

# IRC - Mechanical



cdpACCESS

## 2024 GROUP A PROPOSED CHANGES TO THE I-CODES

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# 2024 GROUP A – PROPOSED CHANGES TO THE INTERNATIONAL RESIDENTIAL CODE – PLUMBING/ MECHANICAL

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# TENTATIVE ORDER OF DISCUSSION 2024 PROPOSED CHANGES TO THE INTERNATIONAL RESIDENTIAL CODE – MECHANICAL

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation does not necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair. Note that some RM code change proposals may not be included on this list, as they are being heard by another committee.

- E1-24 Part V
- RM1-24
- RM2-24
- RM3-24
- M54-24 Part II
- RM4-24
- M59-24 Part II
- M57-24 Part II
- M38-24 Part II
- RM5-24
- RM6-24
- RM7-24
- M47-24 Part II
- RM8-24
- RM9-24
- M52-24 Part II
- M44-24 Part II
- RM10-24
- M60-24 Part III

# RM1-24

IRC: M1305.1.2, M1305.1.2.2 (New)

**Proponents:** David Crawford Bixby, Air Conditioning Contractors of America (ACCA), ACCA (david.bixby@acca.org)

## 2024 International Residential Code

### **M1305.1.2 Appliances in attics.**

*Attics* containing *appliances* shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest *appliance*, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the *appliance*. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the *appliance* where access is required. The clear access opening dimensions shall be not less than of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest *appliance*.

#### **Exceptions:**

1. The passageway and level service space are not required where the *appliance* can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not more than 50 feet (15 250 mm) long.

#### **Add new text as follows:**

**M1305.1.2.2 Permanent service access.** For new construction, a permanent means of access without the use of a portable ladder shall be provided in order to comply with M1305.1. Such means shall include the use of either pulldown stairs or other permanent steps acceptable to the code official.

**Exception:** Existing construction.

**Reason:** Section M1305.1.2 provides specifications for the size of the minimum clear and unobstructed opening and passageway to allow removal of the largest appliance. However, the need for a safe and secure energy efficient access is not specified and should be added for the safety of personnel and consumers. For consumers, replacement of HVAC filters is recommended maintenance and access to the attic should be as safe as possible. ACCA believes that there is an urgent need for new homes to be constructed to take care of future service, repair, replacement and overall general safety for all including the homeowner, contractors, insurance representatives, regular structural pest control inspections, especially first responders and anyone else who may need to access to this part of the home in the future. The exception limits the proposal to new construction only. ACCA is not suggesting that existing homes anywhere in the country change their access to a stair/ladder access when they change their heating and cooling equipment or any other items in their attics. The proposal is similar to an amendment to the Georgia building code that became effective January 1, 2020.

**Cost Impact:** Increase

#### **Estimated Immediate Cost Impact:**

The code change proposal **will increase** the cost of construction. It is estimated that attic stairs/ladders may add \$250-\$350 to a new home cost, but the savings in safety over time is significantly overcome and justified.

#### **Estimated Immediate Cost Impact Justification (methodology and variables):**

A range of costs was determined based on surveying available pull-down attic stairs that are widely available in the marketplace.



# RM2-24

IRC: M1401.1, ASHRAE Chapter 44 (New)

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

## 2024 International Residential Code

Revise as follows:

### M1401.1 Installation.

Heating and cooling *equipment* and *appliances* shall be installed in accordance with the manufacturer's instructions and the requirements of this code. Heating and cooling equipment using a refrigeration system shall also be installed in accordance with ASHRAE 15.2.

Add new standard(s) as follows:

## ASHRAE

ASHRAE  
180 Technology Parkway  
Peachtree Corners, GA 30092

15.2-2022

Safety Standard for Refrigeration Systems in Residential Applications

**Staff Analysis:** A review of the standard proposed for inclusion in the code, ASHRAE 15.2-2022 *Safety Standard for Refrigeration Systems in Residential Applications*, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before March 18, 2024.

**Reason:** This code change proposal adds the reference to ASHRAE 15.2, the installation standard for residential air conditioning. This code change closes the hole that was created in the Code when ASHRAE 15 split its scope between standards 15 and 15.2.

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

### Justification for no cost impact:

These changes will have no impact on the cost of construction. The equipment design of residential systems is covered by the product design standard, UL 60335-2-40. Additionally, installation instructions will be found in the installation manuals provided by the Original Equipment Manufacturers (OEMs). However, the reference to ASHRAE 15.2 is necessary, as it is now the required application standard for residential systems serving a single dwelling or sleeping unit.

RM2-24

# RM3-24

IRC: M1401.3

**Proponents:** David Crawford Bixby, Air Conditioning Contractors of America (ACCA), ACCA (david.bixby@acca.org)

## 2024 International Residential Code

**Revise as follows:**

### **M1401.3 Equipment and appliance sizing.**

Heating and cooling *equipment* and *appliances* shall be sized in accordance with ACCA Manual S ~~or other approved sizing methodologies~~ based on building loads calculated in accordance with ACCA Manual J ~~or other approved heating and cooling calculation methodologies~~.

**Exception:** Heating and cooling *equipment* and *appliance* sizing shall not be limited to the capacities determined in accordance with ACCA Manual S where either of the following conditions applies:

1. The specified *equipment* or *appliance* utilizes multistage technology or variable refrigerant flow technology and the loads calculated in accordance with the *approved* heating and cooling calculation methodology are within the range of the manufacturer's published capacities for that *equipment* or *appliance*.
2. The specified *equipment* or *appliance* manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with the *approved* heating and cooling calculation methodology and the next larger standard size unit is specified.

**Reason:** The existing exceptions are no longer needed because the Normative Sections of the new edition of ACCA Manual S - 2023, *Residential Equipment Selection*, now address sizing equipment having multi-stage and VRF technologies. In addition, Manual S now requires the equipment OEM performance data to be used to calculate the capacities required to satisfy the total, latent, and sensible loads. The 2023 edition of ACCA Manual S is approved by ANSI and its updated reference appears in the 2024 edition of the IRC.

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

### **Justification for no cost impact:**

No cost impacts since ACCA Manuals J and S are ANSI standards and are widely used by the industry.

RM3-24



# RM4-24

IRC: M1411.1

**Proponents:** Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., Daikin U.S. (jbenigneer@aol.com)

## 2024 International Residential Code

**Revise as follows:**

### **M1411.1 Approved refrigerants.**

Refrigerants used in direct refrigerating systems shall conform to the applicable provisions of ANSI/ASHRAE 34. Refrigerants shall comply with the U.S. EPA regulations for low global warming potential.

**Reason:** A new Federal requirement will stipulate that residential refrigeration systems must use a low global warming potential of 700 or less after January 1, 2025. This change will add the requirement to the code for any new systems. US EPA will allow existing systems using a higher global warming potential refrigerant to be repaired, hence, the change only identifies new systems.

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

### **Justification for no cost impact:**

This code change is informative in identifying Federal requirements for the use of refrigerants. U.S. EPA regulates the use of refrigerants under the SNAP regulations. Hence, there is no impact on the cost of construction.

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RM4-24

# RM5-24

IRC: SECTION 202, M1413.1, CHAPTER 15, SECTION M1502, M1502.3, SECTION M1504, M1504.3, M1602.1

Proponents: Mike Moore, Stator LLC, Broan-NuTone (mmoore@statorllc.com)

## 2024 International Residential Code

**[MP] LIVING SPACE.** Space within a *dwelling unit* utilized for living, sleeping, eating, cooking, bathing, washing and sanitation purposes. For the definition applicable in Chapter 11, see Section N1101.6. For the definition applicable in Chapter 24, see Section G2403.

Revise as follows:

### M1413.1 General.

Evaporative cooling *equipment* and *appliances* shall comply with UL 1995 or UL/CSA 60335-2-40, and shall be installed:

1. In accordance with the manufacturer's instructions.
2. On level platforms in accordance with Section M1305.1.3.1.
3. So that openings in exterior walls are flashed in accordance with Section R703.4.
4. So as to protect the potable water supply in accordance with Section P2902.
5. So that outdoor air intake opening locations are in accordance with Section R325.4.1.

## CHAPTER 15 EXHAUST AND VENTILATION SYSTEMS

### SECTION M1502 CLOTHES DRYER EXHAUST

Revise as follows:

#### M1502.3 Duct termination.

Exhaust ducts shall terminate on the outside of the *building*. Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. If the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate not less than 3 feet (914 mm) in any direction from openings into *buildings*, including openings in ventilated soffits. Exhaust duct terminations shall be equipped with a backdraft damper. Screens shall not be installed at the duct termination. Exhaust air shall not be directed onto walkways.

### SECTION M1504 VENTILATION SUPPLY DUCTS, LIVING SPACE EXHAUST DUCTS, AND LIVING SPACE EXHAUST TERMINATIONS OPENINGS

#### M1504.3 Location of Exhaust terminations serving living spaces openings.

Exhaust air shall not be directed onto walkways. Air exhaust openings shall terminate. Exhaust terminations serving dwelling-unit toilet rooms, bathrooms, kitchens, and other dwelling unit living spaces shall be located as follows:

1. Not less than 3 feet (914 mm) from property lines.
2. Not less than 3 feet (914 mm) from gravity outdoor air intake openings, operable windows and doors except where the exhaust opening is located not less than 1 foot (305 mm) above the gravity air intake opening, operable windows and doors.

3. Not less than 10 feet (3048 mm) from mechanical outdoor air intake openings except where either of the following apply:
  - 3.1. The exhaust ~~termination opening~~ is located not less than 3 feet (914 mm) above the air intake opening.
  - 3.2. The exhaust ~~termination opening~~ is part of a factory-built intake/exhaust combination termination fitting installed in accordance with the fan manufacturer's instructions, and the exhaust air is drawn from a *living space*.
4. ~~In accordance with Sections R303.5.2 and R303.6.~~

**M1505.4 Exhaust termination protection.** Exhaust terminations serving dwelling-unit toilet rooms, bathrooms, kitchens, and other dwelling unit living spaces shall be protected with corrosion-resistant screens, louvers, or grilles having an opening size of not less than 1/4 inch (6 mm) and a maximum opening size of 1/2 inch (13 mm), in any dimension. Exhaust terminations shall be protected against local weather conditions.

**M1602.1 Outdoor air intake openings.**

Outdoor air intake openings shall be located in accordance with Section ~~R325.4.1~~R303.5.1. Opening protection shall be in accordance with Section ~~R325.5~~R303.6.

**Reason:** In the 2009/2010 cycle, Section M1504.3 was formed through proposal RM12-09/10 based on the rationale that outdoor air intake openings should be addressed in Chapter 3 and that exhaust terminations should be addressed elsewhere. After multiple cycles, the language has become muddled, and modifications are needed to clarify the intent. This proposal does the following:

1. Uses the term "outdoor air intake opening" where referenced in Chapters 14, 15, and 16, consistent with the language in R303.5.1.
2. Uses consistent terminology when referring to "exhaust terminations," "clothes dryer exhaust duct terminations," and "vent and chimney terminations."
3. Moves the R303.5.2 prohibition for directing exhaust onto walkways to Sections M1504.3 and M1502.3, which address exhaust termination locations for exhaust air from living spaces and exhaust air from clothes dryers, respectively. Note that Table G2427.8 (503.8) already prohibits appliance vent terminations from being located above public walkways.
4. Moves the R303.6 requirements for exhaust termination protection to Section M1504.4, as this only applies to exhaust terminations that serve dwelling-unit toilet rooms, bathrooms, kitchens, and other dwelling-unit living spaces.
5. Modifies the titles for various sections to align with the material contained in those sections.

To coordinate these modifications with Sections R303.5 and R303.6 of the IRC, a companion proposal is planned for the Group B hearings.

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

**Justification for no cost impact:**

This proposal is a clarification of existing requirements.

# RM6-24

IRC: M1505.4.1

**Proponents:** Diana Burk, Energy Solutions, Energy Solutions (dburk@energy-solution.com)

## 2024 International Residential Code

**Revise as follows:**

### **M1505.4.1 System design.**

The whole-house ventilation system shall comply with one of the following:

1. In Climate Zones 0 through 5, the whole-house ventilation system shall consist of one or more supply or exhaust fans, or a combination of such, and associated ducts and controls. *Local exhaust* or supply fans are permitted to serve as such a system. Outdoor air ducts connected to the return side of an air handler shall be considered as providing supply *ventilation*.
2. In Climate Zones 6, 7 and 8, the whole-house ventilation system shall be a *balanced ventilation system* in compliance with Section N1103.6.

**Reason:** This proposal is intended to align the ventilation requirements in Section 1505.4 with the ventilation requirements in Section N1103.6. Public draft #2 of the 2024 IECC requires the use of an energy recovery ventilator or heat recovery ventilator in Climate Zones 6 through 8 which are both balanced ventilation systems.

Section 1505.4 of the 2024 IRC explicitly allows the use of supply-only, exhaust-only or balanced ventilation systems. This proposal is intended to clarify that supply-only and exhaust-only ventilation systems are only allowed in Climate Zones 0 through 5 and balanced ventilation systems are required in Climate Zones 6, 7, and 8.

**Bibliography:** THE INTERNATIONAL RESIDENTIAL CODE-CHAPTER 11 ENERGY EFFICIENCY PUBLIC COMMENT DRAFT #2  
<https://www.iccsafe.org/wp-content/uploads/PCD2-IRC-CHAP-11.pdf>  
REPI-93-21 <https://energy.cdpaccess.com/proposal/443/1236/preview/>

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

### **Justification for no cost impact:**

There are no increased costs for this proposal, as it is simply a coordination proposal. Increased costs due to the ERV/HRV requirements have been addressed as part of the development process of the IECC-R.

RM6-24

# RM7-24

IRC: M1601.1.1

**Proponents:** Jeanne Rice, NYS DOS, NYS DOS (jeanne.rice@dos.ny.gov); Chad Sievers, NYS, NYS DOS (chad.sievers@dos.ny.gov); Kevin Duerr-Clark, NYS DOS, NYS DOS (kevin.duerr-clark@dos.ny.gov); China Clarke, New York State Dept of State, Manager Technical Support Unit (china.clarke@dos.ny.gov)

## 2024 International Residential Code

Revise 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 not greater than 250°F (121 °C).
2. Factory-made ducts shall be *listed* and *labeled* in accordance with UL 181 and installed in accordance with the manufacturer's instructions.
3. Fibrous glass duct construction shall conform to the *SMACNA Fibrous Glass Duct Construction Standards* or *NAIMA Fibrous Glass Duct Construction Standards*.
4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the *SMACNA HVAC Duct Construction Standards—Metal and Flexible* except as allowed by Table M1601.1.1. Galvanized steel shall conform to ASTM A653.
5. The 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* of 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:~~  
Building framing cavities shall not be used as ducts or plenums.
  - 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 shall not convey air from more than one floor level.~~
  - 7.4. ~~Stud wall cavities and joist space plenums shall be isolated from adjacent concealed spaces by tight fitting *fireblocking* in accordance with Section R302.11. *Fireblocking* materials used for isolation shall comply with Section R302.11.1.~~
  - 7.5. ~~Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.~~
  - 7.6. ~~Building cavities used as plenums shall be sealed.~~
8. Volume dampers, equipment and other means of supply, return and exhaust air adjustment used in system balancing shall be provided with access.

**Reason:** Section N1103.3.7 (R403.3.7 in the IECC) states that *building* framing cavities shall not be used as ducts or plenums. However, section M1601.1.1 provides provisions for using joist framing cavities as return air plenums, which contradicts section N1103.3.7. This change would align M1601.1.1 with N1103.3.7, prohibiting the use of framing cavities as plenums.

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

### Justification for no cost impact:

Sections M1601.1.1 and N1103.3.7 are contradictory on the subject of joist cavities used as return air plenums. Section 102.1 states that, in the event of such a conflict, the more restrictive provision shall apply. In this case, section 1103.3.7 is the more restrictive provision, and as such, is the provision which should govern. This proposed change merely clarifies section M1601.1.1 so that there is no confusion for users who may or may not notice the contradiction.



# RM8-24

IRC: M1601.1.1

**Proponents:** Austin Rivera, Centrotherm Exo Systems, Centrotherm Exo Systems

## 2024 International Residential Code

**Revise 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 not greater than 250°F (121°C).
2. Factory-made ducts shall be *listed* and *labeled* in accordance with UL 181 and installed in accordance with the manufacturer's instructions.
3. Fibrous glass duct construction shall conform to the *SMACNA Fibrous Glass Duct Construction Standards* or *NAIMA Fibrous Glass Duct Construction Standards*.
4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the *SMACNA HVAC Duct Construction Standards—Metal and Flexible* except as allowed by Table M1601.1.1. Galvanized steel shall conform to ASTM A653.
5. The 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* of 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 shall not convey air from more than one floor level.
  - 7.4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight-fitting *fireblocking* in accordance with Section R302.11. *Fireblocking* materials used for isolation shall comply with Section R302.11.1.
  - 7.5. Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.
  - 7.6. Building cavities used as plenums shall be sealed.
8. Volume dampers, equipment and other means of supply, return and exhaust air adjustment used in system balancing shall be provided with access.
9. Factory-made ducts that are constructed of combustible materials, that are part of a duct system carrying only ventilation air and that are contained entirely within a dwelling unit, shall not be required to comply with items 2. and 6.

**Reason:** The proposed addition (Sentence 9) to this proposal aims to permit the use of combustible ducts in residential construction for mechanical ventilation systems, aligning with the National Canadian Building Code's verbatim wording. The specific allowance for combustible ducts is confined to ventilation air and is mandated to be fully contained within a single dwelling. These limitations serve to prevent the penetration of rated fire walls by the ducts and their connection to heating systems. Such constraints introduce an additional layer of safety to the system, aligning with the original code's intent under the newly specified circumstances.

Furthermore, this proposal points out that NFPA 90B concurs with the mentioned restrictions, as evidenced by the citations from the National Canadian Building Code and NFPA in the bibliography.

As ASHRAE 62.1/2 advocates for more rigorous ventilation standards, the standard practice is shifting towards fully dedicated mechanical ventilation systems, independent of heating/cooling systems. However, adhering to UL181 standards for all materials in

constructing these dedicated systems may render the process economically impractical. Therefore, permitting the use of combustible duct materials for dedicated ventilation systems could substantially reduce construction costs for both contractors and homeowners. In addition to reduction of direct construction costs, the air tightness of fully sealed plastic ventilation systems increases appliance efficiency leading to decreased cost of ownership over the life of the system. It is infeasible to fully seal traditional tin ducts.

Given the multitude of benefits, the minimal associated risks that are effectively mitigated, and the longstanding integration of similar language in other codes and standards, it is recommended that these proposed changes be incorporated into the International Residential Code (IRC). This adjustment would not only enhance cost-effectiveness in construction but also align with evolving industry practices and standards.

**Bibliography:**

1. National Canadian Building Code, Volume I - 3.6.5.1, Sentence 3
2. National Canadian Building Code, Volume II - 9.33.6.2, Sentence 5
3. NFPA 90B, Section 4.1.1.1.2
4. Leprince, V., Lightfoot, M., & de Jong, J. (n.d.). *Impact of ductwork leakage on the fan energy use and sound production of central mechanical ventilation units in houses.*

**Cost Impact:** Decrease

**Estimated Immediate Cost Impact:**

The estimated saving would be approximately \$2,000-3,000 per installation.

**Estimated Immediate Cost Impact Justification (methodology and variables):**

The cost savings were calculated by designing 2 mechanical ventilation systems, one using combustible plastic duct (Centrotherm Air Excellent system) and the other using traditional tin duct and materials. The two systems were identical (dimensions, flow rates, etc) except for the material used.

**Estimated Life Cycle Cost Impact:**

The air tightness of fully sealed plastic ventilation systems increases appliance efficiency leading to decreased cost of ownership over the life of the system.

**Estimated Life Cycle Cost Impact Justification (methodology and variables):**

Leprince, V., Lightfoot, M., & de Jong, J. (n.d.). *Impact of ductwork leakage on the fan energy use and sound production of central mechanical ventilation units in houses.*



# RM9-24

IRC: M1601.1.1, ACCA Chapter 44 (New)

Proponents: David Crawford Bixby, Air Conditioning Contractors of America (ACCA), ACCA (david.bixby@acca.org)

## 2024 International Residential Code

Revise 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 not greater than 250°F (121°C).
2. Factory-made ducts shall be *listed* and *labeled* in accordance with UL 181 and installed in accordance with the manufacturer's instructions.
3. Fibrous glass duct construction shall conform to the *SMACNA Fibrous Glass Duct Construction Standards* or *NAIMA Fibrous Glass Duct Construction Standards*.
4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the *SMACNA HVAC Duct Construction Standards—Metal and Flexible* except as allowed by Table M1601.1.1. Galvanized steel shall conform to ASTM A653.
5. The 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* of 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 shall not convey air from more than one floor level.
  - 7.4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight-fitting *fireblocking* in accordance with Section R302.11. *Fireblocking* materials used for isolation shall comply with Section R302.11.1.
  - 7.5. Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.
  - 7.6. Building cavities used as plenums shall be sealed.
8. Volume dampers, equipment and other means of supply, return and exhaust air adjustment used in system balancing shall be provided with access.
9. Zoned duct systems shall be designed and installed in accordance with ACCA Manual Zr and the manufacturer's instructions or by other approved methods.

Add new standard(s) as follows:

## ACCA

Air Conditioning Contractors of America  
1330 Braddock Place, Suite 350  
Alexandria, VA 22314

ANSI/ACCA 11 Manual Zr-2018 Residential Zoning Systems

Staff Analysis: New Standard

**Reason:** Although M1601.1 *Duct design* references *ACCA Manual D* for duct design, currently there is no coverage in the residential code to address the design of zoned duct systems, such as what to do with bypass air when one or more dampers are closed. *ACCA Manual Zr* provides procedures for designing zoned comfort systems for single family detached homes, duplex and triplex homes, row houses, town houses, and large multi-family structures that are compatible with *ACCA Manual J* procedures for residential load calculations. In addition, use of *Manual Zr* will avoid the potential for an improperly designed zoned duct system to adversely impact the

safe operation and durability of the heating/cooling equipment. For code officials, Manual Zr has three Normative sections written in code language to determine clear compliance. Manual Zr is also a consensus-based ANSI standard. A separate proposal shown below is to add ANSI/ACCA 11 Manual Zr - 2018 as an IRC referenced standard under Chapter 44. A copy of the standard has been submitted to ICC staff for committee review due to the file size.

**Bibliography:** ANSI/ACCA 11 Manual Zr - 2018, *Residential Zoning Systems*

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

**Justification for no cost impact:**

The use of ANSI/ACCA Manual Zr - 2018 is current industry practice, and the standard is based on zone damper OEM's installation instructions.

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RM9-24

# RM10-24

IRC: M1905 (New), M1905.1 (New), M1905.2 (New), UL Chapter 44 (New)

Proponents: Jonathan Roberts, UL Solutions, UL Solutions (jonathan.roberts@ul.com)

## 2024 International Residential Code

Add new text as follows:

### M1905 CLOTHES DRYERS

**M1905.1 General.** Electric residential clothes dryers, including heat pump and condensing-type dryers, shall be listed and labeled in accordance with UL 2158, and installed in accordance with the manufacturer's instructions.

**M1905.2 Exhaust required.** Clothes dryers shall be exhausted in accordance with Section M1502.

Add new standard(s) as follows:

# UL

2158-21

Electric Clothes Dryers

UL LLC  
333 Pfingsten Road  
Northbrook, IL 60062

**Staff Analysis:** The proposed standard is in the current edition of the IMC.

**Reason:** Requirements for clothes dryers need to be included in the IRC. This is necessary to align with the exhaust system requirements in Section 1502, which provides exceptions for certain types of listed and labeled clothes dryers. This does not require the clothes dryers to be installed when the building is constructed. This is in the same format of what is currently in Section 913 of the IMC.

**Cost Impact:** The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

**Justification for no cost impact:**

Listing of electrical appliances is already required by IRC M3404.3. This proposal clarifies the listing standard. It also provides pointers to existing code for exhaust requirements. The existing requirements in M1502 already reference these listings.

RM10-24

