

WHY GREEN BUILDINGS CANNOT BE BUILT WITHOUT AIR BARRIER SYSTEMS

Tuesday, Oct 26, 2010, 8:00 am to 5:00 pm.

L'Enfant Plaza Hotel, Washington, DC¹

Sponsored by
The Building Enclosure Technology & Environment Council and
the High Performance Building Council of the
National Institute of Building Sciences
the Air Barriers Association of America

Co-chairs:
Wagdy Anis, BETEC, and
Leonard Anastasi, ABAA (Air Barrier Assoc. of America)

8:15 am Welcome – Get Moy, HPBC, AECOM

Session 1: Significance of air control and barrier technology, chair Wagdy Anis

8:30 Control of air flows to reduce energy use in buildings – Steven Emmerich, NIST

9:00 Control of air flow in building enclosures: state-of-the-art review of requirements and testing – Wagdy Anis, Wiss, Janney, Elstner Associates, Inc.

9:30 Control of air flow and other environmental measures in Energy Star homes – Sam Rashkin, EPA

10:00 – 10:20 Coffee break

10:20 Control of air flow as a part of design and commissioning to achieve energy efficiency of commercial buildings – Sean O'Brien and Marcin Pazera, SGH

10:50 Control of air flow as a part of thermal insulation manufacturer instructions to achieve energy efficiency of any building – Charles Cottrell, North American Insulation Manufacturers Association

11:20 Practical cases identifying the issues – Grahame E. Maisey, Building Services Consultants, Inc. Energy Master Plans and Total Quality Commissioning, Wyncote, PA

11:45-1:00 pm Lunch served

Session 2: Technical development agenda, chair Leonard Anastasi

1:00 Issues as seen by the industrial association – L. Anastasi, ABAA

1:25 Integral water resistive and air barriers on OSB – John Edgar, STO Corp

1:50 Use of foams as air control measures – Rick Duncan, SPFA

¹ The venue is close to Reagan National Airport and has a metro stop right underneath.

- 2:15 Air barrier testing and commissioning – Kevin Knight, Architectural Testing Inc,
- 2:40 Research on air tightness of building enclosure assemblies – Thomas Thorsell, Syracuse University
- 3:05 – 3:25 Coffee break
- 3:25 Need for a thermal performance index that includes thermal bridges and air by-passes – John Straube and Chris Schumacher
- 3:50 Q and A and discussion on technical development needs
Panel members: all speakers from session 2 – Moderator Mark Bomberg, Syracuse University
- 4:50 Closure: Wagdy Anis – **BETEC**

BACKGROUND

The purpose of a building enclosure is to separate the indoor and outdoor environments in all respects - precipitation, wind, and cold or heat etc. The building enclosure achieves those goals in a complex of ways. It is known that unless the building envelope achieves these functions well, the indoor environment may not be satisfactory and the building may deteriorate rapidly. The control of precipitation is of primary consideration. The priority for control of air flows follow next, and this is achieved by the enclosure acting as a system. The continuous thermal insulation and the heating/cooling systems provide for the comfort of occupants. Yet, unless air control is achieved well, HVAC systems utilized to achieve thermal comfort and quality of indoor air will be unnecessarily expensive to install, operate and maintain. Thus, the optimum energy efficiency of the building depends on air control, and this must be done in the design stage. Effectively, unless a building meets these criteria well, it cannot be considered “green”.

This one day seminar/workshop is devoted to the significance of conceptual design to energy efficiency and specifically to the function of air barriers. This seminar will demonstrate the benefits of air barrier control to energy efficiency and durability and the multiplicity of ways that this control can be achieved. The subject material will be of interest to all involved in high performance building design from the aspect of energy use as well as long term durability and sustainability.

Given the circumstances of the current economic situation there is an urgent need to ensure that effective measures be taken to reduce energy use both in new construction and in the renovation of older buildings, a seminar on this topic is timely.

Note: All presentations are 23 min maximum