Liner

ROOFING

- > FlintBoard® Insulation
- > Flintlastic® GTA CoolStar® Cap Sheet
- > Flintlastic® Ultra Glass SA Base Sheet
- > Solstice® Solar System

SIDING

- > Cedar Impressions® Individual 5" Sawmill Shingles with CedarLife™ Color Blends