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Designing Access Control

Choosing the appropriate security level can make all the difference.

By Ray Bernard

Security Levels

Top Security: Physical security with monitored and audited control must be implemented to the maximum degree available using the most current automated and/or manned technologies. ID verification is critical and thus biometric technologies are often employed. Cost, aesthetic appearance, traffic flow and operational impact are of secondary importance to the control of access to personnel and property.

High Security: Unauthorized access is not physically possible, or if possible is deterred by visible armed security personnel or police. The building or area can be manually or automatically placed in a completely secure mode, under which entry or unalarmed exit are not physically possible without extreme injury (such as exit by breaking through a non-ground floor window). Access is monitored and can be audited by personal ID. The cost factor is balanced against the aesthetic requirements and any impact on operations.

Medium Security: Door control includes one or more security advantages not normally found in a door secured by standard commercial key locks alone. Manned response would be either instantaneous unarmed response or delayed armed response. Access is granted based upon ID verification, either manned visual or automated electronic ID. The degree of security is balanced against aesthetic appearance, operational impact, and cost and maintenance requirements.

Low Security: Control mechanisms are used to indicate restricted access. Access is generally regulated by time, ticket, or personal or group ID. Low security requires only a low degree of difficulty to obtain unauthorized access. It utilizes inconvenience and the threat of high attention or observation (including flashing lights, sirens, or cameras) to deter a would-be violator. A appearance is usually balanced against cost.

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For most commercial buildings, automated access control has meant the selection of an electronic access control system and the fitting of access control hardware onto standard doors. The increasing importance of building security, and the emergence of doors and gates designed specifically for access control use, make it worthwhile to invest additional thought in the design of the building's access control scheme. It's important to know the new types of doors now available and how they fit into your facility's security and operational requirements.

Defining Security

The terms High Security, Medium Security and Low Security are used loosely to characterize security products and to categorize the security requirements of a building. (See Security Levels.) Regardless of the label placed upon the security requirements, the building occupants and their property must be provided with the level of protection that is appropriate for the people, the types of operations and the surrounding environment.

Medium Security: Common But Not Always Appropriate

Most access control systems provide medium-security access control, mainly because they employ standard doors for entry and exit control. When an authorized user is granted access through a standard door, the burden of access control temporarily passes over to that user when the door is opened.

This is where access violations occur. The most common security violation is one born out of courtesy, where the authorized user holds the door open to permit entry by another who has also approached the door. If the person looks vaguely familiar, is carrying packages, or if the weather is inclement, courtesy prevails over security concerns. Also, it may not be a safe move to personally confront another individual who attempts "piggy-back" on your entry into the building. Although many systems provide a duress or panic signal, it won't be activated unless the authorized person is absolutely sure that the other individual is unauthorized.

The next most common access violation is where authorized users prop a door open to carry boxes or other materials in or out. This permits others to come and go while the door is open, and enabled theft of equipment and material. To prevent these violations, video cameras and some level of manned security are often used in conjunction with medium security automated access control.

High Security Access Control Doors

Where unattended access control is desirable high-security access control doors are available. They allow sufficient traffic flow and also conform to the facility's aesthetic requirements. The fit of appearance and functionality are sometimes balanced against cost factors, but a suitable combination can usually be found in an acceptable cost range.

The four-wing security revolving door that comes to rest in the X-position (X) can prevent the easy passage of items through the door. Such doors can be installed with sensors that limit passage to one person at a time, and can prevent passage of a person carrying a box or large stack of material. These doors can also be built with bulletproof glass, yet still match a variety of highly aesthetic decors.

Aesthetic Low-Security Access Control

Until recently the common options for low-security access control were unaesthetic turnstiles, wooden railings with electrically controlled gates, or half-height walls with electrically controlled half-doors. Now many types of turnstiles and glass gates exist that are easily installed, blend well with modern architectures, and can handle a steady flow of traffic.

Buildings generally have mixed security requirements. For example, a single floor or suite in a building can have high-security requirements, while the rest of the facility has only a medium security requirement. If high-security access control is used for building entry and exit, often medium-security and low-security access control can be used throughout the inside of the facility.