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Response to panel questions on air barrier requirements

Panel Question: 1. Cost analysis is based on the infiltration rates listed below. How rigorous and realistic are these numbers?

- a. No continuous air barrier @ 1.1 cfm/ft² @75 Pa
- b. Continuous air barrier only, not verified @ 0.7 cfm/ft² @75 Pa
- c. Air barrier + field inspection @ 0.5 cfm/ft² @75Pa
- d. Air barrier + testing @ 0.4 cfm/ft² @75Pa

Pie Answer: 1. Note that 0.4 cfm/ft² @ 75 Pa is the maximum leakage rate recommended for energy efficiency. Leakage greater than this should be considered standard construction. For a "tight" building air barrier ASHRAE considers 0.1 cfm/ft² @ 75 acceptable. USACE standard target for Federal buildings is 0.25 cfm/ft²@75 Pa. Installation of any form of continuous air barrier according to industry best practices will achieve a leakage rate < 0.4.

Panel Question 2. Have issues with installation of air barriers in currently required climate zones been observed, and do these issues occur with sufficient frequency to justify the improvement in performance claimed to verification? (30% to 40% over non-verified)

Pie Answer 2. Air and vapor barrier should be designed by a professional to ensure proper condensation and vapor control. When properly designed and installed there is justification for the claimed improvement for verification through testing. Reduced energy costs and extended lifecycle of the building are both proven benefits. Reference Washington state, City of Fort Collins and USACE.

Panel Question 3. Are there sufficient trained and qualified professionals in the state to assure a consistent level of verification performance and consistent results in all building types?

- a. What qualifications are needed for performing a visual inspection of an air barrier?
- b. What qualifications are needed for performing air barrier leakage testing?

Pie Answer 3. There are many building owners in California who are already requiring this testing and firms who are providing the service. An expansion of these firms and their services would be anticipated to meet the new demand if leakage testing and inspection is adopted. Qualifications/requirements to perform these services are best directed toward relevant experience (2+ years, equivalent project work, etc.) in air barrier consulting and testing rather than an trade group affiliation, such as ABAA.