



# Higher Education

Axel Giesecke,  
Manager of Dow Corning  
Construction Glazing  
and Facades sits down  
with Nick Beaumont,  
Publisher of IGS  
for a one-to-one  
discussion  
on tall buildings

**Q:** What are some unique challenges contractors and suppliers face when trying to ensure quality in tall buildings?

**A:** Quality assurance throughout the building process will always be a critical component in ensuring the overall safety and longevity of a structure. This is especially true for extremely tall buildings, where insufficient quality materials can have serious consequences

to safety, timelines and total costs. Ensuring consistent quality in every stage of the building process can be challenging, particularly when multiple parties are involved. Interaction with multiple material groups and different building standards makes it hard to form a single, consistent communications network. Finally, cost and specification constraints can hinder a project. A greater emphasis on product



Washington Mutual Tower

features rather than a combined product-service total solution approach can further aggravate coordination problems during the planning and execution phase of a project and negatively impact overall quality.

**Q:** How do you address the challenge of maintaining consistent quality standards across multiple networks in different geographic markets?

**A:** We understand that complex projects require different approaches. There are many participants involved in the overall building process, from building owners and general contractors to architects, consultants, fabricators and suppliers. In addition, building codes, business practices, quality systems and design specifications are region-specific.

As a global materials supplier, Dow Corning has professionals in every region of the world, each trained according to Dow Corning top-quality standards who can speak, think and work from a localized perspective. We work in each local market, in the local language, which is critical when transferring standardized technical expertise and knowledge between different parties in geographic markets while ensuring smooth business coordination across regions. In many of the largest construction projects we work on, we can to provide project support at each location. For example, our team would be able to provide local, on-the-ground support at the building mock-up site, at the glazing facility and at the construction site even if each location were in a different continent. In addition to performing adhesion testing on-site, Dow Corning participated in project meetings to review specifications and is available, as needed, to troubleshoot and resolve problems. Dow Corning's quality-assurance processes including Quality Bond™, teamwork and strategic partnership with the entire construction team ensure the high-quality results customers expect.



Taipei 101

**Q:** How do you ensure that your core building codes, standards and practices are met and performed by different parties/ participants in the process across different geographic regions?

**A:** To identify and develop the most accurate building solutions, it is critical for suppliers to network with multiple parties. Dow Corning's global expertise is a function of our global technical experts and our regional market experts who work together to provide guidance related to different building codes and practices, as relevant to specific project needs. Virtual global teams, with common goals, standards and variable compensation/ recognition systems are instituted to ensure complete operational success.

**Q:** Given the different specifications for different global regions, are there universal standards that everyone abides by, or are they region-specific?

**A:** With more than 45 years of proven performance in curtainwall applications, silicone sealants have become an industry-wide standard. Silicone sealants are the only materials successfully used for structural glazing and are recognized as such in ASTM C 1401 Guide for Structural Sealant Glazing and the Guideline for European Technical Approval for Structural Sealant Glazing Systems, ETAG 0002. Silicone structural glazing technology has been performing successfully in North American for more than 30 years and in Europe and Asia for over 20 years.

**Q:** Given the various regional demands and global network of contractors involved in these large scale projects, how can you help ensure quality?

**A:** With more than 9,500 employees worldwide, including customer service, researchers, engineers, technicians, industry and manufacturing experts and supply chain manufacturers, Dow Corning has a worldwide



Central Plaza  
Photo courtesy of Ng Chun Man & Associates

knowledge and network base. With employees based around the globe, each region is able to use its standardized knowledge of the industry to accommodate local needs.

For example, Dow Corning Quality Bond™ is a European initiative that brings together Dow Corning leading experts with manufacturers, processors and users to ensure top-quality and best-in-class application standards. This allows for a greater cross-sharing of information, ideas and knowledge across every planning stage of product application, from idea conception to planning, building, support and implementation. In addition, Quality Bond™ offers training programs on inspections and other quality management systems to ensure that the highest standards are being met throughout the design and construction process.

**Q: How do you address different cost and specification constraints throughout the building process?**

**A:** Through initiatives such as Quality Bond™, professionals are trained and equipped with the knowledge and expertise needed to ensure top-quality consistency at every stage of the construction process. Through the employment of laboratory tests that gauge long-term stable bonding properties

and compatibility of material components, Dow Corning is able to provide reliable recommendations on product use and processing. Project-specific service packages serve to further ensure that the most applicable procedures and audits are tailored to individual project needs and applications throughout the building process. Such standardized practices allow for a more defined and specialized scope that is fully equipped with the necessary resources and knowledge to enable accurate and timely decisions.

**Q: How do you address quality issues across different environmental conditions?**

**A:** Each product is put through various tests to determine its unique capabilities. All products are tested for resistance to acid rain, natural and man-made disasters, humidity, droughts, elevation, extreme temperature climates and windload performance.

Superior building materials exhibit strength, stability and versatility. The natural chemical properties of silicone products enable excellent adhesion and compatibility with multiple substrates, allowing for improved functionality and longevity. Designed to transmit windloads from the glass to the building's framework, silicone glazing systems

are able to flex, extend and compress with the daily stress of thermal shear, while maintaining their adhesive strength in the face of a wide range of climate extremes.

**Q: In addition to the “race to the heavens,” what are some other key trends that will define the construction industry moving forward?**

**A:** Other trends in the construction industry include improvements in safety/security, environmental stewardship in building design and construction and rapid growth in the Asian market.

**1 Safety/Security:** Dow Corning's silicone sealant technologies protect lives and property from fire damage and window impacts, as demonstrated through proven performance in buildings across the globe, including the United States Pentagon, the John Lennon Airport in Liverpool, England, and EU Headquarters building in Brussels, Belgium.

**2 Green Construction:** Green buildings are good for the environment, the community, and the economy because they use less energy, less water, and fewer materials and natural resources. Silicone structural glazing technology supports the energy efficiency of modern facades as the glazing bead acts as a thermal brake in the same time and wet sealed facades are just offering the little premium water- and air-tightness to avoid uncontrolled energy losses. Through new emulsions that meet low-VOC regulations and silicone assembling techniques to manufacture solar panels, more technologies are incorporating sustainable and energy-efficient components, without sacrificing innovative design.

**3 Growth in Asian Market:** There has been tremendous economic growth and prosperity in Asian commercial and residential structures, particularly in China and Korea. In partnership with government and industry regulators, Dow Corning helped develop China's first standards to assess existing curtainwalls, earning an award for promoting the development of China's curtainwall industry.

**Our thanks to Axel Giesecke for providing us with these answers**