

Revisiting Continuous Insulation

- 1. INTERIOR SIDE FINISHING
- 2. INTERIOR SIDE CLADDING
- 3. VAPOR RETARDER
- 4. CAVITY INSULATION -
- 5. EXTERIOR FRAMING
- 6. EXTERIOR SIDE SHEATHING
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- 8. CONTINUOUS INSULATION
- 9. EXTERIOR SIDE FINISHING

Last year, **TABS Wall Systems** published our first newsletter regarding the impact of continuous insulation (CI) on thin veneer installations. Flash forward to today, and we can now report on things we have learned along the way.

2nd Quarter 2016

INDUSTRY TREND CHANGES

Industry trends are changing rapidly as a higher percentage of projects are now incorporating the new energy code. The impact includes the following:

- The use of polyiso foams in lieu of expanded polystyrene due to better R-Values, i.e. R-6 versus R-4 per inch.
- Demand for foam thickness have grown from previous demands of 2" to 3" or 4"
- The specifying of CI foam sheathings, such as Carlise's R2, Dow's Thermax and Metalflex is growing
- The incorporation of Z-girts and hat channels in exterior foam sheathing designs has dramatically increased
- Fastener requirements have also changed to accommodate the increased thicknesses of foam
- New systems of foam sheathing with air and moisture barriers incorporated are being specified more often
- In field work scopes are changing and impacting sequencing of thin veneer installations as various trades assume responsibility for foam installation
- The use of modular framing units as opposed to stick built framing is increasing
- Detailing of windows and other fenestrations are requiring more attention to how these units are sealed and weather proofed

THE IMPACT OF THICKER FOAM (CI)

- The biggest impact is the selection and availability of fasteners that can accommodate the support of loads with cantilevered weight s that are now further from the supporting structural framing
- Thicknesses of foam over wood framing, which requires deeper penetration of fasteners, may exceed screw lengths available in the market
- The use of Z-girt systems for some manufacturer's systems do not necessarily align with thin veneer systems' desire to have framing connections at 16" O.C.; such systems may have 24" O.C. designs (See Photo)
- Designs developed piece meal, i.e. furring strips and hat channels with insulation between, raise issues of accountability for performance as it relates to deflection, strength and thermal conductivity
- Windows and other fenestrations will typically require detailing that needs coordination with the thin veneer system's design and installation





THE IMPACT OF THICKER FOAM (CI) (Continued)

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- Additional stud framing, with proper positioning becomes critical at inside and outside corners of buildings, as well as at changes in plane, i.e. pilasters and corbelling
- Controlling allowable deflection has become a critical factor based on the choice of continuous insulation design type; deflection must be limited to L/360 for most adhered thin veneer systems

ADVICE FOR THE ARCHITECT

- Make identification of the fasteners required the highest priority. Consult early on with TABS Wall Systems
- Fastener selection is so critical that it should be included in the submittal process
- Cross reference in specifications pertinent information for the carpenter, mason and glazers trades that will call alerts to coordination of design parameters for each
- Identify early on if the National Fire Protection Association (NFPA) 285 flame spread testing is a requirement
- Make use of the Foam Sheathing Coalition's research charts for determining weight limitations for cantilevering loads
- Insure the effective placement of air and moisture barriers as they differ based of the selection of the type and design of the exterior continuous system
- Absolutely require a field mock-up that perhaps includes window openings, pilasters, inside & outside corners, as well as any atypical designs

