

Expecting the Unexpected

Challenges When Designing International Retail Facades

American architects designing retail environments in foreign countries will encounter unique and often unexpected challenges. A listing of every code, restriction, requirement or regional custom for every location one might encounter when incorporating a large operable glass wall into a retail façade would fill volumes but a general knowledge of the types of regulated issues will at least allow the architect to proactively inquire about potential areas which may need to be addressed.

As a manufacturer and direct supplier of large operable glass wall systems used in a wide variety of retail situations around the globe NanaWall in North America and our partner Solarlux in Germany have encountered a multitude of diverse requirements relating to retail facades. There are three universal requirements for flexible façade solutions for shop fronts worldwide; Easy operation, Durability, and Safety. Once a product is found that meets those requirements as well as the design specifications of the project all relevant national and local codes, restrictions, laws, and customs must be identified and accommodated. Every country or region has its own set of specific building regulations, most of them independent from retail facades. We have found that the most common regulations fall into two basic groups; environmental and design related.

Environmental regulations generally relate to energy efficiency, ecological responsibility, livability, safety, and security. Testing is a common requirement to prove adherence to code and although US and European testing is accepted in many parts of the world, there are countries which insist on their own national testing. To some extent this may be a protective measure for their own industry, however sometimes there are specific climate or environmental conditions which require specific testing for product suitability. Examples include unusual test requirements for extreme temperatures, hurricane wind, rain and impact resistance, earthquake resistance or sand tightness.

Compiling and maintaining a portfolio of approved pre-tested building products and suppliers can facilitate the compliance process and avoid substitutions with inferior products that can expose the principals to legal liability.

Local or national energy conservation rules, generally measured by U values for glazed storefronts, are very demanding in some countries. Architects and product manufacturers have risen to the challenge and produced some of the world's most energy efficient building materials and creative design solutions. Specific requirements for the glazing, not only to meet the U values, but also safety glass like specially toughened or laminated glass are required in some countries. Even more detailed requirements are possible, like light transmission factors, sound insulation, heat soak testing, wired glasses, the list is endless

Environmental requirements for sustainable building materials are met in operable storefront glazing systems with profile materials such as recyclable aluminum, certified wood, water based colors and powdercoat paint finishes instead of PVDF/Kynar etc. Sustainability requirements may extend beyond the product itself to the material source, transportation methods and factory practices. ISO-9001 certification for factory standards may be requested.

Security aspects include many different requirements for burglar resistance. This refers not only to the locks and to the glass but also to the whole system. These requirements are often not by law but from insurance companies to reduce the insurance premiums. Specific standards for forced entry, vandalism, bullets, bombs, and fire may also relate specifically to the ultimate usage of the structure (such as a bank, jewelry store, or government building) as well as location. Availability and limitations of building materials to meet such extreme requirements should be considered before finalizing the design to avoid costly changes or retrofits.





Design criteria may also vary from country to country and often conflicts with trends, preferences and esthetics. For example in opening heights, we can see a worldwide trend to higher ceilings in retail buildings as well as corporate and residential structures. Raising the roof while simultaneously complying with strict requirement for lower energy consumption becomes the architects challenge. Daylight may be required, even in the depth of the building. This leads to higher and wider openings. Use of skylights, reflective surfaces and light bays are options used to meet these daylighting requirements

Taste and cultural preferences may extend to the most granular level for individual projects. Preferences for door panel profile material may be completely different in different countries. Standard choices include aluminum, wood, wood/aluminum and stainless steel but unique requests such as locally sourced material, specialized metals and finishes, or custom configurations may be requested. Color preferences often differ considerably and may include cultural, religious or superstitious elements. For example Europe currently prefers white and all shades of grey (so called non-colors), while Japan prefers stainless steel and the traditional Chinese still like gold and red. Tinted or reflective glass is not accepted in every country, often for the same reasons. Feng Shui principles can have an extreme influence in Asian architecture for everything from the building orientation and interior design to the placement, color, and size of the entrances. If needed Feng Shui specialists should be consulted before the design process is initiated.

Architects who are familiar with the psychology of retail environments and wish to incorporate the latest principles and trends may run up against local customs and traditional retail practices. Designers often try to achieve a traditional European market square atmosphere in or outside new shopping malls by opening up surrounding shops and restaurants towards the market core, however concepts generally accepted in the US such as operable glass facades which make products more visible and easy to access by removing the barrier between the product and the client are not yet known or generally accepted everywhere. Using an operable glass facade to increase the floor area of a shop by incorporating outside product displays during business hours is not allowed in every country.

In conclusion, when incorporating a large operable glass wall into a retail construction outside the US be aware that, to quote Dorothy "we're not in Kansas anymore!" Concepts, common practices, and codes that are taken for granted in the US may be turned on their heads internationally. Most requirements will be readily available during the planning process but the more granular and localized practices that can make or break the ultimate success of the project are more subtle and may take specific research and consultation. Creating a popular and prosperous retail environment goes beyond code compliance and incorporates key elements of local tradition and culture. The most modern and technologically advanced design will integrate into its surrounding community if the public interface is recognizable and familiar.

Who We Are

NanaWall operable glass wall systems are recognized as the brand symbolizing quality, performance, and durability. Based on a foundation of testing, research, and innovation, NanaWall is the trusted brand used by architects, builders, design professionals, and homeowners alike. Every NanaWall operable glass wall is a single-source product with components designed, produced and assembled as a complete system. With over 20 custom systems backed by 25 years of design experience, NanaWall Systems offers a solution for almost any space.

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