

Like any specialized facility, hotels and nursing homes place demands on buildings that do not exist in basic residential or commercial structures. Hotels and nursing homes especially should provide feelings of comfort and establish an aura of quality, all without breaking the bank. Critical considerations in the design of hotels and nursing homes are:

- Maximize occupancy rates, referrals, lengths of stay and repeat visits;
- Keep guests comfortable, rooms are draft free, cool in summer, warm in winter;
- Reduce sound transmission between rooms and bathrooms and limit exterior noise transmission from planes, highways and the street;
- Control moisture and mold both inside wall cavities and room interiors;
- Provide high quality indoor air to accommodate guests with allergies, etc;
- Minimize energy cost;
- Minimize maintenance cost;
- Minimize construction time; and
- Minimize mechanical and electrical equipment costs.

With enough heat or air conditioning, even poorly insulated buildings can stay comfortable. The fundamental purpose for properly insulating a building is therefore to minimize energy costs. The most effective way to cost-effectively insulate a building is with The Icynene Insulation System®. Buildings insulated and air-sealed with The Icynene Insulation System® achieve a reduction in heating and cooling consumption between 30% - 50%. In addition, there are many additional benefits to be derived from eliminating air leakage.

## Guest Comfort

In general, hotel guests have high expectations for their stay in any quality hotel, often far in excess of the comfort they expect from their own homes. No matter how discriminating their tastes, guests will feel the difference that proper insulating and air sealing makes over standard insulation techniques:

- No drafts;
- No cold spots on walls or ceiling in winter;
- Less humid rooms in summer;
- Less day-night temperature swing;
- Quieter rooms; and
- Improved interior air quality.

## Moisture Protection

In hot and humid climates, mold and mildew are a primary concern for any hotel operation. Mold remediation is costly, and often requires that large portions of a building remain unavailable for guest occupancy for extended periods of time. Although not a major consideration in colder climates, in hot and humid climates the determining factor in whether or not a hotel can continue to operate can be its ability to prevent the formation of mold growth. Major mold remediation projects have even led to ambitious undertakings like the development documents like *"Preventing Indoor Air Quality Problems in Hot, Humid Climates: Design and Construction Guidelines"*, and other similar contingency design manuals.

The Icynene Insulation System® is an integral part of any comprehensive mold attenuation strategy. Properly installed, Icynene® provides a means to reduce the potential for condensation and mold from forming, thereby protecting the structure, the interior finishes and furnishings, and above all the health of guests and employees:

- Airborne moisture and humidity are kept from entering the building and forming condensation in cold cavities;
- Reduced temperature differentials between rooms and corridors;
- Reduced transport of mold spores and better overall air quality;
- Assembly designs can be used that eliminate materials which impede natural drying cycles;
- Reduced moisture-related structural problems, increasing building life expectancy;
- Reduced cleaning frequency and prolonged life for carpeting, bedding and soft furnishings; and
- Replace individual room fans with direct mechanical exhaust and conditioned make-up air supplied to corridors.

## Quieter Rooms

All sound barriers have the potential to be compromised by air leaks, which allow airborne sound to penetrate. By eliminating air leakage, assemblies air sealed with The Icynene Insulation System® are able to meet their laboratory-rated performance levels. There are many ways in which Icynene makes it affordable to lower sound levels in rooms:

- Reduced wall thickness (from 2x6 to 2x4 construction);
- Reduced interior finish thicknesses;
- Reduced noise from interior fans and smaller, quieter A/C units; and
- Reduced bathtub and plumbing noise

## Construction Efficiency

Employing The Icynene Insulation System® to insulate and air-seal projects can generate cost savings during construction by reducing site scheduling complications and material requirements. A single truck has an installation capacity of 15,000 board-feet per material set, with many trucks carrying multiple sets. This, combined with a wide coverage area (each truck is equipped with up to 300 ft of hose) contributes to substantial reductions in site clutter, and scheduling conflicts. As well, designs that include The Icynene Insulation System® allow the elimination of both the installation time, labor costs, and storage of materials associated with:

- interior vapor barriers;
- exterior building wrap;
- soundboard;
- preformed mechanical pipe insulation;
- glass fiber batts;
- individual room fans; and
- all associated fasteners & electrical work.

## Electrical System Downsizing

In hot, humid climates, ambient outdoor air adds a considerable latent load to the air conditioning system, which is also responsible for dehumidification. By reducing the volume of humid outdoor air that enters the building envelope, air sealing has a dramatic effect on the air conditioning load, and on the associated electrical systems:

- Reductions in space conditioning requirements by 30% - 50%;
- Reductions in total and peak electrical energy consumption;
- Room circuits can be lowered to 110-120 volts;
- Reductions in room distribution panel sizing;
- Reductions in interior power distribution circuit sizing;
- Downsized power supply lines from the utility grid; and
- Reduction in service entrance transformer sizing.

Hotels and nursing homes continually present new challenges for design and construction. Regardless of whether a building is residential, commercial, institutional, or industrial, The Icynene Insulation System® provides an affordable and effective solution to energy efficiency and mold control. Given the choice, it is always more efficient to ensure that Icynene® is included at the design stage than to attempting to retrofit a building once the project is found to be suffering from issues of mold and moisture damage.

**The Icynene Insulation System®** is a low-density soft foam insulation, which is sprayed into/onto walls, crawlspaces, underside of roofs, attics and ceilings by Icynene Licensed Dealers. Sprayed as a liquid, it expands to 100 times its volume in seconds to create a superior insulation and air barrier. Every crevice, crack, electrical box, duct and exterior penetration is effortlessly sealed to reduce energy-robbing random air leakage. The Icynene Insulation System® adheres to the construction material and remains flexible so that the integrity of the building envelope seal remains intact over time. Icynene® is ideal for residential, commercial, industrial and institutional indoor applications. **Information about The Icynene Insulation System® can be obtained by visiting [Icynene.com](http://Icynene.com) or contacting your local Icynene Licensed Dealer.**