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## 2006/2007 CODE DEVELOPMENT COMMITTEE INTERNATIONAL MECHANICAL CODE

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**INTERNATIONAL  
MECHANICAL CODE  
HEARING RESULTS**

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**M1-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The proposal adds needed language that clarifies how conflicts between the code and appliance listings or local laws are resolved. This language is consistent with other I-codes. Approval of this change is consistent with actions taken by other committees.

**Assembly Action:** **None**

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**M2-06/07**

**Committee Action:** **Disapproved**

**Committee Reason:** The proposed language needs further revision. The proponent requested that the code change be disapproved to allow the Ad Hoc committee time to rework the language and submit a public comment.

**Assembly Action:** **None**

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**M3-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** This change reorganizes this section to improve its use; it correlates this section with corresponding section in other I-codes. The action is consistent with actions taken by other I-code committees.

**Assembly Action:** **None**

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**M4-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** This change reorganizes this section to improve its use; it correlates this section with corresponding section in other I-codes. The action is consistent with actions taken by other I-code committees.

**Assembly Action:** **None**

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**M5-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** This change reorganizes this section to improve its use; the action is consistent with actions taken by other I-code committees.

**Assembly Action:** **None**

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**M6-06/07**

**Committee Action:** **Disapproved**

**Committee Reason:** There is inconsistency between Sections 106.4.1 and 106.4.1.1; "reviewed drawings" are required in the first section but "approved drawings" are mentioned in the second section. The laundry list in Section 106.2.1 has several plumbing items but has few items specific to the mechanical code, such as water heaters.

**Assembly Action:** **None**

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**M7-06/07**

**Committee Action:** **Approved as Modified**

**Modify the proposal as follows:**

**107.6 Connection of service utilities.** No person shall make connections from a utility, source of energy, fuel, or power to any building or system that is regulated by this code for which a permit is required, until ~~released~~ authorized by the code official.

(Portions of proposal not shown remain unchanged.)

**Committee Reason:** This change reorganizes this section to improve its use; it correlates this section with corresponding section in other I-codes. The modification to Section 107.6 changed the word "released" to "authorized" which is the appropriate code language.

**Assembly Action:** **None**

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**M8-06/07**

**Committee Action:** **Disapproved**

**Committee Reason:** The proposed language needs further revision. The proponent requested that the code change be disapproved to allow the Ad Hoc committee time to rework the language and submit a public comment.

**Assembly Action:** **None**

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**M9-06/07**

**PART I — IMC**

**Committee Action:** **Disapproved**

**Committee Reason:** This provision does not exist in the *International Property Maintenance Code*, therefore the statement "in accordance with the provisions of ... the *International Property Maintenance Code*" is inappropriate.

**Assembly Action:** **None**

**PART II — IPC**

**Committee Action:** **Disapproved**

**Committee Reason:** Reference to the IPMC creates an unnecessary loop which takes the user to the IPMC and then back to the IPC. Section 504.1 of the IPMC provides the same basic coverage as the IPC, therefore, there is no reason to reference it.

**Assembly Action:** **None**

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**PART III — IFGC**

**Committee Action:** Disapproved

**Committee Reason:** The IPMC contains no provisions necessary for inclusion in the IFGC. The IFGC governs all aspects of installations within its scope thereby making a reference to the IPMC unnecessary.

**Assembly Action:** None

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**M10-06/07**

**Committee Action:** Approved as Submitted

**Committee Reason:** This proposal adds needed guidance concerning temporary equipment and uses. It will provide consistency with the other I-codes.

**Assembly Action:** None

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**M11-06/07**

**Committee Action:** Approved as Modified

**Modify the proposal as follows:**

**COMBINATION FIRE/SMOKE DAMPER.** A listed device installed in ducts and air transfer openings designed to close automatically upon the detection of heat and resist the passage of flame and smoke. The device is installed to operate automatically and be controlled by a smoke detection system and where required, is capable of being positioned from a firecommand center.

**Committee Reason:** The proposal adds definitions for terms used in the IMC but never defined except in the IBC. The definitions are the same as the IBC definitions. The modification deletes a phrase that is more appropriate for the IFC or IBC, but is not an issue in the IMC.

**Assembly Action:** None

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**M12-06/07**

**Committee Action:** Disapproved

**Committee Reason:** The list of examples needs to remain in the definition to provide guidance as to what types of air are generally considered to be environmental. The list is not intended to be all inclusive.

**Assembly Action:** None

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**M13-06/07**

**Committee Action:** Approved as Submitted

**Committee Reason:** Pasta cookers generate heat and steam only and should be included in the definition of Light Duty Cooking Appliances which allows Type II hoods to be used.

**Assembly Action:** None

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**M14-06/07**

**Committee Action:** Approved as Submitted

**Committee Reason:** This change expands the definition of mechanical joints by adding the push-type joints added to the code by M124-06/07.

**Assembly Action:** None

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**M15-06/07**

**Committee Action:** Disapproved

**Committee Reason:** The proposal is too vague; loading docks could be construed to meet this definition. There was concern that this could conflict with the IBC sections concerning parking garages.

**Assembly Action:** None

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**M16-06/07**

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds a definition of push-type joints that were added to the code by M124-06/07.

**Assembly Action:** None

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**M17-06/07**

**Committee Action:** Disapproved

**Committee Reason:** There are many other places where transfer openings can be used besides between smoke compartments. The definition seems to also include ducted openings which should not be considered transfer openings.

**Assembly Action:** None

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**M18-06/07**

**PART I — IMC**

**Committee Action:** Approved as Submitted

**Committee Reason:** The installation in closets of water heaters not listed for such use is a common problem. This change will help to remind the inspector to check for the listing when water heaters are installed in closets.

**Assembly Action:** None

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**PART II — IFGC**

**Committee Action:** Disapproved

**Committee Reason:** Disapproval is consistent with the action taken on FG15-06/07. There is no reason to add water heaters to this section because the installation of such appliances in any space is already covered in the listing and manufacturer's installation instructions. The manufacturer's instructions always list the required clearances for the spaces in which the appliance is listed for installation.

**Assembly Action:** Approved as Submitted

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## M19-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** Polypropylene was added to the code this cycle for hydronic systems by code change M122-06/07. This change is needed to provide the proper support spacing and needs to be added to this table.

**Assembly Action:** None

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## M20-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** This table should not be correlated with the IFGC, which is based on the NFGC, Z223.1, and not appropriate for this code. The support spacing for steel piping is much too short; steel is the strongest piping material and capable of spanning much longer distances.

**Assembly Action:** None

### PART II — IPC

**Committee Action:** Approved as Submitted

**Committee Reason:** This code change attempts to make the IPC consistent with the IFGC. The IPC, IFGC and IMC should not conflict regarding the support of the same materials.

**Assembly Action:** None

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## M21-06/07

**Committee Action:** Approved as Modified

**Modify the proposal as follows:**

**306.1 Access for maintenance and replacement.** Appliances shall be accessible for inspection, service, repair and replacement without disabling the function of a fire-resistance-rated assembly or removing permanent construction, other appliances, venting systems or any other piping or ducts not connected to the appliance being inspected, serviced, repaired or replaced. A level working space at least 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an appliance.

**Committee Reason:** This language is necessary to insure that other systems or appliances are not required to be altered or dismantled when servicing, repairing or replacing other appliances. The modification added "venting systems" because those systems could also be affected when other systems or appliances are modified or replaced.

**Assembly Action:** None

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## M22-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The committee disapproved this proposal because the text was deleted and replaced by the action on M21-06/07.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** Maintaining clearance for installation is not necessary. If the appliance is not installed yet, how do you assure that access is provided?

**Assembly Action:** None

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## M23-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** It may not be feasible to have the pull-down ladder installed at the time of the rough-in. The ladder could be damaged during later construction phases. Adding the term "finished" could result in the inspector requiring the opening to be trimmed out, sanded or painted at the rough-in phase.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The term "finished" was considered to be confusing in this context because different inspectors will understand "finished" to mean different things and this could lead to non-uniform enforcement.

**Assembly Action:** None

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## M24-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** "Finished opening" is a building code issue. The inspector may not know if the opening is finished or will be finished at a later date. It could be interpreted to require the opening to be trimmed out, sanded or painted. The section already uses the term "clear opening" which adequately addresses the opening requirement.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** Adding the term "finished" will only confuse the issue; it means different things to different people. This language will result in non-uniform enforcement in the field.

**Assembly Action:** None

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## M25-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The term “component” is too vague; it could be misapplied by the contractor by breaking the appliance down to individual components just to allow a smaller opening. This change could be non-uniformly enforced by different jurisdictions.

**Assembly Action:** None

**PART II — IRC** Withdrawn by Proponent

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## M26-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** Nine feet is too restrictive for requiring permanent ladders or other permanent means of access. Portable ladders can generally be safely used at that height. There was some confusion about the load requirement for the ladders; one item called for a 300 pound rung capacity and another item called for a 350 pound capacity of the pull down stairways.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** This proposal is too restrictive for the IRC; portable ladders will suffice in most cases. There was some confusion about the load requirement for the ladders; 300 pounds in one section and 350 in another.

**Assembly Action:** None

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## M27-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The term “component” is too vague; it could be misapplied by the contractor by breaking the appliance down to individual components just to allow a smaller opening. This change could be non-uniformly enforced by different jurisdictions. This proposal was disapproved to be consistent with the action taken on M25-06/07.

**Assembly Action:** None

**PART II — IRC** Withdrawn by Proponent

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## M28-06/07

**Committee Action:** Disapproved

**Committee Reason:** It is not feasible to install a permanent ladder for all elevated appliances, especially in warehouses where the ladder could be subject to damage from trucks and loaders. There are alternative methods available, such as scissor-lifts, that should be addressed in this section.

**Assembly Action:** None

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## M29-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** If there is a parapet wall around the roof edge that must be climbed, it should be included in the measurement from the ground when determining whether permanent access is required.

**Assembly Action:** None

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## M30-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** Adding a minimum landing dimension for ladders will increase the safety of such installations. The dimensions specified are consistent with OSHA requirements for ladders.

**Assembly Action:** None

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## M31-06/07

**Committee Action:** Approved as Modified

**Modify the proposal as follows:**

**306.5.1 Sloped roofs.** Where appliances, equipment, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the appliance or equipment to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*. Access to appliances 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). Where access involves obstructions greater than 30 inches in height on any side, permanent ladders, or equivalent, shall be provided ~~on all sides requiring access~~ in accordance with the ladder requirements of Section 306.5.

**Committee Reason:** This change will increase the safety of service personnel by providing permanent access means when a steep roof must be crossed or a 30 inch high obstruction must be climbed. Carrying tools and appliance components over such obstacles is very dangerous. This will require a ladder to be installed closer to the appliance or equipment. The modification revises some confusing language to clarify that the 30 inch measurement is to any side of the obstacle, not that ladders are required on all sides of the obstacle.

**Assembly Action:** None

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## M32-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The proposed change would require condensate drainage by gravity, even if the designer wants to use a pump. This should be the designer’s choice. If gravity drainage was possible, but only by means of routing the drain pipe through the living space, this language could require such an undesirable installation.

**Assembly Action:** None

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**PART II — IRC****Committee Action:** Disapproved**Committee Reason:** This proposal could be interpreted to require gravity drainage even if such an installation could cause problems. This would preclude the use of a pumped system if the designer or homeowner wanted such an installation.**Assembly Action:** None**PART III — IFGC****Committee Action:** Disapproved**Committee Reason:** Condensate disposal for cooling coils and evaporators is not within the scope of the IFGC. The IFGC only covers condensate disposal for condensing gas-fired appliances.**Assembly Action:** None**M33-06/07****PART I — IMC****Committee Action:** Approved as Submitted**Committee Reason:** This change places the slope requirements for condensate from cooling coils in the appropriate section rather than relying on the slope requirements in the section addressing fuel-fired appliances.**Assembly Action:** None**PART II — IRC****Committee Action:** Approved as Submitted**Committee Reason:** This code change provides proper guidance for selecting the slope of a condensate line and puts it in the appropriate section of the IRC.**Assembly Action:** None**M34-06/07****Committee Action:** Approved as Modified**Modify the proposal as follows:****307.2 (IPC [M] 314.2.2, IFGC [M] 307.3) 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. Condensate waste and drain line size shall be not less than 3/4-inch (19 mm) internal diameter and shall not decrease in size from the drain pan connection to 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. ~~Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope).~~

(Portions of proposal not shown remain unchanged.)

**Committee Reason:** The new table adds needed guidance for sizing condensate lines. The modification deletes the slope requirements which are adequately covered in another section.**Assembly Action:** None**M35-06/07****PART I — IMC****Committee Action:** Approved as Submitted**Committee Reason:** This code change adds guidance for joining condensate piping by referring to the IPC chapter which describes the acceptable methods of joining for various pipe materials.**Assembly Action:** None**PART II — IRC****Committee Action:** Approved as Submitted**Committee Reason:** This code change adds guidance for joining condensate piping by referring to the IPC chapter which describes the acceptable methods of joining for various pipe materials.**Assembly Action:** None**M36-06/07****PART I — IMC**

Withdrawn by Proponent

**PART II — IRC****Committee Action:** Approved as Submitted**Committee Reason:** Uniform slope is not as critical for condensate lines as it is for sanitary drainage. There is no harm in increasing the slope as long as the minimum slope is maintained.**Assembly Action:** None**M37-06/07****PART I — IMC****Committee Action:** Disapproved**Committee Reason:** The committee believed that adding specific requirements for subcomponents that are not safety related is unnecessary and could become cumbersome if all such components were added to the code.**Assembly Action:** None**PART II — IRC****Committee Action:** Approved as Submitted**Committee Reason:** This code change is needed to insure that a method of draining the condensate pan is available when the service technician has to service a unit that shutdown due to the pan filling to the point that the float switch was tripped. A fitting is needed to make the draining of the pan easier.**Assembly Action:** None**M38-06/07****PART I — IMC****Committee Action:** Approved as Submitted

**Committee Reason:** Gage is the HVAC industry standard for specifying sheet metal thickness and is more appropriate than specifying thickness in inches.

**Assembly Action:** None

**PART II — IRC** Withdrawn by Proponent

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## M39-06/07

**PART I — IMC**  
**Committee Action:** Approved as Submitted

**Committee Reason:** This change clarifies that some units have no provisions for either a secondary or auxiliary drain pan. The deleted language from the second sentence allows a device to be installed with the float switch inside the pan and the rest of the device external to the pan, which meets the original intent of this section. The most important part of this section is preventing the sensor from being installed in the drain line.

**Assembly Action:** None

**PART II — IRC**  
**Committee Action:** Approved as Submitted

**Committee Reason:** This change clarifies that some units have no provisions for either a secondary or auxiliary drain pan. Deleting the language from the second sentence will provide more options for the designer or installer to select a water level monitoring device which may have part of the device located outside the pan.

**Assembly Action:** None

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## M40-06/07

**PART I — IMC**  
**Committee Action:** Approved as Submitted

**Committee Reason:** This change will require components of the appliance and integral insulation material to be installed above the flood rim level of the drain pan. This will prevent degradation of the components and the formation of mold and mildew in insulation that is wetted when the drain pan fills.

**Assembly Action:** None

**PART II — IRC**  
**Committee Action:** Approved as Submitted

**Committee Reason:** This proposal will prevent installations where the insulation can be below the flood rim level of the pan, causing water to wick up in the insulation, resulting in the formation of mold and mildew.

**Assembly Action:** None

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## M41-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**PART I — IMC**  
**Committee Action:** Disapproved

**Committee Reason:** The ICC CTC committee currently does not recommend mandatory installation of CO alarms. The Consumer Product Safety Commission has not endorsed CO alarms as being reliable. There are liability issues within the industry that need to be resolved before they are made mandatory. NFPA 720 is the more appropriate standard for installation of CO alarms. The building owner or occupant can install them voluntarily. The current technology will not support the interconnection of multiple CO alarms as required by this change.

**Assembly Action:** Approved as Modified

**Modify the proposal as follows:**

~~**313.4 Power source and interconnection.** The required carbon monoxide alarms shall be powered by the building wiring where such wiring is supplied by a commercial power source and when such source is interrupted, the alarms shall be battery powered. The power supply wiring shall be permanent and without a disconnecting switch other than the branch circuit overcurrent device.~~

~~Where more than one carbon monoxide alarm is required within a dwelling unit, the alarms shall be interconnected in a manner such that the activation of one alarm will cause actuation of all of the alarms within the dwelling.~~

**Exceptions:**

- ~~1. Alarms installed in existing dwelling units shall not be required to be interconnected and powered by a commercial power source where the work described in Section 313.2 does not result in the removal of interior wall or ceiling finishes thereby exposing the structure and there is no attic, crawl space or basement which could provide access for wiring without the removal of interior finishes.~~
- ~~2. Alarms shall not be required to be interconnected and shall be permitted to be powered only by batteries where installed in buildings without commercial power.~~

(Portions of proposal not shown remain unchanged.)

**PART II — IRC**  
**Committee Action:** Disapproved

**Committee Reason:** There are reliability issues with the technology resulting in unnecessary fire department calls. There is no federal mandate for CO detectors and the ICC CTC committee does not recommend making them mandatory. The committee believed this issue belongs in Chapter 3 of the IRC rather than in the mechanical section. There were questions about the proper location of the detectors that need to be resolved.

**Assembly Action:** Approved as Modified

**Modify the proposal as follows:**

~~**M1309.4 Power source and interconnection.** The required carbon monoxide alarms shall be powered by the building wiring where such wiring is supplied by a commercial power source and when such source is interrupted, the alarms shall be battery powered. The power supply wiring shall be permanent and without a disconnecting switch other than the branch circuit overcurrent device.~~

~~Where more than one carbon monoxide alarm is required within a dwelling unit, the alarms shall be interconnected in a manner such that the activation of one alarm will cause actuation of all of the alarms within the dwelling.~~

**Exceptions:**

- ~~1. Alarms installed in existing dwelling units shall not be required to be interconnected and powered by a commercial power source where the work described in Section M1309.2 does not result in the removal of interior~~



~~wall or ceiling finishes thereby exposing the structure and there is no attic, crawl space or basement which could provide access for wiring without the removal of interior finishes.~~

- ~~2- Alarms shall not be required to be interconnected and shall be permitted to be powered only by batteries where installed in buildings without commercial power.~~

### **PART III — IFGC**

**Committee Action:** **Disapproved**

**Committee Reason:** CO alarms are not within the scope of the IFGC. The ICC CTC committee has not recommended that CO alarms be made mandatory as required by this proposal. It is not clear why the bedroom location was chosen. The alarm may not be audible when the bedroom doors are closed. The Consumer Product Safety Commission has not endorsed CO alarms as being reliable. The dwelling occupants can install CO alarms if they desire them.

**Assembly Action:** **Approved as Modified**

**Modify the proposal as follows:**

~~**311.4 Power source and interconnection.** The required carbon monoxide alarms shall be powered by the building wiring where such wiring is supplied by a commercial power source and when such source is interrupted, the alarms shall be battery powered. The power supply wiring shall be permanent and without a disconnecting switch other than the branch-circuit overcurrent device.~~

~~Where more than one carbon monoxide alarm is required within a dwelling unit, the alarms shall be interconnected in a manner such that the activation of one alarm will cause actuation of all of the alarms within the dwelling.~~

**Exceptions:**

- ~~1- Alarms installed in existing dwelling units shall not be required to be interconnected and powered by a commercial power source where the work described in Section 311.2 does not result in the removal of interior wall or ceiling finishes thereby exposing the structure and there is no attic, crawl space or basement which could provide access for wiring without the removal of interior finishes.~~
- ~~2- Alarms shall not be required to be interconnected and shall be permitted to be powered only by batteries where installed in buildings without commercial power.~~

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### **M42-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** This change reorganizes several sections concerning exhaust systems to make it easier for the user. It adds references to appropriate sections of the code that provide guidance concerning the various types of exhaust systems.

**Assembly Action:** **None**

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### **M43-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The change clarifies that no environmental air exhausted from a residence is considered to be hazardous or noxious.

**Assembly Action:** **None**

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### **M44-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The proposal updates the outdoor air ventilation requirements to reflect the latest technology and to be consistent with the requirements of ASHRAE 62.1-2004. It updates the ventilation rates in Table 403.3, adds a table for system efficiency and replaces the previous common ventilation system requirements with single zone and multiple zone recirculation system requirements.

**Assembly Action:** **None**

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### **M45-06/07**

**Committee Action:** **Disapproved**

**Committee Reason:** The committee preferred M44-06/07 because this change left the old method of calculating the ratio of outdoor air for common systems. The method offered in M44-06/07 is consistent with the latest version of ASHRAE 62.1.

**Assembly Action:** **None**

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### **M46-06/07**

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:** **Approved as Submitted**

**Committee Reason:** This change allows the designer of ventilation systems to use the latest version of ASHRAE 62.1 as an alternate to the requirements of Section 403.3 rather than having to have the design approved as an alternate means in accordance with Section 105.2.

**Assembly Action:** **None**

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### **M47-06/07**

**Committee Action:** **Disapproved**

**Committee Reason:** The committee preferred M46-06/07 which added all of ASHRAE 62.1 as an exception to Section 403.3 rather than adding just the Section 6.2 outdoor air rate method that this change proposed.

**Assembly Action:** **None**

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### **M48-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Prohibiting the recirculation of exhaust air from repair garages will increase the safety of other occupancies, such as showrooms and offices, by eliminating the possibility of circulating harmful vapors to such occupancies.

**Assembly Action:** **None**

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## M49-06/07

**Committee Action:** Disapproved

**Committee Reason:** Removal of this section would leave the code with no requirement for balancing. The code official would have more difficulty verifying that the ventilation system was balanced for proper operation.

**Assembly Action:** None

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## M50-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria Sections 3.6.2.1 and 3.6.2.11.

**Committee Action:** Disapproved

**Committee Reason:** The SMACNA manual proposed to be added to the code is not a standard and does not meet ICC criteria. There are no tolerances specified in the manual which makes enforcement very difficult. Disapproval is consistent with the action taken on M99-06/07.

**Assembly Action:** None

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## M51-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This change makes the mechanical exhaust requirements for uninhabited crawl spaces consistent with IBC Section 1203.3.2 by requiring the exhaust to be continuous rather than intermittent.

**Assembly Action:** Disapproved

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## M52-06/07

**Committee Action:** Disapproved

**Committee Reason:** There was no technical justification provided for the 2 foot distance and there was confusion as to how to measure the 2 feet. It would eliminate a frequently used option of discharging clothes dryers and bathroom exhausts through the soffit when measures are taken to prevent entry of the exhaust back into the attic.

**Assembly Action:** None

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## M53-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This change correlates the bathroom and kitchen exhaust requirements with those in Section 401.4.1.

**Assembly Action:** None

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## M54-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** The exemption from pressure equalization requirements for R-2 occupancies should be the same as that for R-3 occupancies.

**Assembly Action:** None

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## M55-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria, Section 3.6.3.2.

**Committee Action:** Disapproved

**Committee Reason:** The ACGIH manual proposed to be added to the code is a manual rather than a standard and does not comply with ICC requirements for standards.

**Assembly Action:** None

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## M56-06/07

**Committee Action:** Disapproved

**Committee Reason:** The proposal was not considered to be comprehensive enough; there are other sections in the exhaust section that also address ventilation.

**Assembly Action:** None

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## M57-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** The proposal adds a prescriptive requirements for protecting the annular space where a clothes dryer exhaust duct penetrates a wall or ceiling. This will improve the safety of operating clothes dryers with such penetrations.

**Assembly Action:** None

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## M58-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This change allows the designer some flexibility as to how the required makeup air is provided. This language is consistent with the IFGC.

**Assembly Action:** None

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## M59-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** There was concern expressed by the committee that the test configuration was questionable and could have adversely affected the test result for the 4 inch radius elbows. The 10 inch radius elbows are not readily available in the market and will require a special order to acquire them.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The 10 inch radius elbows will not fit in conventional wall construction. These can be accepted as an alternate design under Section R104.11. The dryer manufacturers can add these elbows to their installation instructions.

**Assembly Action:** None

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## M60-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** There needs to be a prescriptive maximum length in the code that reflects the majority of the dryers available in the market. The 10 inch radius elbows cannot be installed in a standard wall assembly. According to the new table in the proposal, an installation with more than two 4 inch radius elbows would not be possible because of the excessive 15 foot equivalent length. The make and model of the dryer to be installed needs to be known before using the 10 inch radius elbows.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The proposed new table would make 4 inch radius elbows unuseable for most home installations with 3 elbows. It would be difficult if not impossible to install the 10 inch radius elbows in conventional wall construction.

**Assembly Action:** None

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## M61-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** There is no way to control what type of dryer will be connected to the 35 foot exhaust duct. Many older model dryers and some of the newer stackable washer/dryer combination units will not be able to exhaust properly when connected to a 35 foot long exhaust duct.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Approved as Submitted

**Committee Reason:** The proposed 35 foot exhaust duct length will support all new dryers and most older dryers that are currently installed. The 25 foot length is too restrictive for today's technology. This will provide the designers more flexibility in locating dryers in homes.

**Assembly Action:** None

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## M62-06/07

### PART I — IMC

**Committee Action:** Approved as Submitted

**Committee Reason:** This change is needed to require a warning sign for new occupants that the existing dryers exhaust duct may be of such length that their clothes dryer will not operate properly when connected to the duct.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The term "observable location" is vague and unenforceable. The homeowner can remove or obscure the labels after the certificate of occupancy is issued.

**Assembly Action:** None

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## M63-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The insulation requirements in the IECC, either R-5 or R-8, are intended for energy conservation and are excessive for preventing the development of condensation.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The term "demonstrated the need" is too broad and subject to interpretation. Zones B and C are undefined in the IECC.

**Assembly Action:** None

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## M64-06/07

### PART I — IMC

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds guidance to the section containing requirements for PVC materials and joints for domestic downdraft exhaust systems.

**Assembly Action:** None

**PART II — IRC**

**Committee Action:** **Approved as Modified**

**Modify the proposal as follows:**

**M1503.2 Duct material.** Single-wall ducts serving range hoods shall be constructed of galvanized steel, stainless steel or copper.

**Exception:** Ducts for domestic kitchen cooking appliances equipped with down-draft exhaust systems shall be permitted to be constructed of schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:

1. The duct shall be installed under a concrete slab poured on grade; and
2. The underfloor trench in which the duct is installed shall be completely backfilled with sand or gravel; and
3. The PVC duct shall extend not more than 1 inch (25mm) above the indoor concrete floor surface; and
4. The PVC duct shall extend not more than 1 inch (25mm) above grade outside of the building; and
5. The PVC ducts shall be solvent cemented.
6. ~~The PVC ducts and fittings comply with Section M1601.1.2.~~

**Committee Reason:** The proposal adds fittings to the section to insure the same materials are used for both pipe and fittings. The modification deletes the reference Section M1601.1.2 because that section is for underground air ducts and not appropriate for kitchen exhaust ducts..

**Assembly Action:** **None**

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**M65-06/07**

**PART I — IMC**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The larger kitchen exhaust systems need to have requirements for makeup air to prevent problems with other appliances caused by negative pressure.

**Assembly Action:** **None**

**PART II — IRC**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Large homes with high volume kitchen exhaust fans are becoming more prevalent. This code change will insure that adequate makeup air is provided to prevent problems with venting and combustion air related to negative pressure.

**Assembly Action:** **None**

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**M66-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The change clarifies that UL 1978 is the appropriate standard for listing of factory-built commercial kitchen grease ducts.

**Assembly Action:** **None**

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**M67-06/07**

**Committee Action:** **Disapproved**

**Committee Reason:** UL 1978 is the standard for grease ducts, not UL 2221 which is the standard for grease duct enclosure assemblies.

**Assembly Action:** **None**

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**M68-06/07**

**Committee Action:** **Approved as Modified**

**Modify the proposal as follows:**

**506.3.2.5 Grease duct test.** Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed in the presence of the code official. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the ductwork from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test. A light test or an approved equivalent test method shall be performed to determine that all welded and brazed joints are liquid tight.

A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of duct work to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. A test shall be performed for the entire duct system, including the hood-to-duct connection. The ductwork shall be permitted to be tested in sections, provided that every joint is tested.

**Exception:** Subject to the approval of the code official, the leakage test need not be performed in the presence of the code official provided that an approved agency submits a report of the results of the test.

**Committee Reason:** The proposed change, with the modification, will still require the tests to be witnessed, but will allow the code official some flexibility to accept a report from an approved agency rather than having to observe each test himself.

**Assembly Action:** **Disapproved**

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**M69-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Removing the language as proposed will insure that the access doors can be tightened appropriately with a tool. The current language led to the use of wing nuts which often caused leaks in the grease ducts.

**Assembly Action:** **None**

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**M70-06/07**

**Committee Action:** **Disapproved**

**Committee Reason:** Nothing technical is being added by this proposal. Some committee members felt that the reorganization resulted in the perception that one method of grease duct protection is favored over the others by the code.

**Assembly Action:** **None**

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## M71-06/07

**Committee Action:** Disapproved

**Committee Reason:** There was confusion by the committee concerning the relationship of the "F" and "T" rating in the exception when ASTM E 814 is deleted from the exception.

**Assembly Action:** None

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## M72-06/07 Withdrawn by Proponent

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## M73-06/07

**Committee Action:** Disapproved

**Committee Reason:** The section proposed to be revised is for grease duct enclosures; there will not be any dampers in the enclosure itself, only in the duct.

**Assembly Action:** None

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## M74-06/07

**Committee Action:** Disapproved

**Committee Reason:** Deleting the "F" and "T" rating from the second exception will leave nothing to tell the user that the "F" and "T" rating of the system must be at least equal to the assembly being penetrated.

**Assembly Action:** None

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## M75-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** The change modifies the requirement for exhaust terminations in relationship to air intake openings by adding an allowance for terminations at least 2 feet above the air intake opening. This arrangement has proven effective in the field and was missing from this section.

**Assembly Action:** None

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## M76-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds prescriptive requirements for Type II exhaust hood duct terminations rather than the current subjective language that the termination must not create a nuisance.

**Assembly Action:** None

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## M77-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This proposal adds an exception for not requiring a Type II hood to be placed over an appliance that already has an engineered exhaust system integral to the appliances design. Requiring a hood over such an appliance would be redundant and not cost effective.

**Assembly Action:** None

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## M78-06/07

**Committee Action:** Disapproved

**Committee Reason:** The size of the appliance should not be the issue when considering an installation without a Type II hood. The issue should be to insure that the HVAC system is properly designed to handle the extra latent heat and moisture from the appliance being proposed for installation.

**Assembly Action:** None

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## M79-06/07

**Committee Action:** Disapproved

**Committee Reason:** The proposal needs further work to include the cementitious wallboard throughout this section. In the next-to-last line of the proposal, it only mentions gypsum wallboard, but it should also address the cementitious product.

**Assembly Action:** None

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## M80-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria, Section 3.6.2.11.

**Committee Action:** Disapproved

**Committee Reason:** The standard proposed to be added to the code is not a consensus standard.

**Assembly Action:** None

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## M81-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** Electrically interlocking a kitchen hood with makeup air fans or HVAC equipment could result in rewiring the equipment which would violate the listing and possibly terminate the warranty. Starting the fan in parallel with the hood is all that is required.

**Assembly Action:** None

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## M82-06/07

**Committee Action:** Disapproved

**Committee Reason:** This proposal would be difficult to incorporate into many kitchen designs and difficult to enforce. There are many situations where the cooling system is needed in the kitchen due to the heat load while the outdoor temperature is very cold. This proposal would not allow 0° F air to be heated prior to entering the kitchen.

**Assembly Action:** None

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## M83-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** The new exception would allow the compensating hoods described in the proposal to not be labeled with the maximum makeup airflow. This is in agreement with UL 710 which is the standard to which such hoods are listed.

**Assembly Action:** None

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## M84-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** The change removes some conflicting language; if the contaminants have been removed, then the air stream is no longer contaminated and can be recirculated.

**Assembly Action:** None

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## M85-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds a new standard for testing combustibility of products as an alternate to the existing UL 723. This will provide more flexibility in approving products.

**Assembly Action:** None

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## M86-06/07

**Committee Action:** Disapproved

**Committee Reason:** No substantiation was provided to remove the exception for combustible dust collectors from this section. Citing "poor practice" is not enough reason for removal.

**Assembly Action:** None

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## M87-06/07

**Committee Action:** Disapproved

**Committee Reason:** The proposed language is overly broad and could be misinterpreted to disallow an electric water heater to be installed in a space used as a plenum for an air handling unit.

**Assembly Action:** None

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## M88-06/07

**Committee Action:** Disapproved

**Committee Reason:** There is no reason to coordinate the language for plenums with the language for ducts. Gypsum board has been successfully used in plenums intended for supply air for years and should not be restricted by this section.

**Assembly Action:** None

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## M89-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This code change will prohibit semi-open or discontinuous enclosure systems that would allow combustible wiring or components to be exposed within the plenum

**Assembly Action:** None

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## M90-06/07

**Committee Action:** Disapproved

**Committee Reason:** There is no consensus standard available for approval of air duct enclosure systems to support this proposal.

**Assembly Action:** None

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## M91-06/07

### PART I — IMC

**Committee Action:** Approved as Modified

Modify the proposal as follows:

**603.4.1 Minimum fasteners.** Round metallic ducts shall be mechanically fastened by means of at least three sheet metal screws or rivets spaced equally around the joint in approximately uniform intervals along the circumference of the duct.

Exception: Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion so as to prevent a hinge effect.

**Committee Reason:** The new section will require at least three fasteners on all duct joints to prevent a hinge effect that two fasteners would allow. This is consistent with language already in the

*International Residential Code.* The modification adds an exception to clarify that when the duct is partially inaccessible, such as when installed between floor joists, the fasteners can be spaced equally around the exposed portion of the joint since equal spacing around the entire joint is not possible in such an installation.

**Assembly Action:** None

**PART II — IRC** Withdrawn by Proponent

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## M92-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** The code change adds a needed slope for underground ducts. The proposed slope is consistent with the SMACNA standard for HVAC Duct Construction.

**Assembly Action:** None

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## M93-06/07

**Committee Action:** Disapproved

**Committee Reason:** The standards proposed were not appropriate for underground duct construction; they were intended for DWV plumbing piping.

**Assembly Action:** None

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## M94-06/07

**PART I — IMC**

**Committee Action:** Disapproved

**Committee Reason:** This proposal was disapproved to be consistent with the action taken on M93-06/07; the standards proposed were not appropriate for the intended use.

**Assembly Action:** None

**PART II — IRC**

**Committee Action:** Disapproved

**Committee Reason:** The proposed standards are for sanitary sewage piping and not appropriate for ducts. The standards currently in the code are adequate.

**Assembly Action:** None

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## M95-06/07

**PART I — IMC**

**Committee Action:** Approved as Submitted

**Committee Reason:** Liquid sealants have been used successfully in the field for sealing ducts. It is appropriate to add them to the code.

**Assembly Action:** None

**PART II — IRC**

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds liquid sealants as another method of sealing ducts. This action is consistent with the action taken on M95-06/07, Part I by the IMC committee.

**Assembly Action:** None

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## M96-06/07

**Committee Action:** Disapproved

**Committee Reason:** No practical method of preventing the formation of condensation inside the ducts was provided in the proposal or the proponent's reason statement. Chapter 5 refers to this chapter for exhaust duct construction and installation. It would be impossible to enforce this requirement for bathroom exhaust ducts and Type II kitchen hood exhaust systems which inherently have moisture in the exhaust.

**Assembly Action:** None

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## M97-06/07

**Committee Action:** Disapproved

**Committee Reason:** The location of diffusers, registers and grilles should be a design consideration, not a code requirement. This could require the installation of such items in locations that have traditionally not required them.

**Assembly Action:** None

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## M98-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria, Section 3.6.2.11.

**Committee Action:** Approved as Modified

**Modify the proposal as follows:**

**603.17.3 Air dispersion systems.** Air dispersion systems shall be located exposed in the space that is being conditioned by the system and shall be operated under positive pressure. Air dispersion systems shall not pass through fire-resistance-rated assemblies. Air dispersion systems shall be listed and labeled.

**Committee Reason:** The proposal adds a new technology for air dispersion systems with guidance for proper installation and operation. The modification changed the term "located" to "exposed" to emphasize that the diffuser must be completely exposed to the room and not concealed in the building construction. The modification also deleted the reference to UL 2518 because it was not a consensus standard.

**Assembly Action:** None

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## M99-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria, Section 3.6.2.11.

**Committee Action:** **Disapproved**

**Committee Reason:** The SMACNA manual proposed to be added to the code is not a standard and does not meet ICC criteria. There are no tolerances specified in the manual which makes enforcement very difficult. Disapproval is consistent with the action taken on M50-06/07.

**Assembly Action:** **None**

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## M100-06/07

### PART I — IMC

**Committee Action:** **Disapproved**

**Committee Reason:** There are other ignition barrier requirements in the building code not addressed in the proposal. There were concerns about the permeability of the product when the thickness of the insulation is reduced..

**Assembly Action:** **None**

### PART II — IECC

**Committee Action:** **Approved as Modified**

**Modify the proposal as follows:**

**[EC] 604.7 Identification.** External duct insulation, except spray polyurethane foam, and factory-insulated flexible duct shall be legibly printed or identified at intervals not greater than 36 inches (914 mm) with the name of the manufacturer, the thermal resistance R-value at the specified installed thickness and the flame spread and smoke-developed indexes of the composite materials. All duct insulation, ~~except spray polyurethane foam~~, product R-values shall be based on insulation only, excluding air films, vapor retarders or other duct components, and shall be based on tested C-values at 75°F (24°C) mean temperature at the installed thickness, in accordance with recognized industry procedures. The installed thickness of duct insulation used to determine its R-values shall be determined as follows:

1. For duct board, duct liner and factory-made rigid ducts not normally subjected to compression, the nominal insulation thickness shall be used.
2. For duct wrap, the installed thickness shall be assumed to be 75 percent (25-percent compression) of nominal thickness.
3. For factory-made flexible air ducts, the installed thickness shall be determined by dividing the difference between the actual outside diameter and nominal inside diameter by two.
4. For spray polyurethane foam the aged R-value per inch, measured in accordance with recognized industry standards, shall be provided to the customer in writing at the time of foam application.

**Committee Reason:** Spray polyurethane foam is a material that is permitted to be used, but labeling of the material as described is impractical. This proposed text would give direction on how to identify the insulation values for spray polyurethane foam. The modification was made because providing an exception for spray polyurethane foam in the second sentence of Section 604.7 would have the unintended effect of eliminating spray polyurethane from the requirements for R-values completely.

**Assembly Action:** **None**

**PART III — IRC**  
**Committee Action:**

**Approved as Modified**

**Modify the proposal as follows:**

**M1601.2.1 Duct insulation materials.** Duct insulation materials shall conform to the following requirements:

1. Duct coverings and linings, including adhesives where used, shall have a flame spread index not higher than 25, and a smoke-developed index not over 50 when tested in accordance with ASTM E84, using the specimen preparation and mounting procedures of ASTM E2231.

**Exception:** Spray polyurethane foam shall be permitted to be spray applied to the exterior of ducts in attics and crawl spaces subject to all of the following:

1. The flame-spread index is not greater than 25, and the smoke-developed index is not greater than 450 at the specified installed thickness.
  2. The foam plastic is protected in accordance with the ignition barrier requirements of Sections R314.5.3 and R314.5.4.
  3. The foam plastic complies with the requirements of Section R314.
2. Duct coverings and linings shall not flame, glow, smolder or smoke when tested in accordance with ASTM C 411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C).
  3. External duct insulation and factory-insulated flexible ducts shall be legibly printed or identified at intervals not longer than 36 inches (914 mm) with the name of the manufacturer; the thermal resistance R-value at the specified installed thickness; and the flame spread and smoke-developed indexes of the composite materials. Spray polyurethane foam manufacturers shall provide the same product information and properties, at the nominal installed thickness, to the customer in writing, at the time of foam application. All duct insulation product R-values shall be based on insulation only, excluding air films, vapor retarders or other duct components, and shall be based on tested C-values at 75°F (24°C) mean temperature at the installed thickness, in accordance with recognized industry procedures. The installed thickness of duct insulation used to determine its R-value shall be determined as follows:
    - 3.1. For duct board, duct liner and factory-made rigid ducts not normally subjected to compression, the nominal insulation thickness shall be used.
    - 3.2. For ductwrap, the installed thickness shall be assumed to be 75 percent (25-percent compression) of nominal thickness.
    - 3.3. For factory-made flexible air ducts, The installed thickness shall be determined by dividing the difference between the actual outside diameter and nominal inside diameter by two.
    - 3.4. For Spray polyurethane foam, the aged R-value per inch measured in accordance with recognized industry standards shall be provided to the customer in writing at the time of foam application. In addition, the total R-value for the nominal application thickness shall be provided.

**M1601.3.4 Duct insulation.** Duct insulation shall be installed in accordance with the following requirements:

1. A vapor retarder having a maximum permeance of 0.05 perm [(2.87 ng/(s m<sup>2</sup> Pa))] in accordance with ASTM E 96, or aluminum foil with a minimum thickness of 2 mils (0.05 mm), shall be installed on the exterior of insulation on cooling supply ducts that pass through nonconditioned spaces conducive to condensation except where the insulation is spray polyurethane foam with a maximum water vapor permeance of 3 perm per inch [(1722 ng/(s m<sup>2</sup> Pa))] at the installed thickness.
2. Exterior duct systems shall be protected against the elements.
3. Duct coverings shall not penetrate a fireblocked wall or floor.

(Portions of proposal not shown remain unchanged.)



**Committee Reason:** This code change adds another material for insulating ducts in attics and crawl spaces only. It also provides additional sealing of the duct joints due to the density of the foam material. The modification adds a reference to Section R314 for the foam plastic requirements and changes the units in Section M1601.3.4 from "perm" to "perm per inch".

**Assembly Action:** None

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## M101-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:** Disapproved

**Committee Reason:** The ICC ES report for this product includes other limitations that are not included in this proposal. There was a concern that the R-value for this product varies widely depending on whether it is installed horizontally or vertically.

**Assembly Action:** None

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## M102-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** There are appliances that are located in the living space, such as direct vent heaters, that can take combustion air from the crawl space and not circulate the air from the crawl space to the living space. This proposal would prohibit such an installation.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** This proposal would be more appropriate to be located in Appendix F with the Radon requirements.

**Assembly Action:** None

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## M103-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** There was no test data or other documentation to justify one combustion air opening for oil-fired appliances. One opening has only been tested for gas-fired appliances. NFPA 31, the standard for oil-fired appliance, does not allow a single opening. The committee preferred M108-06/07.

**Assembly Action:** None

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### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The committee preferred the action taken on M108-06/07Part II, which deletes the technical requirements of Chapter 17 and refers to NFPA 31 for combustion air requirements for oil-fired appliances.

**Assembly Action:** None

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## M104-06/07

**Committee Action:** Disapproved

**Committee Reason:** There was no test data or other documentation to justify one combustion air opening for oil-fired appliances. One opening has only been tested for gas-fired appliances. NFPA 31, the standard for oil-fired appliance, does not allow a single opening. The committee preferred M108-06/07.

**Assembly Action:** None

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## M105-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** There was no test data or other documentation to justify one combustion air opening for oil-fired appliances. One opening has only been tested for gas-fired appliances. NFPA 31, the standard for oil-fired appliance, does not allow a single opening. The committee preferred M108-06/07.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The committee preferred M108-06/07Part II, which deletes the technical requirements of Chapter 17 and refers to NFPA 31 for combustion air requirements for oil-fired appliances.

**Assembly Action:** None

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## M106-06/07

**Committee Action:** Disapproved

**Committee Reason:** There was no test data or other documentation to justify one combustion air opening for oil-fired appliances. One opening has only been tested for gas-fired appliances. NFPA 31, the standard for oil-fired appliance, does not allow a single opening. The committee preferred M108-06/07.

**Assembly Action:** None

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## M107-06/07

**Committee Action:** Disapproved

**Committee Reason:** There was no test data or other documentation to justify one combustion air opening for oil-fired appliances. One opening has only been tested for gas-fired appliances. NFPA 31, the standard for oil-fired appliance, does not allow a single opening. The committee preferred M108-06/07.

**Assembly Action:** None

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## M108-06/07

### PART I — IMC

**Committee Action:** Approved as Submitted

**Committee Reason:** The combustion air requirements currently located in Chapter 7 are based on gas-fired appliance installations. NFPA 31 is the appropriate source for the method of calculating combustion air for oil-fired appliances.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Approved as Submitted

**Committee Reason:** NFPA 31 is the appropriate source for the method of calculating combustion air for oil-fired appliances. Current Chapter 17 requirements are based on gas-fired appliance data.

**Assembly Action:** None

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## M109-06/07

**Committee Action:** Approved as Modified

**Modify the proposal as follows:**

**801.18.4 Clearances.** Chimneys and vents shall have air-space clearance to combustibles in accordance with the International Building Code and the chimney or vent manufacturer's installation instructions.

**Exception:** ~~Masonry chimneys equipped with a chimney lining system tested and listed in accordance with UL1777. Existing masonry chimneys without the required air-space clearances shall be permitted to be used if lined or relined with a chimney lining system listed for use in chimneys with reduced clearances in accordance with UL 1777. The chimney clearance shall be not less than permitted by the terms of the chimney liner listing and the manufacturer's instructions.~~

(Portions of proposal not shown remain unchanged)

**Committee Reason:** This code change clarifies the code language by separating the clearance requirements from the fireblocking requirements in a separate section and deleting some duplicated language. The modification makes it clear that the reduced clearances achieved by installing the chimney liner must not be less than stated in the listing for the liner and the manufacturer's installation instructions.

**Assembly Action:** None

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## M110-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** There is no need to prescribe installation requirements for vent piping because the appliance manufacturers get the vent included in the listing of the appliance as specified in the installation instructions. The requirement for the primer to be contrasting in color has caused problems because some installation instructions do not have this requirement.

**Assembly Action:** None

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## M111-06/07

**Committee Action:** Disapproved

**Committee Reason:** Section 802.7 already requires vents to be properly supported. This new language is too excessive because it would require all vents over five feet in length to be supported with guy wires, even if they were listed for installation without additional support.

**Assembly Action:** None

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## M112-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** Many jurisdictions have not adopted the IEBC; deletion of this section in the IMC would leave those jurisdictions without any code language for enforcement of mechanical draft systems.

**Assembly Action:** None

### PART II — IEBC

**Committee Action:** Approved as Submitted

**Committee Reason:** The committee agreed that provisions to allow mechanical draft systems for appliances in applications where an existing chimney liner is in a usable condition were appropriate for inclusion in the IEBC, which addresses repairs, alterations and additions to mechanical systems.

**Assembly Action:** None

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## M113-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds a nationally recognized standard to the code that the code official needs for acceptance of sauna heaters.

**Assembly Action:** None

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## M114-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:**                 **Approved as Submitted**

**Committee Reason:** UL 2200 is needed for acceptance of the stationary engine generator assemblies. The existing NFPA 37 standard only covers the installation of the generators.

**Assembly Action:**                                 **None**

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## **M115-06/07**

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:**                 **Approved as Submitted**

**Committee Reason:** This change adds new standards needed for the acceptance of household electric ranges and microwave cooking appliances.

**Assembly Action:**                                 **None**

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## **M116-06/07**

**Committee Action:**                                 **Disapproved**

**Committee Reason:** The term "radiation level" is an undefined term in the code and not widely understood by most inspectors. The high temperature cutoff has been evaluated for use in water and has not been evaluated for use in air. The exemption of low-water cutoff devices is in conflict with the requirements of the ASMECS-1.

**Assembly Action:**                                 **None**

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## **M117-06/07**

**Committee Action:**                                 **Disapproved**

**Committee Reason:** The term "radiation level" is an undefined term in the code and not widely understood by most inspectors. The proponent's reason states that the high temperature safety shutoff control would shut down the boiler if a leak occurs at the boiler, but there was no substantiation that testing had been performed to prove this.

**Assembly Action:**                                 **None**

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# M118-06/07

**Committee Action:** Approved as Modified

Modify the proposal as follows:

[F]TABLE 1103.1  
REFRIGERANT CLASSIFICATION, AMOUNT AND TLV-TWA

Refrigerant	Chemical Formula	Chemical Name or Blend	Hazard Categories	Refrigerant Classification	Degrees of Hazard	Pounds per 1000 cubic feet	ppm	g/m3	TLV-TWA (ppm)
R-418A	zeotrope	R-290/22/152a (1.5/96.0/2.5)	CG,F,OHH	A1 A2	2-0-0°				
R-419A	zeotrope	R-125/134a/E170 (77.0/19.0/4.0)	CG,F,OHH	A1 A2	2-0-0°				
R-424A	zeotrope	R-125/134a/600a/600/601a (50.5/47.5/7.0/0.9/1.0/0.6)	CG,OHH	A1	2-0-0°				
R-425A	zeotrope	R32/134a/227eca (18.5/69.5/12.0)	CG,OHH	A1	2-0-0°				
R-426A	zeotrope	R-125/134a/600a/601a (5.1/93.0/1.3/0.6)	CG,OHH	A1	2-0-0°				

(Portions of proposal not shown remain unchanged)

**Committee Reason:** The code change updates existing data in Table 1103.1 and adds several new refrigerants. The modification corrects some errors in the original proposal and deletes R-426A which is not ready for inclusion in the code.

**Assembly Action:** None

# M119-06/07

**Committee Action:** Disapproved

**Committee Reason:** There are too many standards required to be reviewed before a code official can determine if a hose is acceptable. The term "meet or exceed" is not proper code language. UL 1963 was not submitted for review by the committee and staff.

**Assembly Action:** None

# M120-06/07

**Committee Action:** Disapproved

**Committee Reason:** The ASHRAE Handbook of Fundamentals does not appear to be the appropriate document for sizing hydronic piping. The ASHRAE Systems and Equipment Handbook should be used instead.

**Assembly Action:** None

# M121-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This pipe material has been successfully used in the field for many years and should be included in the code. Acceptable standards were submitted to support this proposal.

**Assembly Action:** None

# M122-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:** Approved as Submitted

**Committee Reason:** This pipe material is currently in use for hydronic systems based on local jurisdiction acceptance. It is already included in the IRC for hydronic systems and should be added to the IMC. The standard submitted meets ICC criteria.

**Assembly Action:** None

# M123-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

**Committee Action:** Approved as Submitted

**Committee Reason:** This pipe material was approved to be added by M121-06/07. This change is needed to add the appropriate fitting standards. Acceptable standards were submitted to support this proposal.

**Assembly Action:** None

# M124-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds a new technology for mechanical joints. The joints have appropriate pressure and temperature ratings for use in hydronic systems.

**Assembly Action:** None

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## M125-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** Polypropylene was added to the IMC for hydronic systems by M122-06/07. This change adds requirements for the fittings required for such installations. Acceptable standards were submitted to support this proposal.

**Assembly Action:** None

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## M126-06/07

**Committee Action:** Approved as Submitted

**Committee Reason:** The use of this type of tee connection should be the decision of the designer based on the overall system layout and the fluid velocity. This fitting application has been used in the plumbing industry for years without problems.

**Assembly Action:** None

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## M127-06/07

**Committee Action:** Disapproved

**Committee Reason:** The committee preferred the provisions of code change M129-06/07 that adds an exception for not draining underground hydronic systems rather than deleting the provision.

**Assembly Action:** None

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## M128-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The protection methods proposed are too restrictive; there are other methods of freeze protection available and the designer should have the option of choosing one of the other methods.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** There are other methods of freeze protection available and the designer should have the option of choosing one of the other methods. The use of the term "industry acceptable" is ambiguous and could be open to interpretation as to which industry deems the anti-freeze to be acceptable.

**Assembly Action:** None

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## M129-06/07

### PART I — IMC

**Committee Action:** Approved as Submitted

**Committee Reason:** This change adds a needed exemption for hydronic systems that are difficult or impossible to drain.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Approved as Submitted

**Committee Reason:** There are underground systems that cannot be drained or can only be drained with great difficulty. This proposal provides an exception for such installations.

**Assembly Action:** None

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## M130-06/07

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The proposed method of providing a thermal break could violate the manufacturer's installation instructions. The insulation values proposed are probably too high; what was the technical justification for those values? The term "stem wall" is not a defined term in the code.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** This proposal will conflict with the manufacturer's installation instructions and the energy requirements of Chapter 11.

**Assembly Action:** None

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## M131-06/07

**Note:** The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

**Analysis:** Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria, Section 3.6.2.11.

### PART I — IMC

**Committee Action:** Disapproved

**Committee Reason:** The standard proposed to be added did not meet the ICC requirements for standards.

**Assembly Action:** None

### PART II — IRC

**Committee Action:** Disapproved

**Committee Reason:** The standard proposed to be added did not meet the ICC requirements for standards.

**Assembly Action:** None

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## **M132-06/07**

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The proposal updates the existing standards referenced in the code.

**Assembly Action:** **None**

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