

ARMACELL SOLUTIONS

Hospitality

America's 47,000 hotels spend 6% of their operating cost each year on energy. Controlling that number saves money, but also increases guest comfort. Specifying the right insulation saves energy, controls condensation and helps HVAC systems perform better, longer. Armacell has closed-cell insulation solutions that offer these important benefits to hotel construction projects.

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MAKING A DIFFERENCE AROUND THE WORLD



HOSPITALITY SOLUTIONS

The challenges for the hospitality industry are immense. A hotel must endeavor to satisfy their customer's every demand of home, while away. An impossible task? Almost, unless preparation and amenity offerings are carefully regarded to accommodate the ever-changing expectations of their customers. Guests today expect a memorable experience. Large chains need to treat their guests with the personal attention and pampering that they might receive at an exclusive boutique hotel.

People want luxury and comfort in their individual rooms, but also in the spa, restaurant, meeting spaces and common areas, like the lobby or maybe a rooftop bar. Designing systems for all these areas takes careful planning. Whether the challenge is a historic building renovation, or a new construction hotel, the proper insulation system can help achieve design goals overcoming major challenges in guest comfort, reliability, and energy efficiency.

POPULARITY AND TRENDS

The importance of social media to the general public has given hotel guests new eyes with which to view their stay and how they plan to spend their money. Ten years ago, any complaints about how air quality or temperature were lacking would have been settled between a guest and the hotel clerk. Today this could be a serious issue for future guests who haven't even stayed in the hotel yet!



US hotels spend on average

\$2196

per guest room on energy each year¹

¹ Click this link to Source Information

Upgrading or replacing antiquated HVAC and plumbing systems has become an option for hotel owners. While the process can be arduous, the return in quality and guest experience shines through. An owner should expect clean design and ease of install when renovating an HVAC or plumbing system in order to maintain guest experience and reduce operations and install costs. Packaged terminal air-conditioners being manufactured and installed today typically yield 30-40% more efficient operation than their predecessors. However, in order to update an HVAC system it is prudent to upgrade the insulation as well, thus protecting the increase in realized efficiency and maintaining it throughout the lifetime of the system.

The attractiveness of a hotel stay is almost entirely reliant on the modern quality and reliability of the living arrangement's components and make-up. Insulation may seem a small factor in helping provide these qualities, but make no mistake, the insurance of an innovative and modern insulation system is undeniable.



HEATING/COOLING METHODS

Heating and cooling challenges within hotels buildings are numerous. Although heating and cooling requirements will vary per room and floor, the end-goal of meeting efficiency and space

requirements, while maintaining sustainable practices, is paramount. First impressions of these temporary guests have lasting effects on a hotel's reputation. Therefore, the hotel environment from the lobby up to the top floor rooms should represent the highest achievement in

acoustic and thermal comforts. Hotels can require a number of heating and cooling solutions operating as an integrated system. Within the same building, a condenser water system could service lower level conference rooms via water-source heat pumps with VAV (variable air volume) while resultant hot and cold water from VRF (variable refrigerant flow) servicing management offices could be used to heat and cool the lobby area via radiant technologies. A top priority for hotel design is management and reliability of these systems. Simplicity in design, ease of installation, and immediate access for operational maintenance remain areas of particular importance.

Given the varied usage of ducted HVAC, non-ducted HVAC, and plumbing systems within hotel structures, issues of moisture intrusion can reach unmanageable levels during operation if not properly accounted for. If, for instance, insulation gets wet then that moisture could lead to IAQ problems like mold or mildew, that may go undetected for months or even years simply as a result of the physical constraints of the construction envelope. Additionally, refrigerant piping is a constant culprit for condensation build up





and even refrigerant leaks over time. As this piping traverses the inner workings of a building, the risk of moisture damage increases exponentially. Designing a system with the most protective insulation barrier is insurance any designer can afford. Since hotels can contain a multitude of different air-conditioning technologies, it is safe to assume that the noise from the fans and blowers inherent to these technologies will bring along unpleasant noises and acoustic ailments. Additionally, unwanted noises from plumbing heard through shared walls is a constant annoyance if left untreated. While insulation can be used to preserve air and water quality and temperature, the acoustic benefits should not be taken for granted in design, especially dealing with confined spaces. For example, air-handling units cooling a conference room require specific acoustic conditioning to maintain the comfort of guests in a neighboring hallway. Lining and wrapping ductwork with closed cell insulation helps manage audio frequencies specific to air-handlers and potential microbial growth common to open-cell insulation types.

INNOVATIONS

As hotel stay frequency increases to accommodate business and leisure travel, it is important for designers to take note. Innovation will be required to manage the residual effects of increased population movement and resource demand in these

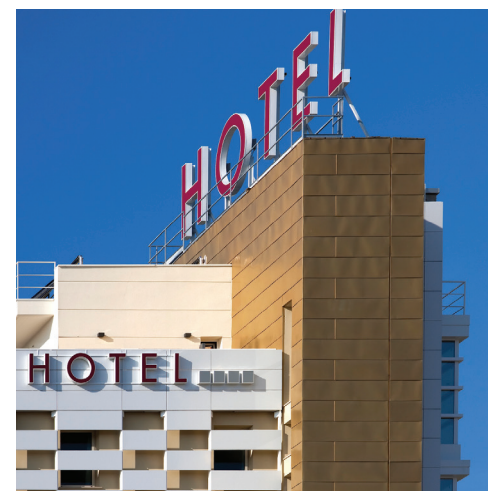
facilities. Aside from technology introductions in the form of Hybrid-VRF systems, passive fire control and increased integration of dissimilar technologies already present opportunities for innovation in the hotel design of today. Even close observance of internal and external components of hotel HVAC systems, such as gaskets and insulation, is considered innovative design when compared to design 20 years ago. As custom HVAC and plumbing solutions become increasingly sought after, designer reliability and consistency will become an increasingly important standard by which these facilities are developed.

LEED® certification is also increasingly popular. While it is a benefit for building owners and guests, demanding limitations will be placed on technology selection and implementation. Appropriate selection of materials and equipment that qualify buildings for LEED certification is necessary if an owner wishes to achieve long-term durability and lower maintenance costs. Insulation systems should provide both of these things. Armacell is innovating for comfort and efficiency.

INSULATION DEVELOPED FOR HOTEL APPLICATIONS

The one thing all of these design variables have in common is the need for proper insulation. Armacell's insulation systems are ideal for insulating chilled water piping, chillers, cooling tanks and air handlers.

Insulating pipes, refrigeration lines or cooling systems not only promotes energy efficiency, but it also prevents condensation on below-ambient temperature surfaces — a critical issue for hotels and their guests. Specifying Armacell Solutions for hotel construction and renovation is a proven choice. Armacell uses fiber-free, formaldehyde-free, low VOC formulation for its foam insulation, which makes it an excellent option for any environment, eliminating particulate that can jeopardize air quality and equipment. Closed-cell structures also prevents moisture ingress and naturally resists growth of mold and mildew. Most importantly, the flexible nature of Armacell's insulation means it installs easily in tight spaces in floors, walls or ceilings. You can count on Armacell insulation retaining its thermal integrity over time, lasting well into your future. ■





HOTEL/ HOSPITALITY FACILITIES RELY ON OUR PROVEN SOLUTIONS

PROJECTS WON

- **Boston Seaport Omni Hotel** – Boston, MA
- **Centerpointe Marriott & Residence Inn Hotels** – Lexington, KY
- **CitizenM Hotel** – Seattle, WA
- **Embassy Suites by Hilton Resort** – Aruba
- **Embassy Suites Oceanfront with Garage** – Virginia Beach, VA
- **Grand Bohemian Hotel, Spa, Pool & Conference Center** – Greenville, SC
- **Grand Hyatt Hotel & Parking Garage** – Nashville, TN
- **Great Wolf Lodge - Poconos** – Scotrun, PA
- **Hilton Garden West 48th** – New York, NY
- **Hotel Marriott** – Brossard, Quebec
- **Hotel Punto Mar** – Acapulco, Mexico
- **JW Marriott Tampa at Water Street - Swimming Pool** – Tampa, FL
- **Kahler Grand Hotel/Towers** – Rochester, MN
- **Kenmore Hotel** – Boston, MA
- **Legoland Hotel** – Winter Haven, FL
- **Marriott Headquarters with Hotel & Parking Garage** – Bethesda, MD
- **Marriott Hotel & Conference Center** – Charlotte, NC
- **Miami Beach Convention Center Hotel** – Miami Beach, FL
- **Pendry Park City** – Park City, UT
- **PGA Omni Hotel and Conference Center with Spa** – Frisco, TX
- **Ritz Carlton Hotel** – Paradise Valley, CA
- **Star Wars Themed Resort - Disney** – Orlando, FL
- **TMC Hotel & Convention Center** – Houston, TX
- **Westin Hotel** – Tempe, AZ
- **Wild Dunes Resort Expansion** – Isle of Palms, SC

SMART SOLUTIONS FOR YOUR BUSINESS

Armacell's Solutions Portfolio groups insulation products into comprehensive packages aimed at making the specification of the right insulation for mechanical systems easier than ever before. Mechanical engineers, insulation contractors, building owners, or distributors can easily identify the best insulation products for use in an air plenum, on HVAC/R mechanical piping, chilled, or plumbing – the key places where insulation is critical to the performance of the equipment. Packages offer two levels of cost and service: High and Superior Performance with a 10- or 15-year warranty.

All data and technical information are based on results achieved under typical application conditions. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant building regulations lies with the customer. By ordering/receiving product you accept the Armacell General Terms and Conditions of Sale applicable in the region. Please request a copy if you have not received these.

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00271 | Hotel Solutions | Armacell | MKTbrochure | 052023 | NA | EN-A

ABOUT ARMACELL

As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal 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 more than 3,300 employees and 27 production plants in 19 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.

For more information, please visit:
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