



# General Principals of Wine Cellaring

## **NOTICE**

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Genuwine Cellars offers this free guide to assist you in planning for a wine cellar. The advice here is drawn from our nearly two decades in the custom wine cellaring business. You may find different recommendations and suggestions elsewhere, but this is how we do things (in general).

Please note that we cannot be held liable for how any of the information in this guide is interpreted or applied. If you require professional wine cellar services, or just simply need some assistance, do not hesitate to contact us.

## Introduction

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At its core, a wine cellar is simply any place designated to store a collection of wine. That can range from an elaborate 8,000-bottle state-of-the-art custom enclosure featured in a design magazine, to a dugout in a damp and dingy underground cave, to a set of modular wooden racks in the corner of an unfinished basement. Traditionally a wine cellar was thought to be anything situated below ground, but today that distinction is less applicable.

While the ultimate purpose will always be to store wine (ideally under proper conditions), a cellar can also be a place to entertain guests, a beautiful object of desire to show off, a protective sanctum for a valuable investment, or any combination thereof.

Whatever uses you might intend for your cellar, it is important to keep in mind that wine is a perishable product and its protection should always be paramount. Filling a fancy room with wine racks is one thing. Making a stunning cellar that is also fully functional is another. Remember, you may be spending as much on wine as you are on your cellar, so take efforts to protect your future investment. When properly stored, wines not only maintain their quality but many improve in aroma, flavor, and complexity as they mature.

If your focus is not on the wine when building a cellar, it can be disaster, as evidenced by all the fancy wine rooms we've had to fix, constructed by other "wine cellar manufacturers" who got their start in other industries and never bothered to educate themselves about wine and its proper storage.



## General Principals

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Proper wine cellaring principles all follow the same logic: shield the wine from harmful influences. Here are the major dangers to guard against:

### 1) Temperature

Wine can become damaged if subjected to extreme temperatures. If a cellar becomes too warm (in excess of 25 °C (77 °F)) for long periods of time, it may spoil or "cook" the wine. Restaurants with

limited storage space are often guilty of this crime, stowing their wine in sweltering kitchens. For the same reason, a home cellar should never be built next to a fireplace or furnace.

If the cellar becomes too cold, a wine can freeze, which can play havoc with the cork and introduce oxygen into the wine, a result that can be disastrous if the exposure is too great.

So what is the perfect temperature to store wine at? While this is a subject of debate among wine professionals, it is safe to say that a wine can be stored satisfactorily between 7–18 °C (45–64 °F). Some argue that the absolute perfect temperature for storing and aging wine is 13 °C (55 °F), which is approximately the same temperature found in many cellaring caves in France, but ultimately, whether or not you achieve the perfect temperature is not nearly as important as maintaining consistency. In other words, it's better to be a little warmer (or colder) as long as your cellar is maintaining that same temperature. If temperature fluctuations are too drastic, we run into cork issues again, and run the risk of oxidizing bottles in your collection.

Finally, a wine has a greater potential to develop complexity and a more aromatic bouquet if it is allowed to age slowly. Lower temperatures slow the aging cycle of wine, so it stands to reason that a cellar is better on the cooler side than warmer, especially if you enjoy all the wonderful tertiary characteristics that aged wine can provide.

## **2) Humidity**

Humidity becomes an issue for wine when conditions are too dry, or when the relative humidity fluctuates too greatly. Under dry conditions, a cork can become susceptible to damage. This is why you should not age wine in a normal refrigerator (the lack of moisture will dry out a cork, which can increase the risk of oxidization) and why you should always position your bottles horizontally, to ensure that the wine is always in contact with the cork to keep it moist.

Regulating the ambient humidity of a wine cellar is often the trickiest environmental consideration to guard against, unless of course you are situated in a consistently humid climate, such as England.

If you do happen to own a damp basement in London, or a dank cave in France, then you can build what is called a passive wine cellar (i.e., you don't have to do anything to control the humidity since the natural environment does all the work for you).

If, however, you happen to live in drier climes, you will need to build what is called an active wine cellar, which is to say you will need to take steps to actively regulate the ambient humidity. This can be as simple (if not as messy) as covering your cellar floor with an inch of gravel and periodically sprinkling it with water, or as sophisticated as enclosing your space and employing a state-of-the-art climate control system. A good active wine cellar should be highly insulated and needs to be properly constructed. They require specialized wine cellar conditioning- and cooling-systems to maintain the desired temperature and humidity.

75% humidity is often cited as best, but anything between 50% and 75% is more than adequate. Anything too damp and labels could be damaged, which will dramatically affect the value of investment wines.

Finally, maintaining good airflow and ventilation is also important, not only to keep the cellar a pleasant place to visit, but to keep it free from persistent smells [see below], which could affect the wine.

### **3) Light**

Wine is photo-sensitive. Light causes pigments to fade in red wines and darken in white wines. To that end, a wine cellar should be situated in a dark location, away from sunlight. If your cellar employs a lighting system, ensure that it is UV-free.

Retail wine stores are notoriously bad for neglecting this aspect of proper wine cellar care, so always be sure to ask when you are purchasing a pricey bottle (especially Champagne) whether or not it has been laid down under UV-free conditions. LEDs often make for the best choice—it's what we use—not only because they do not emit UV rays, but also because they throw very little heat (an important consideration when determining the lighting for your wine cellar since temperature regulation is paramount).

### **4) Vibration**

There is a respected line of thought that says a maturing wine should be kept free from any and all vibration. The idea is that sediment may be disturbed, which could upset the aging process. This is why you won't typically find a wine cellar built under a staircase.

Also, it's worth noting that one of the big differences between an entry-level wine fridge and a higher-end model is the quality of motor. Entry-level wine-fridge motors often exhibit a higher degree of vibration, especially over the mid- to long-term.

### **5) Freedom from Persistent Smells**

Wine subjected to persistent smells can become tainted. Offending odors can come from the off-gassing of certain wood species, from the odor of certain finishing materials and stains, or from any other source that produces a persistent scent in the cellar (e.g., a nearby septic tank, chemical bath, etc.). Besides ruining the wine, a persistent off-putting smell can make a wine cellar unpleasant at best, to uninhabitable at worst. All of Genuwine Cellar's wood species are sourced specifically for their ideal wine cellaring properties and the same holds true for all of our finishing materials, stains and lacquers.

### **6) Security**

Finally, there is the issue of security, which is especially relevant for collectors interested in the world of investment wines, and even more pressing if a teenager resides in the house. From simple door locks to fingerprint recognition technology to full-scale surveillance systems, security solutions of every magnitude exist to protect your wine cellar.