

Room Preparation

Who, What, When, Where, Why, and How of building a wine cellar

Q: Why does a wine cellar require special construction?

A: Because the environment of a wine cellar is unique to anything else in your home. Most homes maintain a temperature of around 70° F with around 20 - 30% humidity levels. The ideal wine cellar temperature is 55 - 58° F and between 55 - 75% humidity. In order to maintain the separation of these unique environments special care in the construction of the wine cellar needs to be considered.

Q: Where does a wine cellar need to be located?

A: Unless you are attempting to build a passive wine cellar (a wine cellar that does not require any conventional humidity or temperature control) the location is not overly critical. However, heat, light, and vibration are harmful to the long term storage of wine, so picking a spot that is the coolest in the home, where you won't need to cover over windows, and away from any excessive noise will save you on construction materials and energy usage of your refrigeration system.

Q: When should I install the refrigeration unit?

A: It is most economical to run the refrigeration and drain line during the rough framing of the wine cellar. The installation of the refrigeration system itself is normally done after the room has been drywalled.

Q: What do I need a vapor barrier for?

A: This is the most important and unfortunately most overlooked part of the wine cellar construction. The Britannica dictionary defines diffusion as, "The process by which there is a net flow of matter from a region of high concentration to one of low concentration." It is the diffusion process that the vapor barrier is needed to counteract. The wine cellar has 55 - 75% humidity and the rest of the home has 20 - 30% humidity. The vapor barrier keeps the two parts separated and ensures the higher humidity in the wine cellar does not migrate to the lower humidity outside the room.

Q: Who can build the wine cellar properly?

A: Any builder or remodeler can construct the wine cellar as long as they follow the enclosed construction guidelines. The materials needed for a wine cellar are common in home construction, but builders are not used to utilizing them in the same room. For example the room requires an exterior grade door. That is easy enough to find as you need one for the outside of every house, but builders normally do not put one on the inside of the house. Another example is "greenboard". Builders are used to putting this in kitchens and bathrooms, but not in any other room in the house.

Q: How do I build the wine cellar?

A: The following guidelines have been established to provide you with an outline of the requirements for building the wine cellar. If you have additional questions you may e-mail them to us and we will have our installation manager contact you or your builder to discuss specific questions that you might have.

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Guidelines to follow for proper wine cellar construction

1. If the room is on a concrete slab:
 - a. The floor must be as level as possible.
 - b. The concrete floor must be treated with waterproof sealer.
2. Walls need to be constructed of 2x4 or 2x6 studs. All corners must be squared using the 3-4-5 method to square walls. (See figure 1 below)

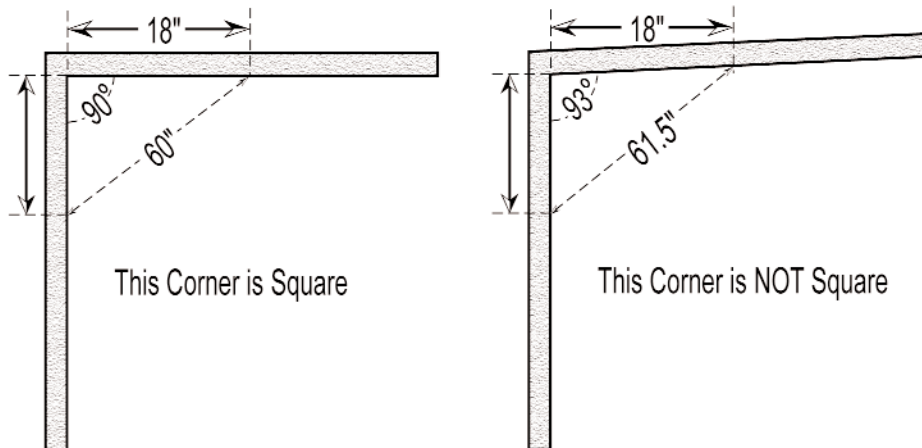


Figure 1

3. Walls will need 2x6 nailers between studs, below top plate and above sill plate to anchor racking. (This step not needed if using plywood sheeting. See # 13 below)
4. There are to be NO electrical outlets or switches where racks are to be installed. Exceptions are listed below.
 - a. Existing wall with electrical outlets and switches will be eliminated on a case-by-case basis. As a last resort, switch will be placed on outside wall next to entry door. Preferably, the customer should contact their electrical contractor to move/install any outlets and switches.
 - b. If installing Lighting for High-Reveal racking, Archway, etc. the final drawing indicating ultimate placement of electrical outlets must be complete prior to installation of electrical outlets.
 - c. If installing refrigeration systems such as Breezair, the final drawing indicating ultimate placement of refrigeration unit and electrical outlets must be complete prior to installation of electrical outlets.
 - d. If installing Split Refrigeration System, the final drawing must indicate the ultimate placement of evaporator and thermostat.
 - e. If installing Split Air Handler System, the final drawing must indicate the ultimate placement of supply air duct, return air duct and thermostat

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- Any recessed "Can Lighting" must be thermally fused so the insulation and vapor barrier can be wrapped around "Can Lighting".
- All lighting must be a minimum of 16" at "Can Light" cover from wall for single deep racking. And a minimum of 28" at "Can Light" cover for double deep racking. (See figure 2 below)

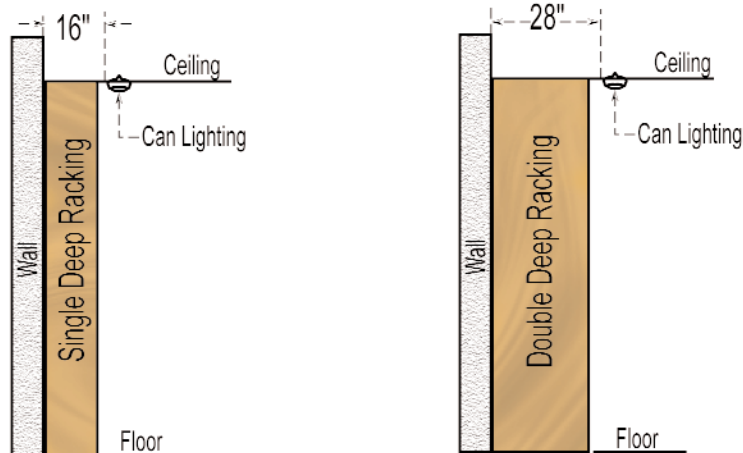


Figure 2

- All finished soffits for single deep racking without lighting must be a minimum of 16". And double deep racking without lighting must be a minimum of 28". (See figure 3 below)

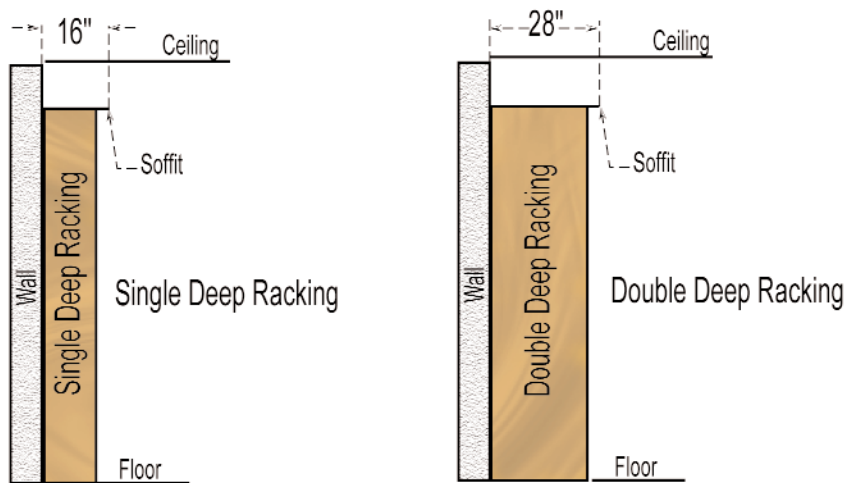


Figure 3

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8. All finished soffits for single deep racking with lighting must be a minimum of 16" + diameter of "Can Light" cover + 2". Double deep racking with lighting must be a minimum of 28" + diameter of "Can light" cover + 2". (See figure 4 below)

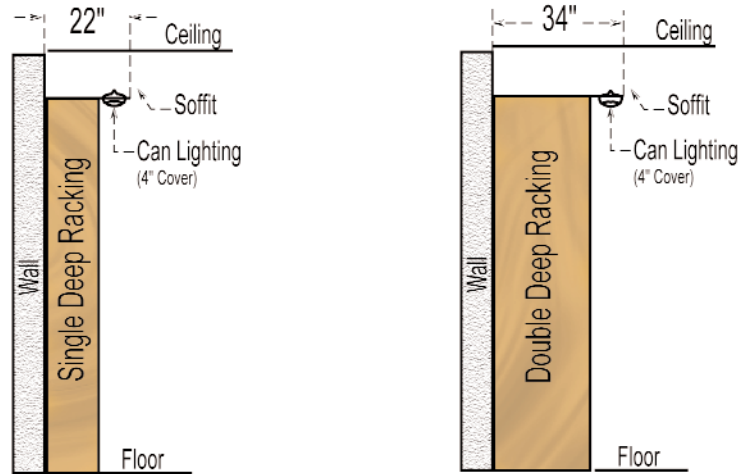


Figure 4

9. All finished soffits for radius racking. (See figure 5 below)

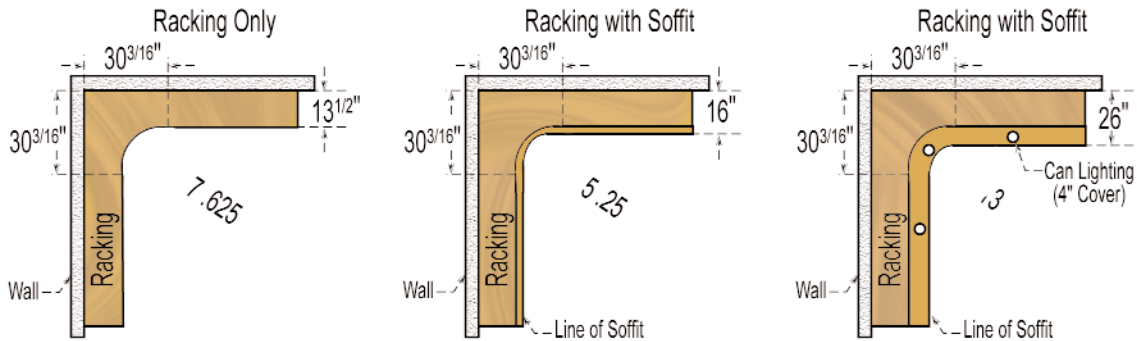


Figure 5

NOTE: Single Deep Curved Corner Rack is $30 \frac{3}{16}$ " with a radius of $17 \frac{5}{8}$ "
 Double Deep Curved Corner Rack is $42 \frac{3}{16}$ " with a radius of $17 \frac{5}{8}$ "

10. All walls and ceilings must have a 6 mil minimum vapor barrier "on the warm side" of the walls and ceilings.
11. All walls must be insulated with a minimum of R-13 regardless of existing conditions.
12. All ceilings must be insulated with a minimum of R-19 regardless of existing conditions.
13. Ideally, 1/2" plywood sheeting will be secured to all walls after electrical rough in and insulation to anchor racking. (This step not needed if using nailers between studs. See Figure 3 above).

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14. Install moisture resistant drywall.
 - a. Drywall must be installed a maximum 1/8" above sub-flooring.
 - b. Drywall to be finished and painted (exterior primer and paint) in its entirety with no unfinished areas. This includes areas normally left unpainted where baseboards would have been placed.
15. Tile floor must be snug to finished drywall and 3/16" - 5/16" maximum space for wood floors.
16. No "baseboard" or "toe-kick" molding to be installed to walls. (Baseboard and toe-kick will be installed to the racking).
17. Door, sidelights and windows must be exterior grade.
 - a. Door must have full-weather seal around perimeter and sweep.
 - b. Doors with glass must have thermopane glass.
 - c. All must be insulated between jamb and studs.
 - d. Existing exterior windows must be insulated and covered. Glass allows light to enter the cellar, which is detrimental to proper wine storage.
 - e. If you have exterior windows that you want to keep in the cellar, they must be double-insulated glass and well-insulated and caulked around frame.
(Ask Your Salesperson About Our CUSTOM DOORS & SIDELIGHTS).
18. Remove existing whole-house HVAC vents in the room. Existing HVAC should be permanently sealed. Customer should contact their HVAC contractor for advice.
19. Measurements of cellar walls and finish floor to ceiling height for custom racking must be exact. All custom racking are built to your measurements and cannot be returned. So double-check your measurements.

- a. Wall width should be measured at the bottom, center and top and provide the smallest measurement. Identified each wall. (A wall, B wall, C wall, D wall, etc. See Figure 6.)

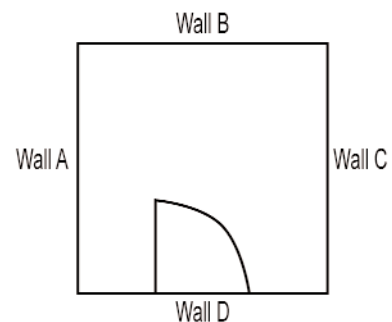


Figure 6

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b. Ceiling height should be measured in all corners and center of all walls and provide the minimum and maximum measurements. If your measurements vary more than 1" you should consider using a platform base to level up your racks properly and have your crown molding fit tight to ceiling for a better look. (See figure 7 below)

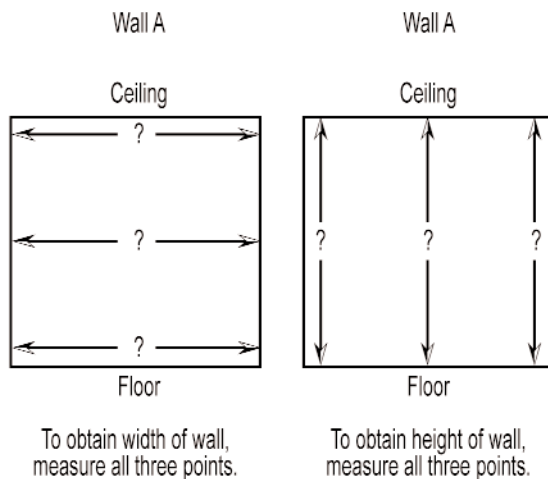


Figure 7

c. Any walls that bump out, or in to form a pocket should be measured from corner bead to corner bead (outside the pocket) and wall to wall (inside pocket) using the smallest measurement. (See figure 7)

d. Racking should stop 2 to 3 inches from door casing so racking won't interfere with door casing. (3 1/2" door casing).

e. Racking should stop 2 to 3 inches from existing light switch next to door that could not be removed.

f. Racking should stop 2 to 3 inches from existing thermostat.

20. Professional Factory Direct Installations.

a. Professional Craftsmen.

b. Depending on size of room, 3 to 5 days.

You can contact us at 800.229.9813 with questions not covered here.