

Wine Cellar Construction Tips

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Rosehill Wine Cellars Inc.

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We provide our Wine Cellar Construction Tips as a complementary service. Our aim is to provide cellar construction and preparation guidance so that your wine will have the very best home it deserves. We hope that when it comes time to order your cellar wine racks and cellar cooling unit, you will contact Rosehill by phone, by fax by email or order direct.

While this material is based upon Rosehill's many years of successful custom wine cellar design and sound construction knowledge, be advised that we cannot be held liable for how any of the information provided is interpreted or applied. There are really not one set of rules for all wine cellar construction. Many details have to be considered such as location of the cellar, the climate you are in, what temperature you desire your cellar to keep among other factors.

You might wish to refer to our web page "Design Your Wine Cellar" for racking layout assistance: <http://www.rosehillwinecellars.com/3rsV2/extra.php?id=11>

Also take a moment to browse our Custom Cellars photo gallery where a number of Rosehill-built cellars are illustrated. These pictures will give you some ideas about our design capabilities – some of which you may wish to incorporate into your own design. The vast majority of these cellars feature our Modular redwood racking system.

For our photo gallery, visit:

http://www.rosehillwinecellars.com/3rsV2/gallery.php?info=RH_020_viewThumbs

or for a virtual tour of one of our cellars, please see:

<http://www.rosehillwinecellars.com/3rsV2/tour.php>

Building a Wine Cellar

Location

The ideal location for a wine cellar is still in the basement which is below grade. If it has outside walls then usually the northwest corner gets the least amount of sunlight. The more the basement is below grade, the better. Many homes have unused crawl spaces which people think make great cellars but in reality they are too hot in summer and too cold in the winter months. This depends on geographic location. Wine cellars can also be built on first floors and they work very well especially if the house is always air conditioned.

Framing

Outside walls should be framed using 2" X 6" wood studs. Cellar walls facing into the interior of the house may be framed with 2" X 4" studs, but generally we use 2" X 6" studs throughout if we have the space and are using regular insulation batts. If the rooms are being insulated with sprayed 2lb polyurethane, then build with 2"x4" studs set one inch off the outside wall so that the foam will fill the space behind the stud. If you have a very cold floor (i.e. cold rooms under front verandas), then we recommend installing 2" X 2" wood "sleepers" on the floor so that rigid insulation of R-7.5 can be placed between them. In really cold situations you can build the floor with 2" x 4" studs on edge and fill with sprayed-in-place 2lb polyurethane.

Insulation

Insulation requirements are determined by the outside wall area the cellar will occupy and the depth of the cellar below grade. The very best type of insulation is sprayed-in-place 2-lb. polyurethane. It yields an R value of close to R7 per inch. It also provides a Type-2 vapor barrier that is sufficient for wine cellars. It is, however, somewhat costly. Local Yellow Pages directories will have listings of such suppliers under "insulation".

The second best option is insulation batts fitted into the stud cavities. With 2" X 6" walls, an R-20 rating is achieved while 2" X 4" stud walls will give a value of R-12.

With regular insulation batts, an approved 6 mm vaporretarder must be installed on the warm side of the cellar. This means the outside walls and the ceiling joists, which can be difficult sometimes given the placement of plumbing pipes, ductwork, electrical wirings, etc. (If you are standing inside your cellar the vapour barrier is on the other side of the insulation next to the outside walls of the cellar)

The importance of a good insulating and vapor retarder cannot be stressed enough! You want to keep the cold in, the heat out and control moisture levels.

Cellar Door

An exterior grade insulated door complete with jamb and weather stripping is required. These can be bought at lumber stores and if appearance is not a main criteria, then you can use the metal doors which have insulation inside. Custom-made wood doors are acceptable provided they have good weather-stripping and a threshold.

Glass Windows/Doors

While very attractive and widely used, glass provides very little R value (insulation) within a cellar. If you will be using glass, you might consider selecting a cooling unit with a greater BTU output to offset the diminished R value. Generally, the next size up will deliver adequate cooling compensation.

The glass should be a sealed thermal pane unit, usually 5/8" or 3/4" overall thickness. The glass should be sealed around the edges in the frame. Do not get into details with sandblasting on the doors – the company doing this will take care of it.

Drywall

Moisture resistant drywall, commonly called greenboard, is suggested for all walls and ceiling coverage. It provides a great finished surface that is ideal for painting. Many other wall finishes are also suitable. If using wood products, non-aromatic wood species such as Western Cedar, California Redwood or Mahogany should be selected, but install the drywall first.

Racking

Please see:

http://www.rosehillwinecellars.com/3rsV2/manufacturer.php?category=wine_racks

If using Modular Racking System, then the racking design should be determined before cellar construction commences. The walls can then be built to the exact size of your racking layout, thereby giving the racks the look of a true custom installation. This is for both walls and ceiling height.

Racks should be chosen according to your collecting style. Rosehill's staff would be pleased to assist in the design of your racking layout. Our redwood racks are easy to assemble and install. With every racking order, Rosehill provides its own "Helpful Hints" based upon our extensive experience with racking assembly and installation. Depending upon your budget, design ideals and available cellar space, we would be happy to quote from our Modular, Premium, Custom or Vintage View racking/storage systems.

Kick Plates

Our Modular Racking System includes prefabricated kick plates in black laminate with redwood trim. These kits are 1.5" high; and can be used as base and/or crown. They are quick and easy to use and add a nice design element to your racking layout. However, you can also make your own. _

When we design a custom cellar, we build kick plates around the room as a platform upon which the racks will rest. The kick plates serve two purposes: 1) They provide both a more finished look to your cellar and 2), The kick plates themselves can be shimmed to accommodate for any unevenness in the floor more easily than the racking on its own. Make the kick plates the same height as the base trim you want to install. The top surface of the base can be black melamine which looks nice when the racks are installed.

The height of your kick plate is adjustable depending on your trim selection. The cellar takes on a rather dramatic appearance with larger kick plates. The miter angle for the curved corner unit kick plate is 15 degrees.

The kick plates are strictly optional. Racks may be placed right on the floor and shimmed accordingly.

Refrigeration

Please see:

http://www.rosehillwinecellars.com/3rsV2/manufacturer.php?category=wine_cooling

We can provide you with the exact measurements and specifications for the cooling unit that best suits the location and size of your cellar. WhisperKool, Koolspace & Breezaire products plug into a standard household 110V outlet, preferably one on a dedicated circuit and without voltage fluctuations. The electrical outlet is to be located inside the wine cellar room right next to the unit. WhisperKool is standard with the option of a plug-in from the exhaust side of the cellar or from the inside of the cellar. Breezaire systems come standard with the plug on the inside but may be ordered with a plug-out-back specification at a small up-charge. chillR units also plug in on the inside of the cellar.

WhisperKOOL, chillR and most Breezaire models vent through a wall to an adjacent area. They are not engineered for installation into ductwork, ceilings, or flooring. If you have an unusual installation due to being below grade, or structural or aesthetic factors, the Breezaire split system (separate evaporator and condenser units) may be the solution. It is, however, a little more costly to purchase, and is more costly to install as a certified refrigeration technician must be involved in the installation.

Inside Venting

WhisperKool, Breezaire and ChillR units are designed to vent to an adjacent room through the wall. The installation is quite simple, especially if the wall cutout is prepared while you

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are constructing the room. There is no requirement for plumbing or water supply as these cooling units utilize excess moisture in the room to maintain a satisfactory humidity level for most geographic regions throughout North America. Running a condensate line to a drain is always a good idea but not always required. The adjacent room/area must be at least as large as the cellar itself (preferably larger) as it needs to be able to dissipate the cooling unit's warmed exhaust and to serve as a source of fresh air intake. The adjacent room must not get more than 30°F more than the set temperature of the wine cellar. As these units are mechanical in nature, they do generate a noise not dissimilar to many bathroom fans, a factor to be considered when determining a location for the cooling unit. The ChillR series make the least amount of noise.

Outside Venting

If a suitable adjacent exhaust area is not available, or if you would simply prefer to direct the warm exhaust and fan noise to the outside, then a Breezaire cooling unit may be the answer. Breezaire products are proportioned depth-wise to fit right through the cellar and exterior foundation walls and are engineered to withstand seasonal temperature changes. A drain line running to an empty wine bottle or channeled directly to a floor drain is needed to dispose of excess moisture. An optional bottle probe is also available at a very reasonable price for an alternative means of cellar temperature measurement.

If your cellar is below grade or exhausting directly through an inside or outside wall isn't possible, Breezaire offers a split system where the evaporator is in the cellar and a condenser unit is remotely located outside of the cellar, either indoors or outdoors. This unit works extremely well but the initial cost is higher and the installation necessitates the services of a qualified refrigeration technician. Again, it works best with a temperature difference of 30°F.

If your space is larger or there are specific requirements, please see our line of Cellar Mate and Water Cooled cellar cooling systems. These are for more serious cellar designs or in situations where you do not want exhausted air venting into your house. It is best to call Rosehill and talk to our sales expert on these models. The website gives a good overview on them.

Your wine deserves the very best home!

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