



Oregon's Regulation of Wineries

2009 IBC/2010 OSSC BUILDING CODE CORRELATION

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Contact: Richard S. Rogers
Structural Program Chief
(530) 378-4472
richard.rogers@state.or.us

ABSTRACT:

This paper provides a brief history of winery regulation in the State of Oregon as well as a synopsis of code changes necessary to align winery construction with Oregon Revised Statute (ORS) 455.068, certain International Building Code (IBC) thresholds and related code change sections.

The adoption of the 2003 IBC in Oregon brought sweeping changes relative to the construction of wineries. Namely, the new code required up to 3-hour fire-rated occupancy separations. With the help of the Oregon Wine Advocacy Council, the Yamhill County Building Official and architects associated with the design and construction of wineries, the Oregon Building Codes Division (BCD) initiated a series of code changes to better accommodate the construction of new wineries and the remodeling of existing facilities, and to clarify how the new code should be interpreted state wide. Concurrently, the Oregon Legislature passed legislation “defining” a winery which was made a part of ORS 455.068 and is reproduced here:

ORS 455.068 Applicability of construction standards to winery. (1) For the purposes of this section, “winery” means a facility used primarily for the commercial production of wine or cider, including but not limited to areas used for production, shipping and distribution, wholesale and retail sales, tasting, crushing, fermenting, blending, aging, storage, bottling, administrative functions and warehousing.

(2) In adopting any construction standards impacting a winery, the Department of Consumer and Business Services shall ensure the standards are applicable to all wineries producing wine, as defined in ORS 471.001, and cider, as defined in ORS 471.023. [2005 c.734 §2]

The legislative intent was to assign wineries to a single occupancy category thereby avoiding the unnecessary 2 to 3 hour fire-rated occupancy separations. Later editions of the IBC have greatly reduced or eliminated the fire rating of such occupancy separations with consideration given to similar fuel load conditions among certain occupancies and, in some cases, the presence of an automatic sprinkler system.

The following synopsis details Oregon amendments necessary to correlate winery construction in Oregon with the 2009 IBC/2010 OSSC:

Occupancy Classification

As noted earlier, the ORS 455.068 definition of winery includes all areas used in the production, shipping and marketing of wine.

By comparison, the current un-amended IBC classifies different uses in a winery into varying occupancy classifications. Offices are typically classified as a "B" occupancy. A tasting room or dining area accommodating fewer than 50 people is also a "B" occupancy. Tasting rooms and dining rooms accommodating over 49 people are an "A2" assembly occupancy, and storage of wine with a 16-percent alcohol content by volume is considered an "S2" or low hazard storage occupancy.

While the ORS 455.068 definition includes "tasting" areas in all wineries, the Oregon Wine Advocacy Council and other stakeholders agreed that certain fire, life-safety considerations should be applicable within the context of the building code. To that end, the following parameters were negotiated:

1. Tasting areas should be limited to a maximum occupant load of 299. Where tasting rooms exceed 299 occupants, those areas would be assigned an occupancy category of A-2 and the building reviewed as a mixed occupancy structure.
2. Wineries with a tasting room not exceeding 299 occupants may be considered as an "F-2" occupancy in their entirety where one of the following conditions exists;
 - a. An automatic sprinkler system is provided throughout the fire area.
 - b. Both an automatic fire alarm system with manual pull stations and a smoke detection system are installed throughout the building.
3. Wineries processing wine with more than a 16 percent alcohol by volume are properly classified as an "F-1" occupancy and are required to be separated from other occupancies per the OSSC. Such wines are generally "fortified" with other alcohol as the natural wine fermenting process typically does not exceed 16 percent alcohol by volume.

The 2009 IBC fire-rated occupancy separations remain applicable for boiler rooms as well as storage areas where wine is stored in wood or cardboard as such materials can easily burn.

Occupancy Group Classification by Percentage of Alcohol by Volume:

The 2009 edition of the IBC properly classifies production areas of wineries with up to and including 16-percent alcohol content as an "F-2" or "Low-hazard

occupancy.” Areas processing greater than 16-percent alcohol products are classified as an “F-1” or “Moderate-hazard occupancy.”

Historically, Oregon amended such sections consistent with the 16 percent limit instead of the 12 percent limit in editions of the IBC.

Sprinklering

F-1 Wineries. IBC Section 903.2.4 details sprinklering requirements for F-1 occupancies and is applicable to wineries processing greater than 16-percent alcohol by volume products.

F-2 Wineries. The IBC has no sprinklering requirements specific to an F-2 occupancy.

Regardless, IBC 903.2.11 must be satisfied in any design or occupancy. This section addresses given scenarios where exterior walls are without openings.

Means of Egress

While typical wineries are properly classified as an “F-2” occupancy, the means of egress from each separate “use or function” must be evaluated in accordance with OSSC Chapter 10.

Carbon Dioxide (CO₂) Hazard

During the fermentation process, wine grape sugar is metabolized by yeast which converts the sugar to water, alcohol and carbon dioxide. During the active fermentation process, concentrations of carbon dioxide within the headspace of a fermenting tank may reach levels approaching 100 % by volume.

The dangers posed by this type of CO₂ build-up include the displacement of oxygen and the potential asphyxiation of employees, as well as the dangers of being exposed to high concentrations of carbon dioxide for extended periods of time.

The OSSC does not address this hazard as this is a work place safety issue which is properly addressed by the Oregon Occupational Health and Safety Administration.

**SUMMARY of OREGON AMENDMENTS
to the
2010 Oregon Structural Specialty Code (2009 IBC)**

The following changes reflect the application of ORS 455.068 to wineries coupled with certain fire, life-safety parameters:

1. Clarify that equipment, materials and supplies used directly in the production of wine with a 16-percent or less alcohol content by volume may be stored in a winery area (*F-2*) without classifying that space as storage, (*S*) occupancy.

Add to 2010 OSSC Section 306.3:

Wood barrel and bottled wine aging facilities in wineries

2. Wineries as defined in OSSC section 202 with a tasting room not exceeding 299 occupants may be considered as an “F-2” occupancy in their entirety where certain conditions exist:

Add 4th exception to 2010 OSSC Section 508.1:

4. Uses within a winery as defined in section 202 of this code are exempt from occupancy separation requirements where one of the following conditions exists:

4.1 An automatic sprinkler system is provided throughout the fire area.

4.2 Both an automatic fire alarm with manual pull stations and smoke detection system are installed throughout the building.

Boiler rooms, and areas over 750 square feet where wine is stored in wood or cardboard cases are not exempt from separation requirements.

3. The following definition is added to the 2010 OSSC Chapter 2 Definitions:

(Underline denotes 2010 change to OSSC)

Add to 2010 OSSC section 202:

Winery. A facility used for the primary commercial purpose of processing grapes or other fruit products to produce wine or cider having a 16-percent or less alcohol content by volume, including all areas used for the production, storage, distribution and sale of such wine or cider, including crushing, fermenting in wood or steel barrels, blending, aging, bottling, tasting rooms with an occupant load of 299 or less, warehousing, shipping, and retailing of wine, cider, and incidental items related to wine and cider and all associated administrative functions.