

Wine Cellar Vapor Barrier & Insulation Checklist

Eight build stages, straight from WhisperKOOL's installation requirements. Check each item before the drywall goes up, and sign off each stage with your contractor.

THE ONE RULE

The vapor barrier goes on the **warm side** of the insulation, facing the house, and wraps **every wall and the ceiling**. WhisperKOOL lists both the vapor barrier and insulation as **required**.

WHY IT MATTERS

Moist air that gets in condenses inside cold walls, can cause mold and adds heat load. WhisperKOOL notes uncontrolled moisture can raise unit runtime by **10–20%**. Your cooling unit does not control humidity. The envelope does.

BUILD STAGES

STAGE	CHECK BEFORE MOVING ON	SIGN-OFF
1 • Plan BEFORE FRAMING	☐ Mark which walls and ceiling face warmer spaces (these get the barrier on the outside) ☐ Choose the cooling unit location, wall opening, line-set or duct route ☐ Glass walls or door? Get a heat-load calculation before ordering the unit	
2 • Frame WALLS & CEILING	☐ Standard 2x4 or 2x6 framing and ceiling joists, built to local code ☐ 2x6 walls give more cavity depth for higher R-values	
3 • Vapor barrier WARM SIDE	☐ Plastic sheeting (manuals: "6 millimeter"; sold as 6-mil poly) on the warm side of every wall ☐ Ceiling wrapped too, not just walls ☐ Can't reach the outside? Wrap the interior, plastic left loose in each stud cavity ☐ Every overlap, cut and nail hole sealed	
4 • Insulate EVERY CAVITY	☐ All walls and ceiling at least R-13 ☐ Interior walls R-19 · ceilings and exterior walls R-30 ☐ Closed-cell foam: about R-6 per inch, so 5–6 in. for R-30 to R-36	
5 • Seal PENETRATIONS	☐ Electrical conduit caulked and sealed on the warm air end ☐ Outlet boxes, light fixtures, line-set sleeves and duct collars sealed ☐ Structural joints sealed against humid air infiltration	
6 • Door FULL VAPOR SEAL	☐ Exterior-grade 1¾ in. door (no interior doors) ☐ Weather stripping on all four sides of the jamb ☐ Bottom sweep or threshold installed	
7 • Electrical DEDICATED	☐ Dedicated circuit for the unit, not GFI (GFI circuits trip prematurely) ☐ Split systems: separate circuit and breaker for the condenser, plus a weatherproof disconnect outdoors ☐ Surge protector recommended	
8 • Mount COOLING UNIT	☐ Through-the-wall units and split evaporators within 18 in. of the ceiling ☐ At least 3 ft of clearance around the unit (5 ft ideal) ☐ No recessing or aftermarket grilles; want it hidden? Choose a ducted system	

Sources: WhisperKOOL owner's manuals ("Preparing the Wine Cellar") and whisperkool.com guidance on insulation, dew point and glass cellars. Always follow your model's manual and local code.

Envelope & Electrical Quick Reference

Hand this page to your electrician and contractor at the framing stage.



INSULATION TARGETS

SURFACE	WHISPERKOOL TARGET	NOTES
All walls & ceiling	R-13 minimum	Baseline for any WhisperKOOL installation
Interior cellar walls	R-19 preferred	Walls shared with conditioned rooms
Ceilings & exterior walls	R-30	Heat rises; exterior walls face outdoor extremes
Closed-cell foam	≈ R-6 per inch	5–6 in. = R-30 to R-36 · 3 in. ≈ R-18 only

ELECTRICAL BY WHISPERKOOL SERIES

SERIES	INSTALL TYPE	CIRCUIT (DEDICATED)
SC PRO	Through-the-wall	115V · 15-amp (2000/3000/4000) · 20-amp (8000) · non-GFI
Slimline LS	Through-the-wall, above door	115V · 15-amp
Extreme ti/tiR	Through-the-wall or ducted	115V · 20-amp
Phantom	Fully ducted self-contained	115V · 20-amp
2500 Cabinet	Cabinet-mount	120V · 15-amp
Platinum Split / Ceiling Mount	Split	Evaporator 120V · 15-amp non-GFI + separate 110V OMEGA or 220V H.E. condenser circuit
Quantum	Ducted split	Evaporator 120V + 220V condenser circuit
Blow-Through	Concealed split	Evaporator 120V + 110V OMEGA or 220V H.E. condenser

WARNING SIGNS

- **Condensation or mold** on walls: broken barrier, poor door seal or unsealed conduit. Seal the break and remove mold immediately.
- **Unit runs continuously:** check the door seal and penetrations first.
- Dew point at 55°F / 55% RH is about **39°F**; warmer house air condenses much sooner.

GLASS WINE ROOMS

- Some glass designs need **2–4×** the cooling capacity of an insulated cellar.
- Use dual- or triple-pane insulated glass and a vapor barrier in every framed wall and ceiling.
- Glass door near a unit's rated size? Step up to the next larger model.

PROJECT

CONTRACTOR

INSPECTED BY

DATE

Circuit data from WhisperKOOL owner's manuals and product pages (2026). Rated cellar sizes assume a fully insulated room with a proper vapor barrier. WhisperKOOL is a trademark of its owner; WineCellarCoolingUnits.com is an independent authorized dealer.