Quick Reference Guide

March 2025

Version 25 .0

Chapter 12 – Air Sealing (caulk, spray foam, tape), Insulating

Preparation	1. Mark all stud CENTERS on the floor 2. Mark location of all HVAC ducts (warm and cold air), duct dampers and plumbing pipes 3. Verify all wall and ceiling electrical boxes are marked on the floor 4. Verify wall stud ends behind countertop are in the same plane at 41" above floor. 5. Verify jack studs of sliding doors are straight &plumb to within 1/16”. Use cardboard shims if not. Mark OK 6. Verify exterior wall stud ends adjacent sliding doors are straight, plumb and in the same plane @ 41” above floor. Mark OK 7. Verify blocking has been installed for sheetrock per Section 10.6 .3 8. Remove temporary 2x4 brace under range plenum. 9. Clean debris from wall cavities. Vacuum subfloors along exterior wall baseplates, exterior doors, and floor vents 10. Verify basement exterior wall foamboard is in place and secured tight to the exterior wall 11. Verify a folded coil strip was installed at bottom of garage common wall. See 11.1.4.5. 12. Verify exterior door reveals on strike side are between 1/8” – 3/16” wide. Correct if not.
Air Sealing	13. Check with Const. Super. re: using foam or fiberglass behind PVC pipes, electrical boxes and ext. wall blocking for each job day, but only use fiberglass behind kitchen sink outlet and outlet above range. 14. Install foamboard over headers (caulk or foam). Tape if foamboard is flush with framing 15. Fill the following gaps/holes with spray foam (if >¼”) or air sealing caulk (if < ¼”): a. Ceiling and wall electrical boxes (all levels except attic) b. Exterior & interior wall studs (main & basement levels) c. Bottom of windows d. Inside joint between bottom plates and sub-floor e. Holes in top/bottom wall plates, interior AND exterior walls (BOTH levels) f. Exterior wall sheathing or foamboard visible from inside the house g. Range plenum area (use spray foam) h. Rough opening gaps between window (fill partially) & door frames (fill fully) (Trim or remove excess **ONLY AFTER COMPLETELY DRY**). Also caulk bottom of windows i. Inside seam between exterior wall corners j. Subfloor penetrations, e.g., tub drain (cover opening with OSB, seal gaps with spray foam), vent pipe, water supply lines and drains k. Exterior doors along floor and inside edge of threshold to outside of jambs (thin bead of caulk) l. Gaps between the top of foundation wall foamboard and wall upper plate m. Sill box penetrations, e.g., dryer vents, HVAC & plumbing pipes, gas line etc n. Bath fan housing holes, caulk or tape. 16. Tape the inside seam between upper and top plates of exterior walls and inside seams of exterior doors and window components 17. Secure in-floor heat ducts with four soffit nails 18. Apply a 6” width of HVAC tape around floor ducts to seal gaps between sub-flooring and ducts. 19. Install temporary heat duct covers after taping sub-floor openings with HVAC tape 20. Seal sub-floor gap around cold air return ducts with foam from main level and basement level 21. Seal joint between cold air return boots and ducts (from basement) with HVAC tape.
Install Wall Insulation	22. Insulate future bath fan vent ducts. 23. Fill exterior wall cavities < 3" wide with foam board. Fill gaps with caulk or air sealing tape 24. Loosely install unfaced R-19 batt insulation into exterior wall cavities. Take time to fluff it out. 25. Feed doorbell and thermostat wires through insulation. Do not cover. 24. Feed bathroom vanity light wire through insulation IF it is not running through an electrical box. 25. Place scrap fiberglass pieces around exterior of tub enclosure.

Quality Points

Chapter 12 – Air Sealing (caulk, spray foam, tape), Insulating Exterior Walls

- Jack studs of sliding closet door openings are straight and plumb.
- Wall stud faces adjacent sliding closet doors are straight, plumb and in the same plane, and stud faces behind kitchen countertop are in the same plane
- All electrical boxes are sealed (except attic light) and insulation placed behind boxes
- Kitchen sink outlet and outlet above range have a separate piece of fiberglass insulation behind them
- All exterior basement walls have been insulated with foamboard; foamboard is secured tight to walls
- All foam board edges filling narrow stud bays are tight or sealed with tape
- The gap between windowsills and bottom of windows is sealed
- All holes in **interior and exterior** top/bottom plates are filled
- Seams between exterior wall upper/top plates, exterior wall corners, and exterior door/window components are sealed
- Window component seams and joints between upper and top plates are taped
- Seams between exterior wall base plates and sub-floor are sealed
- All holes in **exterior and interior** wall studs on both main floor and basement levels are filled
- All exterior penetrations are sealed from the inside, e.g., foamboard, OSB, sill box foam, range plenum, dryer vent
- All sub-floor penetrations are sealed, e.g., tub drain, vent stack, water lines, drain lines, cold air return
- Floor vents are nailed and secured with HVAC tape
- Gaps between the rough opening and framing of EXTERIOR doors are fully filled with spray foam or caulk
- Gaps between window rough opening and window framing are partially filled with spray foam or caulk.
- Gap on inside edge of exterior door thresholds (along the floor) is caulked to outside of door jambs
- Window and door header areas are filled with foam board and sealed
- Exterior walls are filled with insulation, with no visible gaps around perimeter.
- Insulation is fluffed out and flush with interior edge of studs (no stud areas covered)
- Vanity, doorbell and thermostat wires are not covered with insulation
- Future bath fan vent duct in basement is lined with plastic and duct and sill box are filled with insulation
- Holes in bath fan housing are taped or caulked
- Sill boxes are filled with batt insulation
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