

CASE STUDY

Supporting Net-Zero Energy Standards

With a net-zero energy building as the paramount focus for the new ASHRAE Global Headquarters, it was clear that excellent indoor environmental quality, supported by exceptional HVAC system performance was required. As a long standing industry partner, Armacell supported ASHRAE's project by donating insulation products to help ensure the building's mechanical systems performed to the strict environmental goal of a 100% net-zero carbon building. **Armacell in action.**

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MAKING A DIFFERENCE AROUND THE WORLD

Energy Efficiency Evolution: A Study in Philanthropy

Project:

ASHRAE Global Headquarters

Location:

Peachtree Corners, GA (north of Atlanta)

Mechanical and Insulation Contractor:

Shumate Mechanical

General Contractor:

SKANSKA

Being a longstanding partner of ASHRAE, Armacell supports their initiatives and recently donated insulation products and accessories to the building renovation of a new global headquarters for ASHRAE. Finding generous donors of products that met certain energy efficiency criteria was a challenge during the uncertain times of 2020. Armacell was up to the challenge of ASHRAE'S sustainable design goals armed with our portfolio of solutions.

ASHRAE is a global professional society with a mission of advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields. Founded in 1894, ASHRAE is an industry leader in research, standards writing, publishing, certification and continuing education. The Society's members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries. Being a driver of system and design evolution within the HVAC&R community, it was important to ASHRAE to "walk the talk" when it came to renovating their global headquarters building and meeting net-zero energy standards.

"Sustainability was critically important for the global headquarters project. We wanted this project to make an

impactful statement regarding sustainable renovation of the existing building stock. ASHRAE's new global headquarters demonstrates how to take a 1970's-era structure and remodel it into a high-efficiency net-zero energy performance building."
– Ginger Scoggins, P.E., LEED-AP
ASHRAE Building Ad Hoc Committee Chair.





In January 2020, ASHRAE broke ground on a new building renovation for its next global headquarters. The Society acquired an existing 66,700 ft² building, originally built in 1978, on 11 acres in the Technology Park area of Peachtree Corners, Georgia. This building would provide members of the Atlanta and greater southeast building community the opportunity to participate in one of the industry's most publicized projects.

SPEND TEN TO OBTAIN ZERO

Although new construction of net-zero energy buildings tend to capture headlines, the reuse of existing structures is a basic principal of sustainability. To achieve net-zero energy performance, the total amount of energy used by a building on an annual basis must be equal to the amount of renewable energy created on the site. Obtaining 100% zero-energy efficiency can be an even greater challenge for an existing structure, so careful project plans and key system innovations had to be implemented. Features such as water-efficient plumbing,

thoughtful landscape design and the ability to harness onsite energy production and be a net-zero-energy-ready building, were clearly defined as top project requirements. Some other requirements included low operations and maintenance costs, excellent indoor environmental quality standards that facilitate occupants' productivity, superior HVAC system performance, good space utilization, improved acoustical qualities, and highly durable finishes. Above all the design criteria had to meet, and in some cases exceed, the requirements set forth in ANSI/ASHRAE Standard 62.1 - Ventilation for Acceptable Indoor Air Quality, ANSI/ASHRAE/IES Standard 90.1 - Energy Standard For Building Except Low-Rise Residential Buildings, and had to follow the guidelines set forth ASHRAE's Advanced Energy Design Guide Achieving Zero Energy, Advanced energy Design Guide for Small and Medium Office Buildings. The final sustainability objective was for the building to be substantiated through available certification programs such

Did You Know?

According to a recent report by New Buildings Institute (NBI), there are nearly

580

certified, verified, and emerging zero energy buildings across the US and Canada —

that is a massive 10-fold increase since 2012!



as ASHRAE's Building EQ, LEED®, Green Globes, Fitwell, WELL Building or Living Building Challenge.

"ASHRAE's first-of-its-kind headquarters building was designed as a living showcase of what's possible through technology integration to increase efficiency, protect people and property, and enhance the occupant experience," said 2020-21 ASHRAE President Charles E. Gulledge III, P.E. "In addition to supporting ASHRAE's technical standards, innovative product integrations from our generous donors also provide a scalable and repeatable model for a net-zero energy building design."

By having a well-defined project plan and smartly utilizing a \$10 million budget including substantial donations from industry partners and leaders, ASHRAE's building was slated for success. A team of ASHRAE volunteers led a highly successful building campaign to garner support for the renovation project. During 2020, a time of uncertainty, and ever-changing "normals," ASHRAE's corporate donors proved their commitment to the expansion of new sustainable building innovations with their

Sustainable Solutions

- ArmaFlex closed-cell foam insulation ensures long-term thermal performance and energy efficiency for mechanical systems. This rubber-based flexible material is GREENGUARD® Gold certified, fiber-free, formaldehyde-free, low VOC, and made with Microban® antimicrobial protection, which makes it an excellent choice for zero energy environments.
- ArmaFlex Insulation Tape provides a fast, easy method of insulating pipes and fittings. This innovative tape is also fiber-free, moisture resistant, and made with Microban antimicrobial protection to resist mold, even in the tightest of places.
- ArmaFlex WB Finish is a water-based, 100% acrylic coating suitable for both indoor and outdoor applications and provides a clean, white, protective finish to guard against UV and ozone damage. This finish is fast drying and does not have solvent fumes.
- ArmaFlex 520 BLV Adhesive is a low-VOC contact adhesive developed to meet application requirements for reduced emissions of Volatile Organic Compounds. ArmaFlex 520 BLV Adhesive makes a resilient and heat-resistant bond with many materials where the use of a toluene-free, hexane-free, low-VOC, solvent-based rubber contact adhesive is required. This product also meets the South Coast Air Quality Management District (SCAQMD) Rule 1168 and when dried also meets 25/50 flame spread index and smoke developed index requirements of codes and specifications when tested by ASTM E 84 Test Method.

generous support to the project. Thirty-one corporate donors committed more than \$10.2 million in monetary support and gifts of equipment and services. Knowing that one requirement of this project was to ensure superior HVAC system performance, Armacell proudly supported ASHRAE with their altruism by donating ArmaFlex® insulation, ArmaFlex® Insulation Tape, ArmaFlex® WB Finish and ArmaFlex® 520 BLV Adhesive. To commemorate this donation and thank Armacell, ASHRAE named its IT operations hub in the new global headquarters the ARMACELL DATA CENTER. "Working with ASHRAE and being a part of such an impactful project was an honor for our team. Sustainability, which is at the core of our solutions at Armacell, will drive the building materials industry forward and it is the key to future growth and progress," commented Phil Chuy, Sales and Marketing Manager, Southeast at Armacell.

The renovated and state-of-the-art building will be on its way to be fully net-zero energy by March 2021 and Armacell is proud that our solutions will contribute to this momentous achievement for the industry. ■

For more information visit www.ashrae.org



Strength in Numbers

ASHRAE has more than

53,000

members in more than

132 countries

worldwide!



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ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,135 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

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