Section 9-409

HICKMAN MECHANICAL CODE

Sections:

9-409.010 Adoption of the International Mechanical Code, 2009 Edition.

Except as hereinafter provided by specific amendment, the 2009 edition of the International Mechanical Code, including Appendix Chapters A and B, as published by the International Code Council, is hereby adopted. One printed copy of the International Mechanical Code, 2009 Edition, has been filed in the office of the City Clerk for use and examination by the public. (Ord. 2013-XX; Month XX, 2013).

9-409.020 Section 101.1 Amended; Title.

Section 101.1 of the International Mechanical Code is amended to read as follows:

101.1 Title. These regulations shall be known as the Hickman Mechanical Code, hereinafter referred to as "this code." (Ord. 2013-XX; Month XX, 2013).

9-409.030 Section 103 Amended; Department of Building Safety and Code Official.

Section 103 of the International Mechanical Code is amended to read as follows:

Section 103. Department of Building Safety.

103.1 Code Official defined. The Director of Building Safety or City Administrator is hereinafter designated as the "Code Official." The Code Official or an authorized representative of the Code Official is hereby authorized and directed to enforce all of the provisions of this code.

103.2 Enforcing department. The Department of Building Safety shall be referenced as the enforcing department and shall be substituted for Department of Mechanical Inspection. (Ord. 2013-XX; Month XX, 2013).

9-409.040 Section 104.4 Amended; Inspections.

Section 104.4 of the International Mechanical Code is amended to read as follows:

104.4 Inspections. All equipment for which a permit is obtained under this code shall be inspected by the code official.

No portion of any equipment intended to be concealed by any permanent portion of the building shall be concealed until inspected and approved.

When the installation of any equipment is completed, the second or final inspection shall be made. The master mechanical contractor registered in the State of Nebraska shall be required to promptly call for inspection upon completion of the work. Failure to do so shall be grounds for withholding further permits until any backlog of final inspections is completed. In the event that the master mechanical contractor registered in the State of Nebraska authorized to take out a permit under Section 106.1 as amended by Hickman Municipal Code Section 9-409.050 intends for the owner of the property to request a final inspection, said master mechanical contractor registered in the State of Nebraska shall provide the owner of the property with information on requesting a city inspection. The owner of the property shall have the duty of requesting the final inspection and to provide access and a means for proper inspection.

A final inspection approval may, upon notice, be revoked by the Code Official if the Code Official finds that the mechanical equipment fails to comply in any respect with the requirements of this code, or that any installation is unsafe, dangerous, or a hazard to life or property. A time limit of seven days shall be allowed for the correction of rejected installation. Corrections not

made and approved by the Code Official in the allotted time shall be grounds for withholding further permits until corrections are made and approved by the Code Official. (Ord. 2013-XX; Month XX, 2013).

9-409.050 Section 106.1 Amended; Permits; When Required.

Section 106.1 of the International Mechanical Code is amended to read as follows:

106.1 When required. A master mechanical contractor registered in the State of Nebraska or homeowner under certain conditions as authorized in Hickman Municipal Code Section 9-409.300 who desires to erect, install, enlarge, alter, repair, remove, convert or replace a mechanical system, the installation of which is regulated by this code, or to cause such work to be done, shall first make application to the Code Official and obtain the required permit for the work.

Exception: Where equipment and appliance replacements or repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the Code Official.

(Ord. 2013-XX; Month XX, 2013).

9-409.060 Section 106.3 Amended; Application for Permit.

Section 106.3 of the International Mechanical Code is amended to read as follows:

106.3 Application for permit. Each application for a permit, with the required fee, shall be filed with the Code Official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The application shall be signed by the master mechanical contractor registered in the State of Nebraska or homeowner as authorized under Hickman Municipal Code Section 9-409.300. The permit application shall indicate the proposed occupancy of all parts of the building and of that portion of the site or lot, if any, not covered by the building or structure and shall contain such other information required by the Code Official.

106.3.2 Construction documents. When required by the Code Official for the enforcement of any provisions of this code, plans and specifications for the installation of mechanical systems or fuel gas systems shall be designed and prepared by an engineer or architect licensed by the state to practice as such and shall be filed with the Code Official and approved before the issuance of any permit. A sealed plan is required when the building has an occupancy load of twenty persons, is 5,000 feet in floor space, or has a wall thirty-five feet in height. One set of plans and specifications may be filed for checking, provided that not less than three sets of corrected plans and specifications are filed before approval is given by the Code Official. After approval, two sets of plans shall be returned to the applicant, and the other set shall be retained by the Code Official.

When the plans and specifications do not comply with the provisions of this code or the Hickman Fuel Gas Code, the necessary changes or revisions shall be made thereto.

Every plan shall be a print or other type of plan approved by the Code Official. The information contained on the plans shall be clearly legible and specifically indicated. No plan shall be a scale smaller than one-eighth inch per foot.

Specifications, legibly and definitely stated, shall be included either on the plan or on separate sheets.

The approval of any plans or specifications shall not be construed to sanction any violation of this code, the Hickman Fuel Gas Code, or any other Hickman ordinance.

No person shall deviate materially from any approved plans or specifications or fail, neglect, or refuse to comply therewith, unless permission to do so has been obtained from the Code Official and subject to architect or engineer approval, where applicable.

Every dwelling unit shall be provided with heating facilities capable of maintaining a room temperature of 70° F. at a point between three and five feet above the floor level, under local outdoor winter design conditions as specified in ASHRAE Handbook.

The above temperature shall be measured in the approximate center of all habitable rooms, on the story that the thermostat is located.

With central forced air systems, the furnace blower shall be in constant operation for a minimum of two hours preceding temperature readings.

Where air conditioning is provided, the cooling system shall be capable of maintaining a temperature of 78° F. as measured in a manner the same as for heating.

The plans or specifications shall show the following:

(a) Layout for each floor with dimensions of all working spaces and a legend of all symbols used;

(b) Location, size, and material of all piping;

(c) Location, size, and materials of all air ducts, air inlets, and air outlets;

(d) Location of all fans, furnaces, boilers, absorption units, refrigerant compressors and condensers, and the weight of all pieces of such equipment weighing 200 pounds or more.

(e) Rated capacity or horsepower of all furnaces, heat exchanges, blower fans, refrigerant compressors, and absorption units;

(f) Location, size, and material of all combustion product vents and chimneys;

(g) Location and area of all ventilation and combustion air openings and ducts;

(h) Location of all air dampers and fire shutters;

(i) First sheet of each set of plans and specifications shall show the address of the proposed work and the name and address of the owner or lessee of the premises;

(j) Plans and specifications shall be of sufficient clarity to show that the proposed installation will conform to the provisions of this code and of all applicable laws, ordinances, rules, regulations, and orders. (Ord. 2013-XX; Month XX, 2013).

9-409.070 Section 106.4.3 Amended; Permit Issuance; Expiration.

Section 106.4.3 of the International Mechanical Code is amended to read as follows:

106.4.3 Expiration. Every permit issued by the Code Official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 120 days from the date of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work recommences, a new permit shall be first obtained and the fee, therefore, shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. (Ord. 2013-XX; Month XX, 2013).

9-409.080 Section 106.5.1 Deleted; Work Commencing Before Permit Issuance.

Section 106.5.1 of the International Mechanical Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-409.090 Section 106.5.2 Amended; Fee Schedule.

Section 106.5.2 of the International Mechanical Code is amended to read as follows:

106.5.2 Fee schedule. Any person desiring a permit required by this code or the Hickman Fuel Gas Code shall, at the time of filing an application therefor, pay a fee to the Code Official as set forth by the Hickman Master Fee Schedule. (Most Current Version).

Where work for which a permit is required by this code is started or proceeded with prior to obtaining said permit, the fees hereinafter specified may be doubled; but the payment of such double fees shall not relieve any person or persons from fully complying with the requirements of this code in the execution of the work or any other penalties prescribed herein. (Ord. 2013-XX; Month XX, 2013).

9-409.100 Section 106.5.3 Amended; Fee Refunds.

Section 106.5.3 of the International Mechanical Code is amended to read as follows:

106.5.3 Fee refunds. The Code Official shall authorize the refunding of fees as follows.

There shall be no refunds or credits given on permits which have expired. Permit holders returning an unused permit prior to the expiration date of the permit shall be limited to a maximum refund amounting to two-thirds of the original fee for total refund amounts of $75.00 and less. For permit fee refund totals in excess of $75.00, a $25.00 processing fee will be levied against the refund amount, but the two-thirds maximum shall not apply. (Ord. 2013-XX; Month XX, 2013).

9-409.110 Section 107.1 Amended; Required Inspections and Testing.

Section 107.1 of the International Mechanical Code is amended to read as follows:

107.1 Required inspection and testing. The Code Official upon notification from the permit holder or the permit holder's agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or shall notify the permit holder or the permit holder's agent of violations that must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections. The Code Official may require that every request for inspection be filed at least one day before such inspection is desired. Such request may be in writing or by telephone at the option of the Code Official.

It shall be the duty of the person requesting inspection of any equipment regulated by this code to provide access and means for proper inspection of such equipment. It shall also be the duty of the person requesting final inspection to determine that the equipment is operational with permanent gas and/or electrical connections before requesting such final inspection.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before backfill is put in place. When excavated soil contains rocks, broken concrete, frozen chunks and other rubble that would damage or break the piping or cause corrosive action, clean backfill shall be on the job site.
2. Rough-in inspection shall be made after the roof, framing, fireblocking and bracing are in place and all ducting and other components to be concealed are complete, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made upon completion of the mechanical system. The owner of the property shall have the duty of requesting the final inspection and to provide access and a means for proper inspection.

Exception: Ground-source heat pump loop systems tested in accordance with Section 1208.1.1 shall be permitted to be backfilled prior to inspection.

The requirements of this section shall not be considered to prohibit the operation of any heating equipment or appliances installed to replace existing heating equipment or appliances serving an occupied portion of a structure provided that a request for inspection of such heating

equipment or appliances has been filed with the department not more than 48 hours after such replacement work is completed, and before any portion of such equipment or appliances is concealed by any permanent portion of the structure. (Ord. 2013-XX; Month XX, 2013).

9-409.120 Section 107.2.3 Amended; Reinspection and Testing.

Section 107.2.3. of the International Mechanical Code is amended to read as follows:

107.2.3 Reinspection and testing. Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code within ten working days. The work or installation shall then be resubmitted to the Code Official for inspection and testing. (Ord. 2013-XX; Month XX, 2013).

9-409.130 Section 107.4 Amended; Testing and Inspections; Temporary Connection.

Section 107.4 of the International Mechanical Code is amended to read as follows:

107.4 Temporary connection. The Code Official shall have the authority to authorize the temporary connection of a mechanical system to the sources of energy for the purpose of testing mechanical systems. (Ord. 2013-XX; Month XX, 2013).

9-409.140 Section 108.4 Amended; Penalties.

Section 108.4 of the International Mechanical Code is amended to read as follows:

108.4 Penalties. Any person, firm, or corporation violating any of the provisions of this code shall be guilty of a misdemeanor, and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this code is committed, continued, or permitted, and upon conviction of any such violation, such person shall be punishable by a fine not to exceed $500.00, or by imprisonment for not more than six months, or by both such fine and imprisonment, except that each person so convicted shall be fined in a sum of not less than $200.00 for the first offense, not less than $250.00 for the second offense, and not less than $300.00 for the third offense and each offense thereafter. (Ord. 2013-XX; Month XX, 2013).

9-409.150 Section 108.5 Amended; Stop Work Orders.

Section 108.5 of the International Mechanical Code is amended to read as follows:

108.5 Stop work orders. Upon notice from the Code Official that mechanical work is being done contrary to the provisions of this code or in a dangerous or unsafe manner, such work shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's agent, or to the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the Code Official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a misdemeanor. (Ord. 2013-XX; Month XX, 2013).

9-409.160 Section 109 Amended; Means of Appeal.

Section 109 of the International Mechanical Code is amended to read as follows:

109.1 Application for appeal. A person shall have the right to appeal a decision of the Code Official to the board of appeals. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is

proposed. The application shall be filed on a form obtained from the Code Official within 30 days after the notice was served.

109.1.1 Limitation of authority. The board of appeals shall have no authority relative to interpretation of the administration of this code nor shall such board be empowered to waive requirements of this code.

109.2 Mechanical Appeals Board Created. In order to review determinations of the Code Official as to the suitability of alternate materials and types of installation and the reasonable interpretations of the provisions of this code and the Hickman Fuel Gas Code, there shall be and is hereby created a Hickman Mechanical Appeals Board, consisting of five members appointed by the Mayor to serve at the Mayor's pleasure and who are qualified by experience and training to pass upon matters pertaining to mechanical systems installation. The Code Official shall be an ex officio member and shall act as secretary of the board. The board may adopt reasonable rules and regulations for the conduct of its investigations and shall render all decisions and findings in writing to the Code Official within a duplicate copy to the person appealing to it.

Any person who is aggrieved by a decision, notice, or order of the Code Official under this code or the Hickman Fuel Gas Code may appeal such decision to the board by filing an appeal in the office of the Code Official within thirty days from the date of such decision, notice or order and payment of a filing fee as provided below:

(a) A $100.00 fee for review of a decision of the Code Official interpreting a provision or provisions of this code or the Hickman Fuel Gas Code; matters pertaining to mechanical or fuel gas installations.

(b) A $100.00 fee for review of a decision of the Code Official concerning the suitability of alternate materials or types of installation.

All properly and timely filed appeals shall be referred to the Mechanical Appeals Board for hearing. The secretary of said board shall in each appeal notify the appellant in writing of the date, time, and place of hearing before the board, which date shall be no later than thirty days from the date of filing of the appeal. Such notice shall be served upon the appellant by personal service or certified mail.

Hearings on appeal need not be conducted according to technical rules relating to evidence and witnesses. Oral evidence shall be taken only on oath or affirmation. Any relevant evidence shall be admitted if it is the type of evidence upon which responsible persons are accustomed to rely in the conduct of serious affairs, regardless of the existence of any common law or statutory rule which may make improper the admission of such evidence over objection in civil actions in courts of competent jurisdiction in this state. Irrelevant and unduly repetitious evidence shall be excluded. The appellant, the board members, the Code Official, and any other party to an appeal hereunder shall have these rights, among others:

(a) To call and examine witnesses on any matter relevant to the issues of the hearing:

(b) To introduce documentary and physical evidence;

(c) To cross-examine opposing witnesses on any matter relevant to the issues of the hearing; and

(d) To rebut evidence.

The Mechanical Appeals Board shall then within a reasonable time after the hearing render a written decision which shall state its findings and conclusions. Decisions of the Mechanical Appeals Board may be appealed as provided by law.

Enforcement of any decision, notice, or order of the Code Official issued under this code or the Fuel Gas Code shall be stayed during the pendency of an appeal therefrom which is properly

and timely filed, except in cases of emergency, where enforcement of the same is necessary for the protection of persons or property. (Ord. 2013-XX; Month XX, 2013).

9-409.290 Installation, Alteration, Reconstruction, or Repair to be Performed by Master Mechanical Contractor Only, Except as Otherwise Provided.

It shall be unlawful for any person, firm, or corporation as owner, agent, or tenant of a premises to knowingly permit any mechanical or fuel gas equipment to be installed, altered, reconstructed, or repaired, except as otherwise provided herein, by other than a master mechanical contractor registered in the State of Nebraska or journeyman mechanical technician registered.

All master mechanical contractors registered in the State of Nebraska shall display the firm, corporation or company name and their registration number on the side doors or side panels of all vehicles while they are engaged in the installation, repair or replacement of mechanical or fuel gas equipment. The name shall be readily visible with at least three-inch letters and the registration number with at least two-inch numbers. The registration number shall be included in all printed advertisements. (Ord. 2013-XX; Month XX, 2013).

9-409.300 Installation by Owner.

Homeowners may install mechanical or fuel gas equipment only in a single family residence which they occupy as their own home. All equipment installed by homeowners shall be for themselves without compensation or pay from or to any other person for such labor or installation. Such installation by owners shall comply with the requirements of this code, and the owners in exercising this privilege shall not set themselves up as a master mechanical contractor. The owner shall be required to file plans, apply for, and secure a permit, pay fees, and call for all inspections in the manner provided in this code. (Ord. 2013-XX; Month XX, 2013).

9-409.305 Section 110 Deleted; Temporary Equipment, Systems and Uses.

Section110 of the International Mechanical Code is hereby deleted in its entirety. (Ord. 2013-XX; Month XX, 2013).

9-409.310 Section 303.3 Amended; Prohibited Locations.

Section 303.3 of the International Mechanical Code is amended to read as follows:

303.3 Prohibited locations. Fuel-fired appliances shall not be located in, or obtain combustion air from, any of the following rooms or spaces:

1. Sleeping rooms.
2. Bathrooms.
3. Toilet rooms.
4. Storage closets.
5. Surgical rooms.

Exception: This section shall not apply to the following appliances:

1. Direct-vent appliances that obtain all combustion air directly from the outdoors.
2. Solid fuel-fired appliances, provided that the room is not a confined space and the building is not of unusually tight construction.
3. Appliances installed in a dedicated enclosure in which all combustion air is taken directly from the outdoors, in accordance with Section 703. Access to such enclosure shall be through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the International Energy Conservation Code and equipped with an approved self-closing device.

4. Fuel burning equipment may be approved for replacement in a bathroom with combustion air obtained in accordance with Chapter 3 of the International Fuel Gas Code.

(Ord. 2013-XX; Month XX, 2013).

9-409.320 Section 304.10 Amended; Clearances From Grade.

Section 304.10 of the International Mechanical Code is amended to read as follows:

304.10 Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending above adjoining grade or shall be suspended a minimum of two inches (51 mm) above adjoining grade or according to the manufacturer's instructions. (Ord. 2013-XX; Month XX, 2013).

9-409.330 Section 306.5 Amended; Equipment and Appliances on Roofs or Elevated Structures.

Section 306.5 of the International Mechanical Code is amended to read as follows:

306.5 Equipment and appliances on roofs or elevated structures. Equipment shall only be accessed through the area that it serves. Equipment shall not be accessed through other parts of a building where there is separate ownership or separate tenants. Equipment shall be accessed through a common area or accessed on the outside of the building on new commercial construction. Where equipment and appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances' level services space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope).

Exception: Equipment on roofs of existing commercial and Group R-1 residential buildings less than 24 feet in height may be accessed by portable ladders. Permanent level platforms or staging areas such as roofs or balconies having a minimum dimension of 6 feet by 6 feet may be considered to reduce the 24-foot minimum height. This section shall not apply to Group R-3 occupancies.

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1 kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2 kg/m2) per square foot. Landing dimensions shall not be less than 18 inches and not less than the width of the ladder served.
7. Ladders shall be protected against corrosion by approved means.
8. All buildings requiring permanent ladder access shall have the bottom of ladders accessible at a height of ten feet or less from grade or floor level.

Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Exception: This section shall not apply to single family residence occupancies. (Ord. 2013-XX §33; Month XX, 2013).

9-409.335 Section 307.2.2 Amended; Drain Pipe Materials and Sizes.

Section 307.2.2 of the International Mechanical Code is amended to read as follows:

307.2.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC, or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of the Hickman Plumbing Code relative to the material type. Condensate waste and drain pipe shall not be less than 3/4 inch internal diameter and shall not decrease in size until the condensate is flowing vertically towards the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2. (Ord. 2013-XX; Month XX, 2013).

9-409.340 Section 309.1 Amended; Space-heating systems.

Section 309.1 of the International Mechanical Code is amended to read as follows:

309.1 Space-heating systems. Interior spaces intended for human occupancy shall be provided with active or passive space-heating systems capable of maintaining a minimum indoor temperature of 70°F at a point 3 feet (914 mm) above floor on the design heating day. The installation of portable space heaters shall not be used to achieve compliance with this section.

Exception: Interior spaces where the primary purpose is not associated with human comfort. (Ord. 2013-XX; Month XX, 2013).

9-409.350 Section 501.2 Amended; Exhaust Discharge.

Section 501.2 of the International Mechanical Code is amended to read as follows:

501.2 Exhaust discharge. The air removed by every mechanical exhaust system shall be discharged outdoors at a point where it will not cause a nuisance and not less than the distances specified in Section 501.2.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic or crawl space.

Exception: Whole-house ventilation-type attic fans shall be permitted to discharge into the attic space of dwelling units having private attics.

(Ord. 2013-XX; Month XX, 2013).

9-409.355 Section 501.2.1 Amended; Location of Exhaust Outlets.

Section 501.2.1 of the International Mechanical Code is amended to read as follows:

501.2.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet from property lines; 10 feet from operable openings into buildings; 6 feet from exterior walls and roofs; 30 feet from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet above adjoining grade.
2. For other product-conveying outlets: 10 feet from the property lines; 3 feet from exterior walls and roofs; 10 feet from operable openings into buildings; 10 feet above adjoining grade.

3. For all environmental air duct exhaust: 3 feet from property lines; 3 feet from operable openings into buildings for all occupancies other than Group U, and 10 feet from mechanical air intakes.

Exception: Environmental air exhaust from a dwelling unit shall be exempt from the 3 foot clearance from operable openings into the dwelling unit from which it originates.

4. For specific systems: For clothes dryer exhaust, see Section 504.4; for kitchen hoods, see Section 506.3; for dust, stock and conveying systems, see Section 511.2; and for subslab soil exhaust systems, see Section 512.4. (Ord. 2013-XX; Month XX, 2013).

9-409.360 Section 504.4 Amended; Exhaust Installation.

Section 504.4 of the International Mechanical Code is amended to read as follows:

504.4 Exhaust installation. Dryer exhaust ducts for clothes dryers shall terminate on the outside of the building and shall be equipped with a backdraft damper. Screens shall not be installed at the duct termination. Ducts shall not be connected or installed with sheet metal screws or other fasteners that will obstruct the exhaust flow. Clothes dryer exhaust ducts shall not be connected to a vent connector, vent or chimney. Clothes dryer exhaust ducts may extend into or through ducts or plenums provided their connections are sealed airtight. (Ord. 2013-XX; Month XX, 2013).

9-409.362 Section 504.8 Amended; Common Exhaust Systems for Clothes Dryers Located in Multistory Buildings.

Section 504.8 of the International Mechanical Code is amended to read as follows:

504.8. Common exhaust systems for clothes dryers located in multistory buildings. Where a common multistory duct system is designed and installed to convey exhaust from multiple clothes dryers, the construction of the system shall be in accordance with all of the following:

1. The shaft in which the duct is installed shall be constructed and fire resistance rated as required by the International Building Code.
2. Dampers shall be prohibited in the exhaust duct. Penetrations of the shaft and ductwork shall be protected in accordance with Section 607.5.5, Exception 2.
3. Rigid metal ductwork shall be installed within the shaft to convey the exhaust. The ductwork shall be constructed of sheet steel having a minimum thickness of 0.0187 inch (No. 26 gage) and in accordance with SMACNA Duct Construction Standards.
4. The ductwork within the shaft shall be designed and installed without offsets.
5. The exhaust motor design shall be in accordance with Section 503.2.
6. The exhaust fan motor shall be located outside of the airstream.
7. The exhaust fan shall run continuously.
8. Exhaust fan operation shall be monitored in an approved location and shall initiate a labeled audible or visual signal when the fan is not in operation.
9. Makeup air shall be provided for the exhaust system.
10. A cleanout opening shall be located at the base of the shaft to provide access to the duct to allow for cleaning and inspections. The finished opening shall be not less than 12 inches by 12 inches.
11. Screens shall not be installed at the termination. (Ord. 2013-XX; Month XX, 2013).

9-409.365 Section 505.2 Amended; Kitchen Exhaust Rates.

Section 505.2 of the International Mechanical Code is amended to read as follows:

505.2 Kitchen exhaust rates. Where domestic kitchen cooking appliances are equipped with ducted range hoods or down-draft exhaust systems, the fans shall be sized in accordance with Section M1507.3 of the International Residential Code. Residential kitchen exhaust fans shall not be sized with air flow exceeding 400 cfm.

Exception: Residential kitchen exhaust may exceed 400 cfm provided makeup air is provided into the structure. The makeup air shall be controlled by a motorized damper that is electrically interlocked to open with operation of the kitchen exhaust fan. The makeup air shall be conditioned to within 10 degrees F. of the space designed temperature during the winter heating mode. The makeup air may be conditioned by circulation with a forced air furnace system or by other means approved by the Building Official. (Ord. 2013-XX; Month XX, 2013).

9-409.370 Section 506.3.4 Amended; Air Velocity.

Section 506.3.4 of the International Mechanical Code is amended to read as follows:

506.3.4 Air velocity. Grease duct systems serving a Type I hood shall be designed and installed to provide an air velocity within the duct system of not less than 1,500 feet per minute and not to exceed 2,500 feet per minute. Ducts for Type II hoods that collect and remove steam, vapors, heat, and odors shall have a minimum velocity of 1,000 feet per minute and a maximum velocity of 1,500 feet per minute.

Exception: The velocity limitations shall not apply within duct transitions utilized to connect ducts to differently sized or shaped openings in hoods and fans, provided that such transitions do not exceed three feet in length and are designed to prevent the trapping of grease. (Ord. 2013-XX; Month XX, 2013).

9-409.380 Section 507.1 Amended; Commercial Kitchen Hoods; General.

Section 507.1 of the International Mechanical Code is amended to read as follows:

507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues. Commercial kitchen exhaust hood systems shall operate during the cooking operation.

Exceptions:

1. Factory-built commercial exhaust hoods which are tested in accordance with UL 710, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14 and 507.15.
2. Net exhaust volumes for hoods shall be permitted to be reduced during no-load cooking conditions, where engineered or listed multispeed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section.

(Ord. 2013-XX; Month XX, 2013).

9-409.385 Section 507.2.1 Amended; Commercial Kitchen, Type I Hoods.

Section 507.2.1 of the International Mechanical Code is amended to read as follows:

507.2.1 Type I hoods. Type I hoods shall be installed where cooking appliances produce grease or smoke. Type I hoods shall be installed over medium duty, heavy duty, and extra heavy duty cooking appliances. Type I hoods shall be installed over light duty cooking appliances that produce grease or smoke.

Exception: Conveyor type pizza ovens not using solid fuel shall be exempt from requiring a Type I hood and shall be placed under a Type II hood. (Ord. 2013-XX; Month XX, 2013).

9-409.390 Section 507.2.1.1 Amended; Type I Hoods; Operation.

Section 507.2.1.1 of the International Mechanical Code is amended to read as follows:

507.2.1.1 Operation. Type I hoods systems may be designed and installed to automatically activate the exhaust whenever cooking operations occur. The activation may occur through an interlock with the cooking appliances, by means of heat sensors or by other approved means. (Ord. 2013-XX; Month XX, 2013).

9-409.400 Section 507.16 Amended; Commercial Kitchen Hoods; Performance Test.

Section 507.16 of the International Mechanical Code is amended to read as follows:

507.16 Performance test. A performance test shall be conducted upon completion and before final approval of the installation of a ventilation system serving commercial cooking appliances. The test shall verify the rate of exhaust airflow required by Section 507.13, makeup airflow required by Section 508, and proper operation as specified in this chapter. The permit holder shall furnish the necessary test equipment and devices required to perform the tests. An air balance report shall be submitted by a NEPB, AABC, NCI or equivalent Certified Air Balancer. (Ord. 2013-XX; Month XX, 2013).

9-409.405 Section 508.1 Amended; Commercial Kitchen, Makeup Air.

Section 508.1 of the International Mechanical Code is amended to read as follows:

508.1 Makeup air. Makeup air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of makeup air supplied shall be within 10% of the required exhaust air CFM. The makeup air shall not reduce the effectiveness of the exhaust system. Makeup air shall be provided by mechanical means. A heated makeup air system separate from the general heating and air conditioning system shall provide a minimum of 80% of the required makeup air. The additional makeup air may be provided from other conditioned equipment. All sources of mechanical makeup air shall be automatically controlled to start and operate simultaneously with the exhaust system. Makeup air intake opening locations shall comply with Sections 401.4 and 401.4.1.

Exception: Other methods of controlling the operation of the makeup air system may be submitted by a Registered Mechanical Engineer for review. (Ord. 2013-XX; Month XX, 2013).

9-409.410 Section 508.1.1 Deleted; Makeup Air Temperature.

Section 508.1.1 of the International Mechanical Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-409.420 Section 508.2 Amended; Compensating Hoods.

Section 508.2 of the International Mechanical Code is amended to read as follows:

508.2 Compensating hoods. Manufacturers of compensating hoods shall provide a label indicating minimum exhaust flow and/or maximum makeup airflow that provides capture and containment of the exhaust effluent. All compensating hoods shall extract a minimum of forty percent (40%) of their required exhaust airflow from the kitchen area. (Ord. 2013-XX; Month XX, 2013).

9-409.430 Section 603.6.1.1 Amended; Duct Length.

Section 603.6.1.1 of the International Mechanical Code is amended to read as follows:

603.6.1.1 Duct length. Flexible air ducts shall not exceed twenty-five feet (25') in length. (Ord. 2013-XX; Month XX, 2013).

9-409.440 Section 603.8 Amended; Underground Ducts.

Section 603.8 of the International Mechanical Code is amended to read as follows:

603.8 Underground ducts. Ducts shall be approved for underground installation. Metallic ducts for underground use shall have an approved protective coating listed for direct burial. (Ord. 2013-XX; Month XX, 2013).

9-409.445 Section 606.4.1 Amended; Smoke Detection Systems, Controls Operation; Supervision.

Section 606.4.1 of the International Mechanical Code is amended to read as follows:

606.4.1 Supervision. The duct smoke detectors shall be connected to a fire alarm system where a fire alarm system is required by Section 907.2 of the International Fire Code. The actuation of a duct smoke detector shall activate a visible and audible supervisory signal at a constantly attended location.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where the duct smoke detector activates the building's alarm-indicating appliances.

2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and audible signal in an approved location. Duct smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

3. On existing installations that do not comply with Section 605, the audio/ visual notification required may only be installed on the units being replaced. (Ord. 2013-XX; Month XX, 2013).

9-409.460 Section 801.20 Amended; Plastic Vent Joints.

Section 801.20 of the International Mechanical Code is amended to read as follows:

801.20 Plastic vent joints. Plastic pipe and fittings used to vent appliances shall be installed in accordance with the appliance manufacture's installation instructions. Where a primer is required it shall be of a contrasting color. PVC pipe shall be of Schedule 40 material. Cellular Core PVC shall not be allowed for venting of appliances. (Ord. 2013-XX; Month XX, 2013).

9-409.470 Section 918.6 Amended; Forced-Air Furnaces; Prohibited Sources.

Section 918.6 of the International Mechanical Code is amended to read as follows:

918.6 Prohibited sources. Outdoor or return air for a forced-air heating system shall not be taken from the following locations:

1. Less than 10 feet from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet above the outdoor air inlet.

2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.

3. A hazardous or insanitary location or a refrigeration machinery room as defined in this code.

4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Sections 918.2 and 918.3, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room or unconditioned attic.

Exception 1: Where return air intakes are located not less than 10 feet from cooking appliances, and serve the kitchen area only, taking return air from a kitchen shall not be prohibited.

Exception 2: A walk in closet provided with a supply air outlet shall not be prohibited from having a return air inlet.

6. An unconditioned crawl space by means of direct connection to the return side of a forced air system. Transfer openings in the crawl space enclosure shall not be prohibited.

7. A room or space containing a fuel-burning appliance where such room or space serves as the sole source of return air.

Exceptions:

7.1. This shall not apply where the fuel-burning appliance is a direct-vent appliance.

7.2. This shall not apply where the room or space complies with the following requirements:

7.2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.

7.2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.

7.2.3. Return-air inlets shall not be located within 10 feet of any appliance firebox or draft hood in the same room or space.

7.3. This shall not apply to rooms or spaces containing solid-fuel-burning appliances, provided that return-air inlets are located not less than 10 feet from the firebox of the appliances. (Ord. 2013-XX; Month XX, 2013).

9-409.480 Section 1101.1 Amended; Refrigeration; Scope of Chapter.

Section 1101.1 of the International Mechanical Code is amended to read as follows:

1101.1 Scope. This chapter shall govern the design, installation, construction and repair of refrigeration systems that vaporize and liquefy a fluid during the refrigeration cycle. Refrigerant piping design and installation, including pressure vessels and pressure relief devices, shall conform to this code. Permanently installed refrigerant storage systems and other components shall be considered as part of the refrigeration system to which they are attached. Permits and inspections shall be required on all systems rated greater than 5 Tons, 5 Horse Power, or 65,000 BTU's. (Ord. 2013-XX; Month XX, 2013).

9-409.485 Section 1101.11 Added; Registration of Refrigeration Contractors.

Section 1101.11 is added to the International Mechanical Code to read as follows:

1101.11 Registration of Refrigeration Contractors. All current Mechanical Contractors registered in the State of Nebraska shall be qualified to apply for permits to perform refrigeration installations. (Ord. 2013-XX; Month XX, 2013).

9-409.490 Section 1105.6 Amended; Machinery Rooms; Ventilation.

Section 1105.6 of the International Mechanical Code is amended to read as follows:

1105.6 Ventilation. Machinery rooms shall be mechanically ventilated to the outdoors. Mechanical ventilation shall be capable of exhausting the minimum quantity of air both at normal operating and emergency conditions. Multiple fans or multispeed fans shall be allowed in order to produce the emergency ventilation rate and to obtain a reduced airflow for normal ventilation.

Exception: Where a refrigerating system is located outdoors more than 20 feet (6096 mm) from any building opening and is enclosed by a penthouse, lean-to or other open structure, natural or mechanical ventilation shall be provided. Location of the openings shall be based on the relative density of the refrigerant to air. The free-aperture cross section for the ventilation of the machinery room shall be not less than:

Equation 11-1:

For SI: = $F = 0138\sqrt{G}$

where:

F = The free opening area in square feet.

G = The mass of refrigerant in pounds in the largest system, any part of which is located in the machinery room.

This section (1105.6) shall only apply to Building and Mechanical permits issued on or after June 1, 2012. (Ord. 2013-XX; Month XX, 2013).

9-409.500 Section 1107.1 Amended; Refrigerant Piping; General.

Section 1107.1 of the International Mechanical Code is amended to read as follows:

1107.1 General. All refrigerant piping shall be installed, tested and placed in operation in accordance with this chapter.

Exception1. Factory piped package units shall not require pipe pressure testing.

Exception 2. Refrigeration systems with less than 65,000 BTU's shall not require pipe pressure testing. (Ord. 2013-XX; Month XX, 2013).

9-409.510 Section 1201.1 Amended; Hydronic Piping; General.

Section 1201.1 of the International Mechanical Code is amended to read as follows:

1201.1 Scope. The provisions of this chapter shall govern the construction, installation, alteration and repair of hydronic piping systems. This chapter shall apply to hydronic piping systems that are part of heating, ventilation and air-conditioning systems. Such piping systems shall include steam, hot water, chilled water, condenser water, steam condensate and ground source heat pump loop systems. Potable cold and hot water distribution systems shall be installed in accordance with the Hickman Plumbing Code. Portions of Hydronic piping systems installed underground by Well Drilling Contractors shall terminate where the piping enters the building it serves. The Well

Drilling Contractor, at the contractors option, may extend the piping into the building a maximum of twenty feet. Any piping installed beyond the allowed twenty feet shall be installed by a

Registered Mechanical or Plumbing Contractor. All installations shall terminate with an approved Purge Block valve system. Purge Block valve systems provided on equipment shall be listed for such use. The purge block, and all hydronic piping extending into the building from the purge block, shall have a permit and be inspected by the City of Hickman Department of Building Safety.

Exception: Purge Block valve systems shall not be required on well water/ pump and dump systems. (Ord. 2013-XX; Month XX, 2013).

9-409.520 Section 1202.4 Amended; Piping Materials Standards.

Section 1202.4 of the International Mechanical Code is amended to read as follows:

1202.4 Piping materials standards. Hydronic pipe shall conform to the standards listed in Table 1202.4. The exterior of the pipe shall be protected from corrosion and degradation. Piping material shall be a minimum of Schedule 40 wall thickness. Copper tubing shall be a minimum of Type "L" material. (Ord. 2013-XX; Month XX, 2013).

9-409.530 Section 1202.6 Amended; Valves.

Section 1202.6 of the International Mechanical Code is amended to read as follows:

1202.6 Valves. Valves shall be constructed of materials that are compatible with the type of piping material and fluids in the system. Valves shall be rated for the temperatures and pressures of the systems in which the valves are installed. Valves shall be rated for 125 lbs. SWP pressure or greater. (Ord. 2013-XX; Month XX, 2013).

9-409.540 Section 1202.7 Amended; Flexible Connectors, Expansion and Vibration Compensators.

Section 1202.7 of the International Mechanical Code is amended to read as follows:

1202.7 Flexible connectors, expansion and vibration compensators. Flexible connectors, expansion and vibration control devices and fittings shall be of an approved type and rated for temperature and pressure of system. (Ord. 2013-XX; Month XX, 2013).

9-409.550 Section1203.3.6 Amended; Welded Joints.

Section 1203.3.6 of the International Mechanical Code is amended to read as follows:

1203.3.6 Welded joints. Joint surfaces shall be cleaned by an approved procedure. Joints shall be welded with an approved filler metal. In accordance with ASME "Boiler and Pressure Vessel Code," Section IX "Welding and Brazing Qualifications." Welded steel fittings shall be a minimum of Schedule 40 wall thickness. (Ord. 2013-XX; Month XX, 2013).

9-409.560 Section 1203.20 Added; Gaskets.

Section 1203.20 is added to the International Mechanical Code to read as follows:

1203.20 Gaskets. Flange gaskets shall be metal, fibre, or other approved materials. (Ord. 2013-XX; Month XX, 2013).

9-409.570 Section 1206.10 Amended; Pipe Support.

Section 1206.10 of the International Mechanical Code is amended to read as follows:

1206.10 Pipe support. Pipe shall be supported in accordance with Section 305, ASHRAE guide, and/or manufacturers instructions. (Ord. 2013-XX; Month XX, 2013).

9-409.580 Section 1208.1.1 Amended; Building Interior Ground Source Heat Pump Loop Systems.

Section 1208.1.1 of the International Mechanical Code is amended to read as follows:

1208.1.1 Building interior ground source heat pump loop systems. Before connection (header) trenches are backfilled, the assembled loop system shall be pressure tested with water at 100 psi for 30 minutes with no observed leaks. Flow and pressure loss testing shall be performed and the actual flow rates and pressure drops shall be compared to the calculated design values. If actual flow rate or pressure drop values differ from calculated design values by more than 10 percent, the problem shall be identified and corrected. (Ord. 2013-XX; Month XX, 2013).

9-409.590 Chapter 16 Added; Decorative Fireplace/Gas Log Installations and Contractors. Chapter 16 is added to the International Mechanical Code to read as follows:

Chapter 16

DECORATIVE FIREPLACE/GAS LOG INSTALLATIONS AND CONTRACTORS

(Ord. 2013-XX; Month XX, 2013).

9-409.600 Section 1601 Added; General Provisions.

Section 1601 is added to the International Mechanical Code to read as follows:

Section 1601 -- General Provisions. The provisions of this chapter shall control the design and installation, alteration, removal, or repair of decorative fireplace equipment, and the issuance of permits and collection of fees therefor. (Ord. 2013-XX; Month XX, 2013).

9-409.610 Section 1601.1 Added; Definitions.

Section 1601.1 is added to the International Mechanical Code to read as follows:

1601.1 Definitions. For the purpose of this chapter, the following definitions shall apply:

(a) **Decorative Appliances**, Vented, are appliances whose only function lies in the aesthetic effect of the flames.

(b) **Decorative Appliances for Installation in Solid-fuel-burning Fireplaces** are self-contained, freestanding, fuel-gas-burning appliances designed for installation only in a vented solid-fuel-burning fireplace and whose primary function lies in the aesthetic effect of the flame. (Ord. 2013-XX; Month XX, 2013).

9-409.620 Section 1602 Added; Permits and Fees.

Section 1602 is added to the International Mechanical Code to read as follows:

1602. Permits and Fees. It shall be unlawful for any person to install, alter, remove, or repair any decorative fireplace/gas log appliance, or cause the same to be done, without first obtaining a permit therefor from the Building Official.

A permit to install a decorative fireplace/gas log appliance may be issued only to a decorative fireplace/gas log contractor or master HVAC contractor registered in the State of Nebraska or homeowner. It shall be unlawful for any person, firm, or corporation to cause or permit any decorative fireplace/gas log system installation to be done on any property owned, managed, or controlled by such person, firm, or corporation unless such work is done by said decorative fireplace/gas log contractor or master HVAC contractor registered in the State of Nebraska.

Application for a permit may be made in writing to the Building Official on a form furnished by the Building Official for that purpose.

A fee shall be paid to the Building Official as set by the Hickman Master Fee Schedule. (Most Current Version). Gas shall not be turned on to any decorative fireplace/gas log appliance until it has been inspected and approved by the Building Official. (Ord. 2013-XX; Month XX, 2013).

9-409.630 Section 1603 Added; Installation and Inspection.

Section 1603 is added to the International Mechanical Code to read as follows:

1603. Installation and Inspection. The gas to any decorative fireplace/gas log appliance shall be of materials and methods of installation approved for gas distribution in this code. The venting of decorative fireplace/gas log appliance systems shall be of any material approved by the Building Official.

All decorative fireplace and gas log installations shall be inspected by the Building Official to ensure compliance with all the requirements of this code. It shall be the duty of the person doing the work authorized by the permit to notify the Building Official orally or in writing that said work is ready for inspection, and for said person doing the work to provide access and means for proper inspection. It shall be the duty of the person doing the work to call for inspection of the decorative fireplace or gas log installation not later than three days after the completion of the installation. (Ord. 2013-XX; Month XX, 2013).

9-409.690 Chapters 10, 13, and 14, and Appendix A; Adopted as Reference Guide Only.

Chapter 10 (Boilers, Water Heaters and Pressure Vessels), Chapter 13 (Fuel Oil Piping and Storage), and Chapter 14 (Solar Systems), and Appendix A (Combustion Air Openings and Chimney Connector Pass-Throughs) of the International Mechanical Code are adopted as a Reference Guide only. (Ord. 2013-XX; Month XX, 2013).

9-409.700 International Residential Code Mechanical Sections Amended.

Except as hereinafter provided by specific amendments as set forth in Hickman Municipal Code Sections 9-409.710 through 9-409.870, Chapter 14 of the 2009 edition of the International Residential Code Mechanical Code is hereby adopted and incorporated into the Hickman Mechanical Code. (Ord. 2013-XX; Month XX, 2013).

9-409.710 IRC Section M1305.1.1 Amended; Central Furnaces.

Section M1305.1.1 of the International Residential Code is amended to read as follows:

M1305.1.1 Central furnaces. Central furnaces within compartments or alcoves shall have a minimum working space clearance of 3 inches along the sides, back and top. Furnaces having a firebox open to the atmosphere shall have at least a 6-inch working space along the front combustion chamber side. Combustion air openings at the rear or side of the compartment shall comply with the requirements of Chapter 17.

Exception: This section shall not apply to replacement appliances installed in existing compartments and alcoves where the working space clearances are in accordance with the equipment or appliance manufacturer's installation instructions. (Ord. 2013-XX; Month XX, 2013).

9-409.720 IRC Section M1305.1.4.1 Amended; Clearances From Grade.

Section M1305.1.4.1 of the International Residential Code is amended to read as follows:

M1305.1.4.1 Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending above

adjoining grade or shall be suspended a minimum of two inches above adjoining grade or according to the manufacturer's instructions. (Ord. 2013-XX; Month XX, 2013).

9-409.730 IRC Section M1307.3 Amended; Elevation of Ignition Source.

Section M1307.3 of the International Residential Code is amended to read as follows:

M1307.3 Elevation of ignition source. Appliances having a burner or ignition source, excluding the blower motor, shall be elevated such that the source of ignition is not less than 18 inches (457 mm) above the floor in garages. For the purpose of this section, rooms or spaces that are not part of the living space of a dwelling unit and that communicate with a private garage through openings shall be considered to be part of the garage.

M1307.3.1 Protection from impact. Appliances located in a garage or carport shall be protected from impact by automobiles. (Ord. 2013-XX; Month XX, 2013).

9-409.740 IRC Section M1307.6 Amended; Plumbing Connections.

Section M1307.6 of the International Residential Code is amended to read as follows:

M1307.6 Plumbing connections. Potable water and drainage system connections to equipment and appliances regulated by this code shall be in accordance with the Hickman Plumbing Code. (Ord. 2013-XX; Month XX, 2013).

9-409.750 IRC Section M1411.3.2 Amended; Drain Pipe Materials and Sizes.

Section M1411.3.2 of the International Residential Code is amended to read as follows:

M1411.3.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-lined polyethylene, polybutylene, polyethylene, ABS, CPVC, or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of the Hickman Plumbing Code relative to the material type. Condensate waste and drain pipe shall not be less than 3/4 inch internal diameter and shall not decrease in size until the condensate is flowing vertically towards the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2. (Ord. 2013-XX; Month XX, 2013).

9-409.760 IRC Section M1411.5 Amended; Insulation of Refrigerant Piping.

Section M1411.5 of the International Residential Code is amended to read as follows:

M1411.5 Insulation of refrigerant piping. Piping and fittings for refrigerant vapor (suction) lines shall be insulated with insulation having a thermal resistivity of at least R-2. (Ord. 2013-XX; Month XX, 2013).

9-409.770 IRC Section M1411.6 Deleted; Locking Access Port Caps.

Section M1411.6 of the International Residential Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-409.780 IRC Section M1502.6 Amended; Duct Length.

Section M1502.6 of the International Residential Code is amended to read as follows:

M1502.6 Duct length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet, including two 90-degree ells, from the dryer location to the wall or roof termination. The maximum length shall be reduced 2.5 feet for each 45-degree ell and 5 feet for each 90-degree ell beyond the allowed two 90-degree ells. The maximum length of the exhaust duct does not include the transition duct.

Exceptions:

1. Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for the dryer are provided to the Building Official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions.

2. Where large-radius 45-degree and 90-degree bends are installed, determination of the equivalent length of clothes dryer exhaust duct for each bend by engineering calculation in accordance with the ASHRAE Fundamentals Handbook shall be permitted. (Ord. 2013-XX; Month XX, 2013).

9-409.790 IRC Section M1503.3 Amended; Kitchen Exhaust Rates.

Section M1503.3 of the International Residential Code is amended to read as follows:

M1503.3 Kitchen exhaust rates. Where domestic kitchen cooking appliances are equipped with ducted range hoods or down-draft exhaust systems, the fans shall be sized in accordance with Section M1507.3. Residential kitchen exhaust fans shall not be sized with air flow exceeding 400 cfm. (Ord. 2013-XX; Month XX, 2013).

9-409.800 IRC Section M1503.4 Amended; Makeup Air Required.

Section M1503.4 of the International Residential Code is amended to read as follows:

M1503.4 Makeup air required. Residential kitchen exhaust may exceed 400 cfm provided makeup air is provided into the structure. The makeup air shall be controlled by a motorized damper that is electrically interlocked to open with operation of the kitchen exhaust fan. The makeup air shall be conditioned to within 10 degrees F. of the space designed temperature during the winter heating mode. The makeup air may be conditioned by circulation with a forced air furnace system or by other means approved by the Building Official. (Ord. 2013-XX; Month XX, 2013).

9-409.810 IRC Section M1507.3 Amended; Ventilation Rate.

Section M1507.3 of the International Residential Code is amended to read as follows:

M1507.3 Ventilation rate. Ventilation systems shall be designed to have the capacity to exhaust all the air from the restroom, toilet room, and bath room a minimum of five times per hour. If such rooms calculate a CFM of less than 50 CFM, their exhaust rate shall be a minimum of 50 CFM. (Ord. 2013-XX; Month XX, 2013).

9-409.820 IRC Table M1507.3 Deleted; Minimum Required Exhaust Rates.

Table M1507.3 of the International Residential Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-409.830 IRC Section M1601.1.1 Amended; Above-ground Duct Systems.

Section M1601.1.1 of the International Residential Code is amended to read as follows:

M1601.1.1 Above-ground duct systems. Above-ground duct systems shall conform to the following:

1. Equipment connected to duct systems shall be designed to limit discharge air temperature to a maximum of 250°F.

2. Factory-made air ducts shall be constructed of Class 0 or Class 1 materials as designated in Table M1601.1.1(1).

3. Fibrous duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards.

4. Minimum thickness of metal duct material shall be as listed in Table M1601.1.1(2). Galvanized steel shall conform to ASTM A 653.

5. Use of gypsum products to construct return air ducts or plenums is permitted, provided that the air temperature does not exceed 125°F (52°C) and exposed surfaces are not subject to condensation.

6. Duct systems shall be constructed of materials having a flame spread index not greater than 200.

7. Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions:

7.1. These cavities or spaces shall not be used as a plenum for supply air.

7.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly.

7.3. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight-fitting fire blocking in accordance with Section R602.8. (Ord. 2013-XX; Month XX, 2013).

9-409.840 IRC Section M1601.3.1 Amended; Joints and Seams.

Section M1601.3.1 of the International Residential Code is amended to read as follows:

M1601.3.1 Joints and seams. Joints of duct systems shall be made substantially airtight by means of tapes, mastics, gasketing or other approved closure systems. Replacement duct and duct connections to replacement equipment shall be sealed where accessible. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked "181A-P" for pressure-sensitive tape, "181 A-M" for mastic or "181 A-H" for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181B-FX" for pressure-sensitive tape or "181B-M" for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1½ inches and shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint. (Ord. 2013-XX; Month XX, 2013).

9-409.850 IRC Section M1601.4.3 Amended; Duct Installation; Support.

Section M1601.4.3 of the International Residential Code is amended to read as follows:

M1601.4.3 Support. Metal ducts shall be supported by 1/2-inch wide 26-gage metal straps or 12-gage galvanized wire at intervals not exceeding 10 feet or other approved means. Nonmetallic ducts shall be supported in accordance with the manufacturer's installation instructions. (Ord. 2013-XX; Month XX, 2013).

9-409.860 IRC Section M1602.2 #4 Amended; Return Air; Prohibited Sources.

Section M1602.2, #4 of the International Residential Code is amended to read as follows:

M1602.2, Prohibited sources.

4. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room, unconditioned attic or other dwelling unit.

Exception: A closet large in comparison may have a return air inlet. (Ord. 2013-XX; Month XX, 2013).

9-409.870 IRC Section M1701.1 Amended; Combustion Air.

Section M1701.1 of the International Residential Code is amended to read as follows:

M1701.1 Combustion air. Combustion air shall be provided to all fuel burning appliances according to Section 304 of the 2009 International Fuel Gas Code.

Exception: Existing Building: When fuel-burning appliances are installed in an existing building containing other fuel-burning appliances, the room or space shall be provided combustion air as required by this chapter for all fuel-burning appliances contained therein. Additional floor area can be used for combustion air requirements of a replacement furnace when all of the following conditions are met:

(1) The structure is a single-family dwelling.

(2) The communicating high-low combustion grills between the mechanical space and adjoining areas must constitute at least 50% of the required cubic feet for combustion air for the total BTU's in the space.

(3) A blower type furnace is being installed.

(4) A grill equivalent to one square inch free air per 4000 BTU input rating of all appliances shall be installed on the supply duct or plenum.

(5) The grill shall not have shutters and shall be labeled with at least 1/2-inch letters of metal, plastic, or other approved materials and read: "Combustion Air Grill--Do Not Cover. If covered, may cause illness or death."

(6) The combustion grill cannot be on the plenum or supply duct, within the furnace room, if the furnace room area is less than 25% of the required cubic feet. (Ord. 2013-XX; Month XX, 2013).