

Technical Bulletin: Obtaining 3 ACH in Low Volume Homes

May 1, 2013



With the implementation of the 2012 IECC in Maryland, many of our participants are struggling to reach the required 3 Air Changes per Hour (ACH) as required by code. Below are some of our suggestions for lowering the infiltration rates.

1. Follow the Thermal Enclosure Checklist (TEC) - One of the TEC's primary purposes is to guide the builders and raters to construct the tightest home possible. If a line item is signed off as "Builder Verified" and not completed, it will not help home in the long run.

2. Ensure air barriers are properly installed - Open-cell or closed-cell foam shall have a finished thickness \geq 5.5 in. or 1.5 in., respectively, to qualify as an air barrier unless the manufacturer indicates otherwise. If flexible air barriers such as house wrap are used, they shall be fully sealed at all seams and edges and supported using fasteners with caps or heads \geq 1 in. diameter unless otherwise indicated by the manufacturer.



The seams and edges of this air barrier are not sealed making it ineffective.



This effective air barrier has all seams and edges sealed.

3. Air Sealing - Be vigilant about air sealing - Every bypass makes a difference in a low volume home. Pay special attention to specific areas at each inspection. Some common oversights:



At first look, party wall appears to be properly air sealed. Looking closer reveals a larger bypass directly to unconditioned attic.



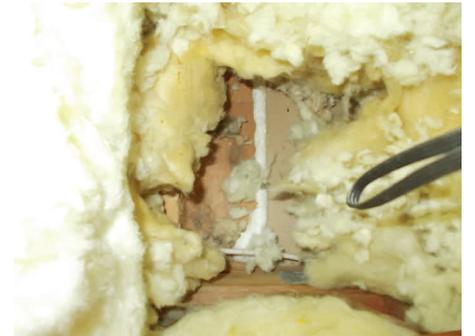
Check to ensure that steel beams connected to unconditioned space are air sealed prior to insulation. This is an ideal application for closed-cell foam.



Double check air sealing after low voltage or security systems are installed.



Ensure all recessed lights and exhaust fans are caulked at drywall when adjacent to unconditioned spaces.



Air sealing top plates from the attic prior to blowing insulation has proven successful

4. Verify Ventilation - As homes become tighter, remember that adequate ventilation is key to indoor air quality and a healthy home. Verify that your installed ventilation meets ASHRAE 62.2 requirements.



NOTE: Asking a rater to perform infiltration tests (or performing an infiltration test) in an improper manner (such as running exhaust fans during the testing) is not an approved method and is considered falsifying documentation. This can lead to removal from the program and revocation of the rater's RESNET certificate.