

SERGIO DE GAETANO, DOTT. ING., CENG, MICE, FSFE, MAE

Senior Principal and Director of Façade Engineering



Summary

Sergio De Gaetano is a chartered building engineer with over 20 years of international experience in façade design, engineering and consultancy with extensive working knowledge of complex, high-performance cladding and glass systems on a wide range of sectors. He is the director of Thornton Tomasetti's Façade Engineering practice on a global scale and is involved in all stages of project development including feasibility study, detailed design, structural and thermal analysis, specification, tender appraisal, value engineering, contractor design, manufacturing review, testing and site installation monitoring.

Education

- Five-year Master's Degree in Building Engineering, 1998, Politecnico di Bari, Italy

Registrations

- Chartered Engineer
- Chartered Member, Institution of Civil Engineers
- Fellow, Society of Façade Engineering, CIBSE
- Member, Academy of Experts, UK

Select papers, lectures and publications

- "The Future of Façade Engineering," ZAK Conference, Milan, Italy, 2023, presenter
- "Aspects of Cladding," IStructE Book, 2020, co-author
- "Bridging Façade Technology on Historical Buildings in London," ZAK Conference, New York City, 2018, presenter
- "Expanding the Possible: Recent Case Studies from CCF to UHPC on High- Profile Design Projects" Speaker, ZAK Conference, London, 2017 "Structural Glass - Recent Advances and Next Generation Design," IABSE Conference, Bath, UK, 2017, presenter
- "Structural Glass - Recent Advances and Next Generation Design," IABSE Conference, Bath, UK, 2017, presenter
- "Optimizing Design in Extreme Conditions," Facades+ Conference, Miami, January 2017, presenter
- "Stories about the z-axis," Clerkenwell Design Week, London, May 2015, presenter
- "The Use of Architectural Precast Concrete. Case Studies," 2nd PCI International Symposium, Abu Dhabi, UAE, January 2015, presenter
- "Innovation in Architectural Envelopes" 5th Luav International Conference on Tall Buildings, Venice, 2014, presenter
- "Parametric Skin design and cutting edge façade engineering: an overview of recent projects," LEAF Forum, Amsterdam, 2012, presenter
- "Beyond Parametric Modeling: generative analysis in façade engineering," Glasstec International Conference, Dusseldorf, 2012
- "How To Be Sustainable on Glass and Façade Engineering?," Glass Proceeding Days, Tampere, 2011, presenter
- "The Structure and Façade Interface and the Challenges of Engineering Tall Building Façades," International IABSE Symposium on Structural Engineering, IABSE, 2011, presenter
- "Ferrari World, Passion for Structural and Façade Engineering," International IABSE Symposium on Structural Engineering, IABSE, 2010, presenter
- "Complex Geometries and Cutting Edge Case Studies," Architectural Journal NCE Conference, London, 2009, presenter
- "Handling Exceptions nell'ingegneria delle facciate vetrate," Università La Sapienza, Rome, 2009, presenter
- "Diagnostic Interpretation of Glass Failure," IABSE Magazine, 2007, presenter
- "A Consultant's Experience of Post Breakage and Ultimate Tests for Glazed Systems," ICBEST Proceedings, CWCT University of Bath, Bath, 2007, presenter
- "Arriva il Façade Engineer," Modulo Magazine, 2006, presenter
- "Costruire Trasparente e Resistente," Costruire magazine, October 2006, presenter
- "Design for Glazing Protection Against Terrorist Attacks," Glass Proceeding Days, Tampere, 2005, presenter
- "Bomb Blast Enhancements to Glazed Façade," Glass in Buildings Proceedings, CWCT University of Bath, 2004, presenter

*Denotes work performed with previous employer.

SERGIO DE GAETANO, DOTT. ING., CENG, MICE, FSFE, MAE

Select project experience

Investigation

Confidential Project, KSA. Building skin investigation of a 13-storey office tower with a 7,000 insulated glass-panel curtain wall system that experienced a high-rate of glass breakage. Services included cause of failure, remedial design and preventive solutions.

Confidential Project, Bristol. Façade consulting and investigation works to the Main Contractor for a high-rise residential tower that features ACM and PIR insulation on the external building envelope. We have been assisting the Client to address whether the as-built design of the external walls was adequate, in compliance with the statutory requirements at the time of construction and in compliance with current Building Regulations and industry standards post Grenfell. Client: Confidential.

Confidential Project, Central London. Expert witness services for a grade I listed building in Central London that experienced water leaks, condensation to the internal aluminium frames and combustible insulation materials on the external facades. We have been provided a full review of the construction drawings and contractual documents and guided the process for the remedial works. Client: Beale & Company Solicitors LLP.

Confidential Project, London. Façade consulting and investigation works to the Building Owner for a high-rise student accommodation that features ACM and PIR insulation on the external building envelope. Due to the perceived risk of non-compliance with UK regulations following the Grenfell tower evens in London, we have reviewed the project specifications, the contractual document and as-built drawings and provided an independent assessment of the fire performance of the facades and recommendations for the remedial works. Client: Confidential.

Confidential Project, Milton Keynes. Expert witness services in connections with a defects claim arising in relation to a mixed use development including shattered toughened glass and water ingress through the curtain wall system. We have reviewed the relevant documents and undertake site inspections and finally provide appropriate recommendations for testing. Client: Beale & Company Solicitors LLP.

Confidential Project, UK. Expert witness services for a recently built high rise building experiencing façade leakages, glass breakages and failures in the ETFE clad roof. We have provided façade consulting services to the defendants which included the diagnosis of the causes and the discussion of different remedial solutions with all the parties involved. Client: Pinsent & Mason.

Confidential Project, UK. Façade investigation services of a newly building in the UK on behalf of the developer in relation to cladding claims. Our analysis included site inspections, review of the structural and façade drawings and calculations, code compliance, understanding of the defected works and resolution of the non-conformities with the other experts.

Client: DAC Beachcroft LLP

Confidential Project, Scotland. Expert witness services for a luxury house in Scotland experiencing defects in architectural glass features. We reviewed the design drawings, the contractor's drawings and calculations and the information made available during construction and collapse of the glazed components. Our services include attendance to High Court. Client: DAC Beachcroft LLP

Confidential Project, Central London. Façade investigation services for defective casement windows at a high-profile building in Central London. We have provided a full review of the design and construction documents and carried out structural calculations to analysis loads, torques, hinges and latches. We have agreed the remedial proposals with the parties involved and tested the corrected components. Client: Stephenson Harwood LLP.

Confidential Project, Central London. Expert witness services in relation to an alleged excessive torsional twisting of the edge beam for a newly building in Central London leading to cladding defects and delays on site during construction. We provided independent façade investigation services to defend the interests of the original façade consultants appointed during design. Client: Beale & Company Solicitors LLP.

Nile Corniche, Cairo, EGY. Peer review services for the façades to a luxury hotel development on the Nile River. The hotel is composed of a podium structure and two towers at 40 storeys, with the façade comprising, hand set stone walls, 3D GRC elements and glazed curtain walling. Review included all drawing, calculation and material submissions from three different Façade Contractors and coordination drawings from the Main Contractor. On-site inspections verified that documentation and procedures were being followed. Client: Qatari Diar.

Julfar Towers, Ras Al Khaimah, UAE. Peer Review and expert witness services for a mixed-use twin 43 storey tower development in Northern U.A.E. The façade comprises glazed curtain walling and insulated panels to both towers, with external balustrading to balconies predominantly on the residential tower. Review of the Façade and Main Contractor drawings, calculations, material submissions and correspondence to assist the Client in arbitration proceedings. Client: RAK Properties.

Meydan Hotel, Dubai, UAE. Glass failure investigation on behalf of the specialist façade contractor who had installed a bolted glass wall and atria roof, and large scale ground floor glazing. The investigation centered on excessive building movement and inclusions within the glass products which resulted in glass failures.

Confidential Project, KSA. Building skin investigation of a 13-storey office tower with a 7,000 insulated glass-panel curtain wall system that experienced a high-rate of glass breakage. Services included cause of failure, remedial design and preventive solutions.