Track 3: Conservation of modern and post-modern heritage General Abstract

Preservation of EIFS - A Modern Building Enclosure System: Lessons Learned

Saturday, November 23 1:30 PM - 3:00 PM Location: Versailles

Presenter(s)

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In the 1970s, the popularity of EIFS (Exterior Insulation Finishing Systems) surged as a response to a demand for energy efficient wall systems. These systems provided a unique solution to cutting energy costs and gained popularity in both new construction and recladding applications. Over the past few decades EIFS technology has evolved to address issues related to water infiltration but remains a system with little redundancy and low tolerance for construction defects. Despite these shortcomings, EIFS are still widely used today due to its insulating properties, versatility, and low up-front construction costs. Consequentially, EIFS buildings will likely require significant attention and maintenance in the years to come.

EIFS failures most commonly result in moisture and water infiltration into finished spaces.

These failures can typically be attributed to craftsmanship issues such as improperly installed weather barriers, adhesive ribbons, base and finish coats, flashings, and integration with other cladding materials. WJE Engineers & Architects, P.C. has been involved with EIFS systems in remedial design, site installation, and forensic investigation of its failures. We would like to discuss the pitfalls we have encountered at each of the aforementioned phases, how to avoid them in architectural detailing and field execution, and the challenge of preserving these systems when repairs are required.

The conservation of EIFS as a building material is challenging because repairs often require localized removal and replacement with new materials. Sourcing of compatible materials is important in recreating the performance standards of the original technology -- such as providing waterproofing materials with similar vapor transmission rates and providing finish coats with similar pigmentation and texture. In some cases removal of the original building fabric can be minimized with creative detailing. Understanding the detailing of EIFS technologies is important in order to provide successful repairs while preserving as much of the original building material as possible.

Due to its relatively short life-span, EIFS technology has yet to show us all of its defects. We can expect to uncover these in the years ahead and develop repair methodologies to address them when they surface.

Learning Objectives:

- Identify key components of EIFS technologies.
- Identify the problem areas typically encountered with EIFS technologies.
- Identify pitfalls in the design, construction, and forensic investigation phases.
- Provide recommendations for addressing common construction issues of EIFS facades.