


## QUESTIONS & ANSWERS FOR MODULE 8.1: BUILDING ENVELOPE

OCTOBER 5, 2020: DAY 2 QUESTIONS

Question	Who Asked	Answer Y/N	Answer
Is it common to use rigid insulation in stud cavity?	Benjamin Darby	Y	
Has anyone been detailing with thermal breaks built into the edge of slab at the second floor and above?	Michael Burgess	Y	
the mineral wall inside the cavity is stated to have a foil face. how many varieties of mineral wool are there? do mineral wool manufacturers make the foil tape compatible with the foil backing on the mineral wool. What oversight / testing is done with this as you vapor seal? is that foil and foil tape the ONLY thing used as the vapor barrier?	Matthew Brubaker	Y	
Slide 39 detail A2 isn't the 4" cmu grouted solid below the brick wall considered a thermal break or is this something that gets reviewed by the AHJ?	Joshua Gardner	Y	
What is the pushback from contractors?	Thomas Eisele	N	It can be wide ranging, but items include not being comfortable working with new products, not understanding the reason why something is being shown on the drawings in a certain way, and the mentality of "well this is how I've been doing it for the last 15 years" and therefore resistant to change.
as it has been nearly 5 months since the last training, what if anything has changed during construction phase due to potential changes in supply chain lead times. Any particular product, material more affected than others?	Matthew Brubaker	Y	
Can you use AAC in slabs?	Dan Bianco	N	I've only seen AAC used as blocks. It does look like it's available in wall and floor panels as well. <a href="https://www.aerconaac.com/products.html">https://www.aerconaac.com/products.html</a>



<p>slide 62, the dense pack insulation was right tight to the masonry? by dense pack do they mean cellulose?</p>	<p>Matthew Brubaker</p>	<p>N</p>	<p>The previous slide clarifies, and indicates “dense pack insulation” as dense-pack gutex thermofiber, or cellulose, or havelock wool loose fill-insulation.</p>
<p>do you seal all four sides of the window? I thought window frames need to weep.</p>	<p>Elizabeth Freund</p>	<p>Y</p>	
<p>What would be the way to deal with the gap in the upper right photo?</p> 	<p>Dan Bianco</p>	<p>N</p>	<p>The insulation should be installed tight against the wall.</p> <p>If there were any protrusions or bump outs, they should have been knocked off or smoothed out prior to installing the insulation. If there were still unavailable voids, they should be fully filled in with spray foam.</p>
<p>Slide 41 pink rigid insulation on wall. that is not taped, so how is that different than the UGLY insulation? the insulation and vapor / air barrier are different components within the wall assembly. SO wall system is not counting on insulation as vapor barrier? can you review this compared to the "ugly" on slide 63. Thanks!</p>	<p>Matthew Brubaker</p>	<p>N</p>	<p>Slide 41 the insulation here is only for thermal performance and not intended to be an air or vapor barrier. The main air barrier is on the outside of that CMU wall. Slide 63 is relying on the insulation to be both the thermal layer and the air control layer, but by not being completely umbroken it is not an effective air control layer.</p>
<p>Can most mistakes in installation in the field be corrected in the field? Is there ever a point where it's too late? How often do the PMs need to review the installation?</p>	<p>Megan Smailer</p>	<p>N</p>	<p>Most items can be corrected if they are caught early enough. However, there are points when it's too late (e.g. drywall is installed so you can't see behind the interior walls, brick is up so you can't see the air barrier/insulation). How often to review is many times constrained by budgets &amp; number of allocated site visits but a general rule would be to review at least each floor. More frequent would be better.</p>
<p>How do the passive house requirements vary from NYS 2020 Building Code air barrier requirements?</p>	<p>Harry Ellsworth</p>	<p>N</p>	<p>Passive House requires full building air tightness testing with a very stringent allowable leakage target. NYS 2020 Energy Code still allows for visual inspection, or testing.</p>



<p>My understanding is that spray foam is not considered a durable air barrier because of cracking over time. Are you seeing other types of air barriers on your projects in addition to spray foam as a backup air barrier?</p>	<p>Chris Petit</p>	<p>N</p>	<p>We've seen spray foam mostly used on gut rehab projects. Pretty much all of the new construction projects we see are using a liquid applied air barrier on the outside of the exterior wall surface.</p>
<p>Whose responsibility is it typically - for "inspections" of craftsmanship on a project? Ex. continuous sealing, no holes / fish-mouths in membranes. (It would be a roof manufacturer's inspector that does a warranty inspection.)</p>	<p>Benjamin Darby</p>	<p>Y</p>	
<p>alignment of window with insulation plane wasn't always thought out by architect. This caused some challenges with sealing around the perimeter. Not sure how long the backer-rod and caulk will last. What about maintenance of the backer rod and caulk over time? Durability of sealants... can you talk about that?</p>	<p>Matthew Brubaker</p>	<p>Y</p>	
<p>Wouldn't spray foam be better to seal around a window than stuffing with mineral wool? Differential in air pressure will push air through the mineral wool.</p>	<p>Peter Johantgen</p>	<p>N</p>	<p>Mineral wool around a window is more for thermal performance rather than stopping air movement. On both sides of the mineral wool would be backer rod and caulk (interior and exterior) to serve as the air seal.</p>
<p>On slide 80, with the steel studs, why are they using two metal studs of different sizes separated by an airspace when neither set of studs has insulation in the cavity? And please emphasize to attendees that metal studs are likely to add additional energy modeling costs if they are not held completely inside all of the insulation but are partially or fully embedded, because they are always thermal bridges if embedded in some of the insulation, and instead of just two dimensional heat flows as happens in wood framing, they can actually create 3d heat flow issues which require rare and costly software to model. If you are planning on using steel studs, get your</p>	<p>Christina Snyder</p>	<p>Y</p>	



passive house certifier involved checking your structural detailing early in the design, because unanticipated thermal bridging effects can shoot down your passivehouse building certification, in my experience as a PHI building certifier.			
for the window test, are you pressurizing the window or putting it under vacuum?	Matthew Brubaker	Y	
Will pressure testing be scheduled after the construction is completed and time has gone by? Just to check on the building performance is still performing as designed.	Kimberly Nelson	N	Pressure testing is typically conducted early in the process, during the initial mockup stage and then periodically during construction. This allows us to find any issues and have them corrected before construction gets too far along.  Additional testing could be performed after construction completion at the discretion of the building owner.
Slide 96, do you test the equipment like the fragile accordion duct to make sure it is not leaking BEFORE you hook it up to a building assembly you want to test? It seems like that duct could easily suffer abuse that makes it leak – how would you test it for leakage if you suspected it?	Christina Snyder	N	We ensure our equipment is in good shape such as making sure there are no rips in the accordion. If leakage is suspected, we can use a fog machine to see if or where any equipment components would be leaking.
How long do you expect the building to performed as designed? Will Contractor warranty be longer than a typical 1 or 2 years?	Kimberly Nelson	N	I think this can be highly variable as it depends on how the building is operated once it gets turned over. The building as designed may have one set of assumptions while the building could be operated in a different manner. I don't think this would impact contractor warranty as it is more of an operations issue.
Do you mind showing us the building product catalog referenced in first segment of today's presentation?	Andrew North	N	<a href="https://foursevenfive.com/content/product/smart_enclosure/metal_frame/475_Metal_Frame_eBook_Nov_2019_Spread.pdf">https://foursevenfive.com/content/product/smart_enclosure/metal_frame/475_Metal_Frame_eBook_Nov_2019_Spread.pdf</a>
on the mockups, do you perform ALL of the tests you plan to do on the entire building? Curtain wall rain / flood / wind test. Window seal pressurization, etc?	Matthew Brubaker	Y	



Why is greenhouse gas a concern with spray foam?	Harry Ellsworth	Y	
Are there organic or climate friendly alternatives to spray foam?	William Gregg	N	There is soy based spray foam, but I don't know how much better it is, this article dives a bit deeper into it: <a href="https://www.indoordoctor.com/choose-soy-based-insulation-polyurethane-foam/">https://www.indoordoctor.com/choose-soy-based-insulation-polyurethane-foam/</a>
What target do you aim for when testing window leakage?	Chris Petit	Y	
How many times does a mockup need to be reviewed?	Michael Weatherly	Y	
Doesn't the rebar affect the shock isokorb detail significantly?	Darren Tracy	Y	
In looking to repurpose an ice rink - steel frame Butler type bldg. What are a few of the most suitable NEW alt's to spray foam on such an undertaking? Thank you.	Rj Krytusa	Y	