Legrand®

How Legrand Systems Contribute to Sustainable Design

The companies of Legrand North America contribute to sustainable buildings by providing products and systems that promote green design practices, encourage greater flexibility, allow for the integration of emerging technologies, and reduce energy consumption. Together, Legrand/Cablofil, Legrand/On-Q, Legrand/Ortronics, Legrand/Pass & Seymour, WattStopper, and Legrand/Wiremold offer a broad range of solutions for commercial and residential applications. The companies of Legrand North America are strong supporters of the U.S. Green Building Council, and are committed to helping achieve sustainable design, reduced energy consumption, and the lifecycle benefits of added flexibility. In addition, these companies are actively incorporating sustainable practices in their facilities and in the way they manufacture, package, and ship their products.

Commercial and Institutional Buildings

The companies of Legrand North America help commercial and institutional buildings to be more green through systems that support sustainable design practices, innovative power and data infrastructure solutions, and sensors and control systems that reduce energy consumption.

Raised floor systems

Raised floor systems are an increasingly significant component of green building design. These systems facilitate underfloor HVAC distribution that provides consistent temperature, ventilation, humidification, and air quality. They also form a flexible pathway for wiring and cabling, and may provide additional space for connectivity devices. Legrand offers a robust portfolio of solutions for raised floor and integrated zone systems, including raised floor boxes and enclosures, wire basket cable tray, and modular wiring systems.

Wire basket tray, is critical to the organization and functionality of a raised floor system. The Cablofil® UFS underfloor system has a patented support structure design with no nuts or bolts, and is also self-supporting and does not use the raised-floor supports.

Zone cabling enclosures that are integrated within a raised floor system accept Ortronics® patch panels, as well as a wide variety of other panels and wiring blocks for copper and fiber applications. Providing connectivity within a raised floor not only conserves valuable space, but may provide the added benefit of reducing cooling requirements in potentially crowded equipment and data control rooms by moving active equipment to alternate sites.

For power distribution under raised floors, the Walkerflex® Access Floor Wiring System from Legrand/Wiremold offers improved flexibility and ease of installation. This system consists of stranded MC cables, redesigned cable connectors, large-capacity distribution boxes, and home run cables. These boxes are suitable for use in air handling spaces and raised floor plenums.

Data centers and storage area networks

The amount of heat generated by data center equipment – and the corresponding energy load expended on cooling the active equipment– is a growing concern for IT and facilities managers. Legrand systems can contribute to sustainable data center and storage area networks (SANs) by providing cable management solutions and advanced racking solutions to help facilitate cooling efficiency and reduce network downtime. Efficient cable management contributes to better space utilization and can facilitate better flow of cool air. Cablofil wire mesh cable tray allows for overhead or under floor cable routing and enables better airflow than solid conduit. Ortronics® Mighty Mo® overhead cable pathway racks provide cable management and an innovative mounting method for 19" rack-mount copper and fiber panels and cabinets, freeing up valuable rack space and facilitating better airflow.

Network electronics generate heat in a data center/SAN. As port densities increase and the consolidation of blade servers becomes more prevalent, the heat generated in equipment racks will simultaneously increase. Managing this heat effectively with proper airflow is a cornerstone of energy-efficient design. The Ortronics® Mighty Mo 10 cable management rack is specifically designed for higher density applications, such as data centers and SANs. It facilitates the airflow of network equipment with its cutting edge design, which includes honeycomb side rails and baffles that work together to manage intake and exhaust air, creating cold aisle/hot aisle air distribution from side bottom and back vented equipment.

Integrating sensors into data centers – such as those incorporated into plug load controls from WattStopper – can significantly decrease energy usage during times of vacancy while providing maximum surge and noise suppression.

Data/communications flexibility

The conventional method of running wires and cables through the walls and utilizing fixed-position outlets makes it difficult to accommodate: changes in the physical layout; the popularity of open space environments; and advances in communications technology. Wire and cable management systems are specifically designed to provide the accessibility and flexibility required for efficient building function. These reusable systems allow easy access for cabling change outs and flexibility for non-invasive and less-expensive moves, adds and changes. Accessible systems also allow copper wiring and cabling that is no longer needed, to be recycled instead of left behind in walls.

More bandwidth, more applications ranging from multimedia to VoIP to security, more user policies and regulations, and more demands for flexible, ubiquitous networking, delivering a highly reliable LAN in today's collaborative, information-rich enterprise remains a challenge. Behind the switches, routers, and firewall, the foundation of any LAN is the connectivity and physical support infrastructure.

Ortronics Mighty Mo telecom enclosures support fiber to the telecom enclosure (FTTE) cabling and zone cabling. FTTE is a standards-based solution that addresses the challenges of delivering ever increasing bandwidth and performance requirements, continuous requests for moves, adds and changes, and rising real estate costs. FTTE implementations allow the backbone cabling to pass through the telecommunications room (TR) directly to the TE, significantly reducing the size and number of TRs needed on each floor. This architecture also provides greater flexibility for adding capabilities to the network without disrupting existing TRs. Extending the backbone closer to the workstation enables higher performance to support the increase in bandwidth-intensive applications.

Wiremold® wire and cable management systems manage, organize, protect, and connect the cabling infrastructure and help bring services closer to the user.   They provide essential flexibility for moves, adds, and changes. These solutions include:
- Open space systems, such as floor boxes and poke-thru devices.
- Perimeter raceway systems that route wiring and cabling securely along walls.
- Overhead systems and vertical distribution units that bring power and data/communications from the ceiling directly into workstations.
- Outlet centers on desktops, task tables, study carrels, and lecterns.

Open space design

The way space is arranged is often critical to green building design. For example, Daylighting – maximizing the use of natural light in interior spaces – not only reduces energy consumption, but it also enhances employee morale and productivity. Legrand supports this concept with a variety of open space wire and cable management and data networking systems.

Vista™ Architectural Columns from Legrand/Wiremold provide open space access to power, data and communications networks, including wireless. These vertical systems help to define interior spaces, while also maintaining an open environment that is conducive to the use of natural light in workspaces.   Other wire and cable management systems, such as poke-thru devices, infloor ducts systems, and infloor boxes, also contribute to open space designs that maximize daylighting.

Taking full advantage of natural lighting requires controls that reduce electric lighting automatically when adequate daylight exists. Legrand North America offers a variety of automatic dimming controls that balance natural and artificial lighting.

Lighting Controls

Lighting accounts for almost half of an average building's energy usage. Next to heating and cooling, lighting systems account for the greatest energy consumption and costs. Also, mandatory energy code requirements and tax incentives are the strong motivators for using lighting controls. WattStopper and Legrand/Pass & Seymour offer a variety of lighting control devices for commercial buildings, including automatic dimming and on/off switching controls. Dimming controls are often used in offices, conference rooms, and classrooms, where occupants focus on desktop activities. On/off switching controls are used in spaces where occupancy is more transient.

Plug load controllers from WattStopper are a convenient way for building managers to prevent wasted energy from electrical devices in private and modular offices. These devices combine a personal occupancy sensor with a surge-protected power strip to turn off unneeded devices when a space is vacant.

Making Homes More Efficient

Like the owners and managers of commercial and industrial buildings, homeowners are increasing demanding "green" features that reduce energy consumption while making their homes more comfortable and easier to manage. WattStopper, Legrand/Pass & Seymour, and Legrand/On-Q have developed systems that help manage the largest energy users in most homes: lighting and heating/cooling.

Lighting controls

Lighting accounts for about 20% of the energy used in a home, so homeowners who have more control over lighting see significant savings in energy bills. Occupancy sensors, dimmers, and timers reduce wasted energy use by eliminating lights burning needlessly in empty rooms, allowing lighting levels to be adjusted as needed, and turning lights on and off using a set schedule.

- Occupancy-based controls switch lighting off and on in response to the occupancy of a particular space. These controls are not dependent on time intervals or scheduled periods, but respond to the individual usage of a controlled space.
- Vacancy-based controls switch lighting off in response to a space becoming vacant and are not dependent on time intervals or schedules. These devices are often used to meet California's Title 24 requirements for residential buildings.
- Dimming controls adjust lighting levels to achieve desired lighting effects and also have the effect of reducing energy usage in many cases.

The companies of Legrand North America offer a variety of sensor-based controls and dimmers. Some, like the RD-200 Dimming Wall Switch Vacancy Sensor from WattStopper, combine the two functions so homeowners enjoy the most pleasing light level for each activity and maximize energy savings. Although dimming does save energy, if light is not needed, energy is wasted. Combining dimming and vacancy sensing prevents waste when a space is vacant and minimizes power use when the space is occupied and the lights are on. Sophisticated whole-house lighting control is made simple with Pass & Seymour's LightSense controls – a complete selection of scalable, radio-frequency devices.

Temperature controls

Programmable thermostats and zoned heating and cooling can make a big impact on reducing energy bills. Heating and cooling can account for 50% of the energy costs of a home. By allowing precise time-of-day temperature control of various areas of the home, programmable thermostats conserve energy by not heating or cooling unoccupied or seldom-used rooms.

Audio

Legrand/On-Q even makes it possible to save energy while enjoying high-quality audio. Its high-efficiency amplifiers use half the energy of conventional amplifiers to deliver theater-quality sound anywhere in the home. High-efficiency Class D amplifiers, which use only one-third the energy of more common Class A and AB amplifiers, deliver crisp, clean sound and dissipate much less energy as wasted heat. Plus, these audio systems are designed to power down when not used for 20 minutes.

Sustainability Practices at Legrand Companies

The companies of Legrand North America are dedicated to the continued integration of sustainable practices into business processes. Sustainability is a consideration in product design and manufacture, supply chain relationships, and customer service and support. This holistic approach engages associates to take an active role in supporting green building practices.

Legrand is committed to eliminating waste and reducing environmental hazards. Packaging has been redesigned to include containerboard with higher recycled content and to eliminate non-biodegradable packing materials. Many products are shipped directly to the job site, reducing packaging and staging required for individual components. Dry powder coating has replaced paints that release toxic volatile organic compounds. Legrand considers RoHS guidelines in the design and material selection for all new products.

Legrand has begun working to complete ISO 14001 registration for several of its North America facilities. ISO 14001 covers requirements for environmental management systems for organizations wishing to operate in an environmentally sustainable manner.

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