

“Structures, Building Envelopes, and the Planet”



PRESENTER: James A. D'Aloisio, P.E., SECB, LEED AP BD+C

LEED AP CEU's: 2.0 hours - through USGBC NY Upstate Chapter (GBCI Education Provider)

NYS PE CEU's: 2.0 hours - through Klepper, Hahn & Hyatt (NYSED Education Provider)

NYS AIA CEU's: 1.5 hours - through the U.S. Green Building Council NY Upstate Chapter / AIANYS

NYS CEO CEU's: 1.0 hours - through Klepper, Hahn & Hyatt / NYS Department of State

Description:

Creating buildings that actually accomplish low energy usage requires careful attention to the building envelope details. The structural elements that are part of the building envelopes can sometimes make or break a building's energy performance. We'll address thermal bridging, foundation insulation discontinuities, identify some problem conditions (using infrared images), and present some solution options. We'll also review positive and negative sustainability aspects of concrete, wood, and steel. At the end we'll compare the attributes of "stick" (stud and purlin) construction, Structural Insulated Panels, and Insulated Concrete Forms.

Prerequisites:

Attendees should have a basic understanding of the design and construction of building foundations, walls, and roofs.

Objectives:

- Discern the sustainability advantages vs. disadvantages of the most common structural building materials.
- Compare the energy loss potential of details with thermal steel bridging, compared to an envelope with no bridging.
- Identify structural details that can compromise a building envelope's performance.
- Contrast the energy loss potential of different foundation and slab edge details.
- Become familiar with the basics of Structural Insulated Panel (SIP) construction and Insulated Concrete Form (ICF) construction, and some of their benefits.

Speaker Bio:

James A. (Jim) D'Aloisio is a Principal with Klepper, Hahn & Hyatt, a 35-person structural engineering, landscape architecture, and building science firm based in East Syracuse, NY. A 1982 graduate of Rensselaer Polytechnic Institute, Mr. D'Aloisio is a Registered Professional Engineer, Certified by the Structural Engineering Certification Board (SECB), and a LEED Accredited Professional (LEED AP BD+C). He is on the Advisory Board and Program Committee of the U.S. Green Building Council's New York Upstate Chapter and a member of the ASCE Structural Engineering Institute's Sustainability Committee, where he heads the committee's Thermal Steel Bridging Working Group. Areas of expertise include structural condition reviews, failure analysis, expert witness services, analysis and reinforcing of existing roof structures, special inspections, facade reviews, and sustainable building design. He has written several articles on the relationship between building structures and sustainability.

Course Outline:

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| Part 1 | Structures and Sustainability | 20 min. |
| Part 2 | Envelop the Steel! | 45 min. |
| | Interactive Exercise | 10 min. |
| Part 3 | The Bottom of the Envelope | 15 min. |
| Part 4 | Sticks, SIPs, and ICF's | 15 min. |
| | Q & Q Quiz + Questions | 15 min. |
| | TOTAL | 120 min. |



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Landscape Architecture
Building Science



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Upstate Chapter**
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