

Specifying Building Products for Building Security

Contributed by Joseph Brancato, AIA

Revised February 2007

The AIA collects and disseminates Best Practices as a service to AIA members without endorsement or recommendation. Appropriate use of the information provided is the responsibility of the reader.

SUMMARY

Security intensive building design requires the use of high-quality products that will deliver reliable functionality. Although no clear-cut definitions exist for “secure” building products, architects and engineers still have a responsibility to select and specify high-security products. The criteria listed below can help with this effort.

SPECIFYING SECURITY COMPONENTS

For projects that require a high level of security, use of materials and products that can contribute to security (e.g., glass, cladding, monitoring equipment, bollards) must be considered from the early design stages to facilitate the integration of such materials and products into the project design. Specifications for materials that affect security are based primarily on function and performance, but architects who write specifications strive to balance functionality with aesthetics in every instance.

Although the American Society for Testing and Materials (ASTM) has some security-related standards, there are few recognized definitions for “secure” building products, little industry consensus on basic terminology related to security design, and few recognized methods for testing product performance. This places a substantial burden on architects and engineers to conduct due diligence in specifying security-related products.

It may be useful to consider the following criteria, among others, in selecting and specifying products for projects with high-security requirements:

Appropriateness

Determine whether the product is appropriate for the level of protection desired. Is it overkill? Is it adequate? Is the protection afforded worth the cost?

Appearance

Security-related products can be quite massive and heavy. Accommodating their size and bulk can pose a significant design challenge.

Cost

Products and equipment designed to enhance security are often specialized and expensive and may affect the cost of other building systems. Bullet-resistant glass, for example, may cost 10 times more than conventional glass. Because it is substantially thicker and heavier, the structure required to secure it to the building and the load-bearing capacity of the building itself, also need to be stronger, hence the added expense.

Testing

Custom-designed assemblies are not routinely tested for performance like off-the-shelf manufactured products. Testing criteria may need to be defined for each project.

Information sensitivity

Security-related specification criteria may be classified or highly sensitive. In such cases, it may not be possible to identify the building and its location in the specifications.

Lead time

Many security-related products have long lead times for manufacture and delivery and should be ordered at the earliest possible opportunity, especially for fast-track projects.

Building codes

Check security-related products for compatibility with local building codes. For example, in New York City, certain “optical portals” may not be used in a path of egress because they do not “crash out” in a single motion, as required by the New York City Building Code.

ABOUT OUR CONTRIBUTOR

Joseph Brancato, AIA, is vice president and managing principal of Gensler’s New York City office. Brancato focuses on client development and global account leadership, oversees the firm’s practice areas, and participates in projects that include architecture, interiors, and strategic consulting. He is a frequent presenter and panelist on topics such as disaster

planning, workplace best practices, and strategic alliances. Brancato is a member of Gensler's executive council.

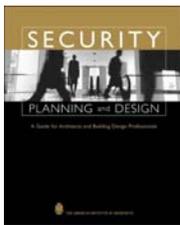
RESOURCES

More Best Practices

The following AIA Best Practices provide additional information related to this topic:

- 03.01.02 Becoming a Certified Protection Professional
- 11.10.01 Understanding Human Behavior Leads to Safer Environments
- 11.10.04 Building Security: Basic Design Elements

For More Information on This Topic



See *Security Planning and Design: A Guide for Architects and Building Design Professionals*, by the American Institute of Architects.

See also “Security Evaluation and Planning” by Marco A. Monsalve and James R. Sutton, *The Architect’s Handbook of Professional Practice Update 2003*, page 109.



See also the 14th edition of the *Handbook*, which can be ordered from the AIA Bookstore by calling 800-242-3837 (option 4) or by email at bookstore@aia.org.



Feedback

The AIA welcomes member feedback on Best Practice articles. To provide feedback on this article, please contact bestpractices@aia.org.

Key Terms

- Building performance
- Use design
- Security