

MECHANICAL CODE DISCUSSION

Significant Mechanical Changes to the 2009 IRC



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THIS PAST LEGISLATIVE SESSION, the State Legislature passed a bill that was signed by the Governor, which took the power to adopt Codes for the State of Utah away from the Building Codes Commission, placing it with the Legislature. We currently do not know when the 2009 I Codes will be adopted. It is expected that sometime in 2010, the 2009 codes will be adopted with some State Amendments. The 'problem' the Legislature had with the code is the phase-in of a requirement for fire sprinklers in single family dwellings, as well as some stricter energy requirements. This is unfortunate for those issues could have been addressed by State Amendment, with the other good clarifications and changes to the Code all would become Code in January. If and when the 2009 I Codes are adopted, here are a few of the many residential mechanical changes:

M1305.1.4.1 Ground clearance.

Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 3 inches (76mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions. Appliances suspended from the floor shall have a clearance of not less than 6 inches (152 mm) from the ground.

—*Furnaces in crawlspaces as well as condensers outside must be raised up 3" above the grade/dirt around it. My interpretation is that if the unit is on a larger slab like a floor or patio slab, this requirement does not apply.*

M1401.3 Sizing.

Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or

other approved heating and cooling calculation methodologies.

—*This is a clarification or confirmation of the requirement in Manual J that after the load has been completed, the equipment is to be selected per Manual S.*

M1411.3 Condensate disposal.

Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas where it would cause a nuisance. —*The code now specifically addresses the required minimum slope required for condensate drains.*

M1411.3.3 Appliances, equipment and insulation in pans.

Where appliances, equipment or insulation are subject to water damage when auxiliary drain pans fill, those portions of the appliances, equipment and insulation shall be installed above the flood level rim of the pan. Supports located inside of the pan to support the appliance or equipment shall be water resistant and approved.

—*If a furnace or air-handler is installed for example in an attic, inside a drain pan, the equipment must be supported on water resistant materials above the top/flood rim of the pan.*

M1411.6 Locking access port caps.

Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps.

—*This requirement came about due to a growing problem with teens/young adults dying from huffing/inhaling refrigerants for a high. There was a strong lobby of parents who had lost*

their children to inhalation of refrigerant at the easily accessible ports on condensing units. There are several manufacturers that are marketing these locking devices that can be easily retro-fitted to existing and new systems.

M1502.4.4.1 Specified length.

The maximum length of the exhaust duct shall be 35 feet (7620 mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.4.1 (see opposite page).

—*The entire section on dryer vents has been revised. The major change is the length has been increased to 35' as well as the length adjustments for elbows have been revised to allow for the lower friction losses through long radius elbows.*

M1503.4 Makeup air required.

Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m³/s) shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system (see Figure 1 on opposite page).

—*As the energy code and home building in general get 'tighter', requiring building papers, wraps, caulking and sealing, it has become necessary to supply make-up air when there is a high volume exhaust fan installed in the kitchen.*

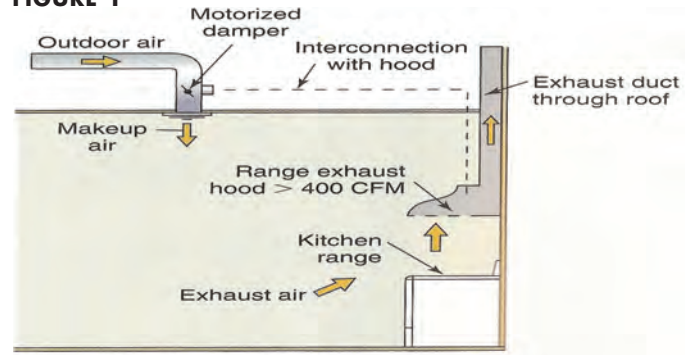
These are a few of the changes that may impact each of you when the 2009 Code is adopted. Please understand these are changes to the code that have not yet been adopted. Current construction is to follow the current 2006 I codes. ☆

TABLE M1502.4.4.1 AND FIGURE 1 FOR MECHANICAL CODE DISCUSSION (OPPOSITE PAGE)

TABLE M1502.4.4.1
DRYER EXHAUST DUCT FITTING EQUIVALENT LENGTH

DRYER EXHAUST DUCT FITTING TYPE	EQUIVALENT LENGTH
4 inch radius mitered 45 degree elbow	2 FEET 6 INCHES
4 inch radius mitered 90 degree elbow	5 FEET
6 inch radius smooth 45 degree elbow	1 FOOT
6 inch radius smooth 90 degree elbow	1 FOOT 9 INCHES
8 inch radius smooth 45 degree elbow	1 FOOT
8 inch radius smooth 90 degree elbow	1 FOOT 7 INCHES
10 inch radius smooth 45 degree elbow	9 INCHES
10 inch radius smooth 90 degree elbow	1 FOOT 6 INCHES
For SI: 1 inch = 25.4 mm 1 foot = 304.8 mm 1 degree = 0.0175 rad	

FIGURE 1



Required Makeup Air for Kitchen Exhaust Hoods Exceeding 400 CFM



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