



VIKING WINE RACKS

CUSTOM WINE STORAGE

Wine Room Preparation & Construction Guide December 2024

Disclaimer: This guide is provided as a general reference. Consultation with a qualified contractor and adherence to local building codes are essential. Wine room construction is influenced by climate zone and evolving building materials; improper construction can lead to issues like condensation, mold, and cooling equipment failure.

Types of Wine Storage

- **Passive Storage:** Ideal for non-collectible, “everyday” wines stored for six months or less. This un-cooled, stable environment typically ranges from 65–70°F.
- **Active Storage:** For long-term aging, a climate-controlled system keeps wine at a steady 55°F with elevated humidity. This setup requires proper room construction for insulation and cooling.

Ideal Conditions for Wine Storage

- **Light:** Avoid UV exposure by using LED lighting, which is UV-free and heat-resistant, preserving wine while enhancing room aesthetics.
- **Vibration:** Vibrations disrupt wine aging and sedimentation. Avoid placing the wine room near mechanical equipment (e.g., HVAC systems, washers, or garages) that could cause movement.
- **Temperature Stability:** Constant temperature is crucial, ideally between 55-58°F. Fluctuations can affect wine quality over time.
- **Bottle Orientation:** Wine should be stored on its side to keep corks moist and prevent oxidation, though some exceptions apply (e.g., Champagne, Port).

Note: Serving temperatures vary by varietal, while storage temperatures are generally consistent across wine types. Many store wine at red-wine serving temperatures (60–68°F) to minimize energy costs and have reds ready-to-drink.

Room Construction

- **Passive Storage:** Position wine rooms on an interior wall, away from sunlight, to avoid temperature swings. Frameless glass walls and doors are suitable.
- **Active Storage:** Climate-controlled cellars should be treated as insulated “sealed envelopes” with an airtight door. This setup allows placement anywhere in the home or business, not limited to basements.
 - **Insulation:** Use at least R15 insulation, with R19-R30 preferred for exterior walls. The floor and ceiling should also be insulated. Closed-cell spray foam is ideal, though fiberglass insulation is commonly used.

- **Vapor Barrier:** Use a 6-mil polyethylene barrier on the warm side of the insulation to prevent moisture intrusion. For open-cell spray foam, a separate vapor barrier is required.
- **Airtight Sealing:** Wine cellar doors should include weather-stripping and door sweeps.
- **Glass Considerations:** Uninsulated frameless glass has low R-value, potentially requiring refrigeration upsizing to manage condensation. A thermal load calculation by your cooling supplier is recommended.
- **Additional Considerations:** Electrical outlets, light switches, and ceiling lights need to be sealed and insulated. Concrete walls and floors lack sufficient R-value and require extra insulation in actively cooled cellars.

Wine Refrigeration Systems

Disclaimer: Viking Wine Racks recommends consulting a licensed refrigeration expert for system selection and installation.

- **Through-the-Wall Systems:** Cost-effective and simple to install, these units are fully enclosed and ready to use out of the box.
- **Split Systems:** Components are divided, with the evaporator mounted inside the wine cellar and an outside condenser connected via refrigerant lines. Professional installation is required.
- **Ducted Systems:** Remote systems duct cold air into the cellar, maximizing storage space and reducing noise. Ducted systems are typically serviced by HVAC professionals.

With thoughtful construction and the right cooling system, a wine room can provide an optimal environment for preserving and aging wine collections, creating a seamless blend of functionality and beauty.