

Commentary

*By
Micheal D Ewert*

Updated December 10, 2009

Residential Kitchen Hood Requirements

Questions often arise concerning the need for, or the requirement of, an exhaust hood over a domestic kitchen stove-top in the *Oregon Residential Specialty Code (ORSC)*. Some believe the code requires some form of ventilation/exhaust in residential kitchens, and they're right, ventilation is required, as is a range exhaust system. The terms "ventilation" and "exhaust" are often intermingled to mean the same thing, and in reality they do sometimes work in unison, but they are not the same. Range hoods are mechanical exhaust systems designed to capture air contaminants (such as cooking odors, moisture or smoke) at their source and to exhaust the contaminants to the outdoor atmosphere. Ventilation is the natural or mechanical process of supplying fresh air, either conditioned or unconditioned, to all habitable areas of a dwelling for human comfort..

The requirements for ventilation in the *ORSC* can be found in Section R303.1, which states that all habitable rooms are to be provided with an aggregate glazing area of 8 percent of the floor area, with a minimal openable area of 4 percent of the floor area being *ventilated*. The purpose of the glazing and the portion that is openable is to provide both natural light and natural ventilation. Since a kitchen is considered a habitable room, it would require (at a minimum) a window, door, or other openings which opens directly to the outdoors, with an aggregate opening of at least 4% of the floor area. Section R303.2 also allows the use of adjoining rooms to be used when determining this ventilation requirement.

Two exceptions modify the requirements in Section R303.1. Exception 1 permits the glazed area to be fixed or "non-openable" when an approved mechanical ventilation system or whole-house mechanical ventilation system is installed. The mechanical ventilation system must provide at least 0.35 air change per hour in each habitable room. Exception 2 allows for artificial light in-lieu of natural light. Be aware that Section R310 has additional requirements concerning emergency egress in bedrooms, and these requirements may supersede the exceptions found in R303.1. So if the kitchen and/or adjoining rooms fulfills the natural ventilation requirements of R303.1 and R302.2 no further mechanical ventilation is required, but this will not eliminate the need for a cooking appliance exhaust.

Section M1503.4 states; "Domestic kitchen cooking appliances *shall be equipped* with a ducted range hood *or* down-draft exhaust systems and shall be sized in accordance with Section M1507.3." This section requires an exhaust system for all domestic kitchen cooking appliance.

Section M1503.1 gives information on-how-to install a ducted hood. The range hood shall discharge to the outdoors through a single-wall duct, have a smooth interior surface, be air tight and shall be equipped with a backdraft damper. This section also prohibits range hood ducts from terminating into an attic or crawl space or other areas inside the building. Ductless (re-circulating) range hoods are no longer allowed to be used in lieu of a ducted hood.

In conclusion, room ventilation, whether natural or mechanical and the use of a range hood to remove cooking odors, moisture or smoke are separate issues. Kitchens or kitchen areas need either natural or mechanical ventilation per R303.1, and domestic cooking appliance must be exhausted per Section M1503.4.