

Characteristics of a good wine cellar



Aeration

A good cellar is ventilated. A light stream of air will prevent excess moisture and fungal growth, but note that too much ventilation can affect the quality of your wine by creating large changes in temperature.

Temperature

Cellars are subject to temperature variations that can interfere with the aging process of wine. The ideal temperature is between 10 and 14 degrees Celsius, and it should be checked regularly. Good thermal insulation will help hold the temperature steady.

At no time should the temperature exceed 20 degrees Celsius. The consequences of heat are irreversible: at high temperatures, wine turns and cannot be recovered. Temperature is the single most important factor in aging wines. It is essential to know your location's average temperature as well as its highest and lowest seasonal temperatures before installing a wine cellar.

The basement on the north side of your home is the preferred location. If you want to build your wine cellar in a corner, the northeast corner has the most stable temperature.

Humidity

The right humidity is close to 70%. Too wet, and you risk moldy corks; too dry, and corks may crack, bottles leak, and wines deteriorate. A hygrometer lets you monitor humidity, and gravel on the ground helps to maintain it.

Darkness

Wine should be stored in total darkness. Light rays degrade tannins and cause premature aging of wine. Cover everything that lets in daylight and install low-wattage light bulbs. Indirect light is best, such as that reflected on a wall from a 25 to 40 W bulb.

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Avoid odors: devote your cellar exclusively to wine

Corks are permeable, so wine comes in contact with the ambient air. Avoid storing products with strong smells, like paint and gasoline, to preserve the best flavors of the wine. Additionally, fruits and vegetables should not be stored in a wine cellar, because they can introduce moisture and odors. Other often-undetected odors are common in our environment, such as detergents; installing a carbon filter allows these harmful odors to be filtered out of your wine cellar.

Avoid vibrations

Vibrations should be avoided (including those from nearby roads), since these may disturb the aging process of wine. If wine does not rest quietly, its aging will be accelerated and it may taste more acidic.

Cooling system

A specialized refrigeration unit ensures a consistent temperature between 11 and 14 degrees Celsius. Wine cellar cooling units must be installed inside and take in air from another room of your house. A cooling system also maximizes relative humidity, which should be between 60 and 80 percent. Your equipment needs will depend on the size of your room and its location. The most popular wine cellar cooling systems help to maintain constant moisture and consistent temperature in a cellar, and are adequate for the majority of private residences.

In no case should household air conditioners be used. These do not lower temperatures sufficiently, they completely eliminate humidity, and they cause noise and vibration.

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How should wine bottles be stored?

Bottles should be stored in a horizontal position. We offer numerous styles of wine racks for this purpose.

Bottles should be taken out of their cases, and wooden crates should be opened so that air can circulate. Store white wine relatively low (close to the ground, where the air is cooler), and red wine higher up.

Systems should be designed so that you manipulate your wine as little as possible to let it rest. Bottles must be stored horizontally. To meet these needs, plan a suitable layout that will be easily accessible. If you need to move all of your bottles to reach the one you want, the wine will be affected. Be sure to store wines for aging separately from wines for drinking, and place the latter higher up for easy access.

Individual racks are best for identifying the location of each bottle, and can even be numbered.

Bulk racks (diamonds, cubes, blocks, etc.) are best for storing large quantities of identical bottles.

Length of storage

The majority of white wines, rosés, and fruity reds should be stored for only a few months. For vintage champagne, tasting should take place within four years after disgorging. The best red wines can be kept for thirty years. For all others, allow five to ten years before opening the bottle with friends.

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Building the room

Door

To ensure that your cellar remains sealed, we recommend at least an R16 insulated door with weatherstripping. If you prefer a glass door, it should be fitted with UV-resistant glass. Tempered glass is also recommended if your cellar is in an exposed location or if you have young children nearby: tempered glass shatters like a car windshield rather than breaking into dangerous fragments.

Don't forget to put a lock on the door. Whether you use a keyed, combination, or electronic lock, it's best to control access to your cellar.

Floor

Any type of moisture-resistant flooring can be used, including natural stone, ceramic, and marble. Avoid carpets and varnishes with odors.

For a wine cellar located in a basement, you can benefit from the natural moisture of the ground by drilling 1 or 2 cm holes in the concrete floor. Holes placed every 5 to 6 cm along the walls can increase the humidity by one or two degrees. However, you need to make sure that the soil is not waterlogged and that there is adequate drainage under the foundation to prevent water infiltration. Holes can be covered by mesh or gravel to keep out insects.

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Walls and ceiling

Divisions

Cellar wall construction can be done with 2 x 4, but ideally 2 x 6. Avoid completely enclosing a cellar in concrete.

Insulation

Insulation should be at least R20 and ideally R30 or more to ensure stable temperature and humidity. The interior of your cellar must be as inert as possible. Urethane is the best choice for insulation, since it permits hermetic sealing of walls and ceilings. Rigid insulation panels are also recommended. Mineral wool can also be used if it is well protected from moisture, which can cause it to lose its insulating abilities over time.

Wall covering

The most common and probably the simplest option is water-resistant drywall (used for bathrooms). It is also helpful to place a thin (1/4") plywood behind the drywall for screws from future racks. If you opt to use decorative stone, do not attach it with an odor-emitting glue, as this may affect your wine. Instead, use a water-based adhesive. Natural stone is still the better choice.

Vapor barrier

A vapor barrier is necessary to maintain humidity. It should be fully enclosed and attached with adhesive tape. The barrier is placed behind the water-resistant drywall.

Paint

Use a mildew-resistant latex paint. Paint designed for bathrooms will do the trick. Ideally, use dark colors.

*Important notes

Before beginning a project of this type, research the building codes in your area to comply with local laws.