

# BUILDING ENCLOSURE CONSTRUCTION ASSISTANCE

## Addressing the Transitions



www.b-e-c.us/construction.htm

Building Enclosure Consulting, LLC has provided a variety of consulting services and has established an enviable reputation in providing innovative and practical expert advice and solutions in the construction phase. Our services typically fill the gap resulting from the architectural delegation of design responsibilities, by addressing the transitions among adjacent building enclosure systems.

We review construction documents and submittals, monitor construction in progress, perform and witness quality tests, provide delegated design of facade interfaces, and recommend remediation procedures and materials. We also help contractors clarify the architectural design intent by suggesting areas requiring a request for information (RFI) and assists designers in responding to RFIs. We also contribute our knowledge and experience to solve disputes among parties of construction process.

## Diversified Experience

We specialize in cutting-edge high-rise and high-end structures, where the principles of science apply more spectacularly than in the low-rise development. Our team is led by Kaz, who worked with facades of over 400 buildings, many of them high-profile (including 5 tallest buildings in their respective states), with many prominent general contractors and architects. He contributed his expertise to many innovative cladding projects, including unusual combinations of materials and systems, double curvatures, smart double skins, intelligent shading, and whole-glazing facades.

## Review of Documentation

As a certified Construction Documents Technologist (CDT), thoroughly familiar with different construction contracts and delivery modes, as well as typical division of responsibilities in the design and construction, he reviews a third-party documentation, concentrating on the high-risk items that are typically seen overlooked by parties of the construction process. He reviews documentation for constructability, compliance with applicable codes and standards, and the current level of building science knowledge. Comments are thoroughly explained for the benefit of the readers.

## Building Code Analysis

Kaz is a registered architect in New York and Florida states and has diversified experience in building enclosures. He is thoroughly familiar with the respective nation-wide and state-wide building codes and industry standards. He also researches the ordinances of local municipalities and interviews building officials. Kaz analyses code requirements and code definitions as they pertain to the scope of the investigations.

## Risk Management Analysis

The construction phase shifts the order of priorities. The design phase is over, the pressure is on, and the time has its price. Kaz researches problem areas and provides comprehensive data on which he bases the findings and conclusions of the risk involved with alternative solutions.

## Field Testing

We perform and witness tests in the field and laboratories to verify the integrity of assemblies and identify sources of deficiencies. These tests typically yield data that allows for the definition of the optimal remediation method and allow for verification of the repair or replacement methods previously proposed.

### Principles of Facade Design

1. Architectural vision compliance
2. Program compliance - functionality
3. Structural safety
4. Waterproofing
5. Healthy indoor conditions
6. Indoor thermal comfort
7. Air tightness
8. Sunlight control
9. Ergonomics
10. Fire safety
11. Security
12. Acoustical resistance
13. Feasibility of installation
14. Accessibility for inspection
15. Economy of maintenance
16. Economy of construction
17. Economy of maintenance
18. Durability
19. Code compliance
20. Ecology



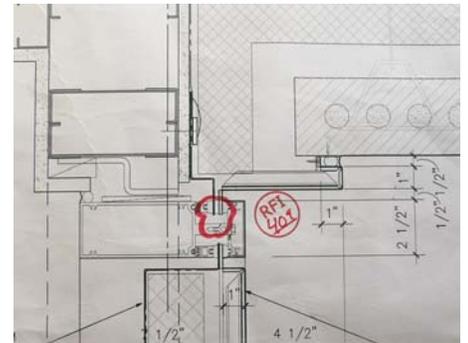
www.b-e-c.us/lectures.htm

## Material and System Analysis

We analyse substitutions for compliance and verify compatibility of adjacent facade materials, such as chemical compatibility of waterproofing materials, corrosion potential of galvanic action dissimilar metals, staining by the water run-off, etc. In an attempt to provide education to the general public on these important matters, we also created several practical material science trivia available for you free of charge on our webpage.

## Education Provider

Kaz shares his skills, knowledge, and experience by conducting lectures and drafting technical articles and design manuals on the subject of building enclosures. The lectures are continually developed and updated as the author remains active in the field and adds new stories or replace the old ones in constant pursuit to better clarify the subject. His unique European facade engineering experience allows him to explain the building enclosure science and technology in terms that lay people can understand.



## Delegated Design

In the construction phase his services are invaluable in solving the transitions among adjacent systems, typically marked as "NOT IN CONTRACT," "NOT IN SCOPE," and "BY OTHERS."

We bridge the traditional gaps among the mechanical, structural, and architectural disciplines, and between the design and construction. We provide a 360 degrees technical design, covering all aspects of facade design: structural, mechanical, hygrothermal, etc. We bring an organized, holistic approach to the building enclosure design because his expertise covers many facets of building enclosure design, controlling: wind, air, moisture, heat, light, sound, impact, cost, wildlife, fire, smoke, aging, and access.

## Proactive Monitoring of Construction in Progress

In the field, we provide standardized, traceable reporting, and periodically generate lists of outstanding items. However, construction progresses quickly, and nobody benefits from a report filed after the condition has been already concealed. Therefore, we exercise the proactive approach by informing the respective contractors about the discovered problems and offering assistance in developing mitigation plans.



## Assistance in Evaluation of Deficiencies

Kaz is skilled in cause-and-origin investigations and analyses. He evaluated and separated construction defects, damage, and wear and tear in many buildings. He developed remediation design and peer-reviewed the remediation procedures proposed by third parties. He was also named as an expert witness.

## Identification of Standard of Care

As construction professionals, we have a good understanding of the level of care typically seen in the work of other construction professionals. We also analyse the track of available documentation to verify existence of potential causal links with the deficiencies observed in the field.

**BUILDING ENCLOSURE CONSULTING, LLC** provides design, consulting, simulation, inspection, research, testing, and investigation services of building facades. We specialize in high rise buildings. We are based in Hallandale Beach (near Miami) in Florida. T. (305) 600 0516 Email: INFO@B-E-C.INFO www.BEC-Miami.com