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## **2021 GROUP A PROPOSED CHANGES TO THE I-CODES**

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Virtual Committee Action Hearings

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# CCCIRC1-21

IRC: CHAPTER 15

**Proponents:** Joseph Summers, representing Chair of PMGCAC (PMGCAC@iccsafe.org)

## 2021 International Residential Code

Revise as follows:

### CHAPTER 15 EXHAUST AND VENTILATION SYSTEMS

**Reason Statement:** The title change better clarifies the scope of the chapter.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/> Reference PMGCAC Working Document Item 40.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction

This change is to a section title only and does not change the code requirements. This proposal is purely editorial.

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CCCIRC1-21

# CCCIWUIC1-21

IWUIC: 603.2.3

**Proponents:** T. Eric Stafford, representing Insurance Institute for Business and Home Safety (estafford@ibhs.org); Milad Shabaniyan, representing Insurance Institute for Business and Home Safety (mshabaniyan@ibhs.org)

## 2021 International Wildland-Urban Interface Code

**Revise as follows:**

**603.2.3 Ground cover.** ~~Deadwood and litter shall be regularly removed from trees.~~ Where ornamental vegetative fuels or cultivated ground cover, such as green grass, ivy, succulents or similar plants are used as ground cover, they are allowed to be within the designated *defensible space*, provided that they do not form a means of transmitting fire from the native growth to any structure.

**Reason Statement:** This proposal is a clean-up. The text proposed to be deleted is related to the maintenance of defensible space and is already addressed in 604.4.2.

**“604.4.2 Deadwood removed.** Deadwood and litter shall be regularly removed from trees.”

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
This proposal is simply a clarification.

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CCCIWUIC1-21

# CCCIFC1-21

IFC: SECTION 202

**Proponents:** Kevin Scott, representing KH Scott & Associates LLC (khscottassoc@gmail.com)

## 2021 International Fire Code

**ADDITIVE MANUFACTURING.** A process of joining materials to make objects from 3D model data, usually layer upon layer, sometimes referred to as 3D printing. This code recognizes two types of additive manufacturing:

**Industrial additive manufacturing** 3D printing operations that typically utilize combustible powders or metals, an inert gas supply, a *combustible dust* collection system. or that create a hazardous (classified) location area or zone outside the equipment.

**Nonindustrial additive manufacturing** 3D printing operations that do not create a hazardous (classified) location area outside the equipment and do not utilize an inert gas supply or a *combustible dust* collection system.

**Reason Statement:** This is purely an editorial correction.

The definition for "industrial additive manufacturing" and "nonindustrial additive manufacturing" both state that the classification applies if the 3D printer creates a hazardous (classified) location.

However, the occurrence of a hazardous (classified) location is intended to only apply to industrial additive manufacturing processes. This proposal simply adds the "not" into the definition of nonindustrial additive manufacturing to correct this error.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
This proposal simply corrects the application of the definition and will not affect the cost of construction.

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CCCIFC1-21

# CCCIMC2-21

IMC: 1107.1, 1109.1, 1110.1

**Proponents:** Jeffrey Shapiro, representing IAR (jeff.shapiro@intlcodeconsultants.com)

## 2021 International Mechanical Code

**Revise as follows:**

**1107.1 Piping.** Refrigerant piping material ~~for other than R-717 (ammonia) systems~~ shall conform to the requirements in this section. ~~Piping material and installations for R-717 (ammonia) refrigeration systems shall comply with IAR 2.~~

**1109.1 General.** Refrigerant piping installations, ~~other than R-717 (ammonia) refrigeration systems,~~ shall comply with the requirements of this section. The design of refrigerant piping shall be in accordance with ASME B31.5.

**1110.1 General.** Refrigerant piping systems, ~~other than R-717 (ammonia) refrigeration systems,~~ that are erected in the field shall be pressure tested for strength and leak tested for tightness, in accordance with the requirements of this section, after installation and before being placed in operation. Tests shall include both the high- and low-pressure sides of each system.

**Exception:** *Listed and labeled equipment*, including compressors, condensers, vessels, evaporators, gas bulk storage tanks, safety devices, pressure gauges and control mechanisms, shall not be required to be tested.

**Reason Statement:** This change is editorial. As of the 2021 edition of the IMC, ammonia refrigeration systems are no longer regulated by IMC Chapter 11, per Section 1101.1.2. These references to ammonia systems resulted from simultaneous processing of two proposals last cycle that were not correlated. One proposal added piping requirements for all refrigerants, including ammonia, because it was based on the 2018 IMC, which included ammonia refrigeration systems. The other proposal created Section 1101.1.2, which entirely exempts ammonia refrigeration systems from Chapter 11, and then deleted all references to ammonia refrigeration systems that were in the 2018 IMC. Ideally, the newly added ammonia references would also have been deleted as the 2021 edition was prepared, since Section 1101.1.2 clearly made them irrelevant and incorrect, but that didn't happen.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. The proposal is editorial, fixing an error in the code.

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CCCIMC2-21

# CCCIRC3-21

IRC: M1505.3

**Proponents:** Joseph Summers, representing Chair of PMGCAC (PMGCAC@iccsafe.org)

## 2021 International Residential Code

**Revise as follows:**

**M1505.3 Exhaust and ventilation equipment** . Exhaust fans and whole-house mechanical ventilation fans shall be *listed* and *labeled* as providing the minimum required airflow in accordance with ANSI/AMCA 210-ANSI/ASHRAE 51.

**Reason Statement:** This section addresses not only exhaust equipment but also supply and balanced equipment used to provide ventilation air. As such, the section would be more aptly entitled, "exhaust and ventilating equipment."

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/> Reference PMGCAC Working Document Item 37.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This change is to a section title only and does not change the code requirements. This proposal is purely editorial.

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CCCIRC3-21

# CCCIFC4-21

IFC: 901.5, 901.6.1, TABLE 901.6.1

**Proponents:** Jeffrey Shapiro, representing Self (jeff.shapiro@intlcodeconsultants.com)

## 2021 International Fire Code

**Revise as follows:**

**901.5 Administration of installation acceptance testing.** Fire protection and *life safety* systems and appurtenances thereto shall be subject to acceptance tests as contained in the installation standards and as approved by the *fire code official*. The *fire code official* shall be notified before any required acceptance testing.

**901.6.1 Standards.** *Fire protection systems* shall be inspected, tested and maintained in accordance with the referenced standards *listed* in Table 901.6.1.

**Revise as follows:**



**TABLE 901.6.1**  
**FIRE PROTECTION SYSTEM INSPECTION, TESTING AND MAINTENANCE STANDARDS**

SYSTEM	STANDARD
Portable fire extinguishers	NFPA 10
Carbon dioxide fire-extinguishing systems	NFPA 12
Halon 1301 fire-extinguishing systems	NFPA 12A
Dry-chemical extinguishing systems	NFPA 17
Wet-chemical extinguishing systems	NFPA 17A
Water-based fire protection systems	NFPA 25
Fire alarm systems	NFPA 72
Smoke and heat vents	NFPA 204
Water-mist systems	NFPA 750
Clean-agent extinguishing systems	NFPA 2001
Aerosol fire-extinguishing systems	NFPA 2010

**Reason Statement:** Editorial change to delineate differences between Section 901.5 and 901.6. Currently, 901.6 covers all inspection, testing and maintenance, yet 901.5 is titled in a way that creates the appearance of a conflict, whereby 901.5 would seemingly include all testing associated with system acceptance. However, that's not the case, as technical provisions in 901.6 cover this. The proposed title change makes that clear and eliminate the appearance of a conflict between the sections based on the section titles. In addition, the re-titling of Table 901.6.1 correlates with the text that references this table in Section 901.6.1.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction Editorial change. No cost impact.

CCCIFC4-21

# CCCIFC6-21

IFC: 1001.1

**Proponents:** Jeffrey Shapiro, representing Self (jeff.shapiro@intlcodeconsultants.com)

## 2021 International Fire Code

### Revise as follows:

**1001.1 General.** Buildings or portions thereof shall be provided with a *means of egress* system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of *means of egress* components required to provide an *approved means of egress* from structures and portions thereof. Sections 1003 through 1031 shall apply to new construction. Section 1032 shall apply to existing buildings.

**Exception:** Detached one- and two-family *dwellings* and ~~multiple single-family *dwellings* (*townhouses*)~~ not more than three stories above *grade plane* in height with a separate means of egress and their accessory structures shall comply with the *International Residential Code*.

**Reason:** The change to IFC Section 1001 is editorial to get the term townhouse out of parentheses and eliminate the preceding text that describes what a townhouse is.

The words proposed to be struck are in the definition of "townhouse", they do not need to be reported here.

This was approved in the IBC by ADM32-16.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction

This change is intended to be editorial, simply updating terminology with no changes to how buildings are constructed.

# CCCIBC7-21

IBC: 408.8.4, 716.2.6

**Proponents:** John Woestman, Kellen Company, representing Builders Hardware Manufacturers Assoc. (BHMA)  
(jwoestman@kellencompany.com)

## 2021 International Building Code

### Revise as follows:

**408.8.4 Smoke-tight doors.** Doors in openings in partitions required to be smoke tight by Section 408.8 shall be substantial doors, of construction that will resist the passage of smoke. Latches and door ~~closures~~closers are not required on *cell* doors.

**716.2.6 Fire door hardware and ~~closures~~closers.** *Fire door* hardware and ~~closures~~closers shall be installed on *fire door assemblies* in accordance with the requirements of this section.

**Reason Statement:** This is editorial. During review of 2018 IBC and 2021 IBC revisions, noticed inappropriate use of "closures". Searching the I-Codes, there are 3 locations where "closures" should be replaced with "closers". This proposal is editorial, and has no effect on cost of construction.

Explanation: a closer is a device that provides closure of something that closes or shuts. Put another way, the closer closes the closure.

Other than the two sections in this proposal, the only other use of "closure" which should be revised to "closer" is in the IRC (2018 IRC text shown):

**G2426.7.1 (502.7.1) Door swing.** Appliance and equipment vent terminals shall be located such that doors cannot swing within 12 inches (305 mm) horizontally of the vent terminal. Door stops or ~~closures~~closers shall not be installed to obtain this clearance.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
Editorial. Improves the language of the codes.

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CCCIBC7-21

# CCCIBC8-21

IBC: 717.3.3.3

**Proponents:** Homer Maiel, PE, CBO, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com)

## 2021 International Building Code

**Revise as follows:**

**717.3.3.3 Combination fire/smoke damper actuation.** *Combination fire/smoke damper* actuation shall be in accordance with Sections 717.3.3.1 and 717.3.3.2. *Combination fire/smoke dampers* installed in smoke control system *shaft* penetrations shall not be activated by local area smoke detection unless it is secondary to the smoke ~~management~~ control system controls.

**Reason Statement:** Smoke management is a term that is being used in NFPA standards. Smoke control is being used in the I-Codes. A few cycles ago, I replaced all "smoke management" with "smoke control". I guess this one was missed.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
This is just a editorial change.

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CCCIBC8-21

# CCCIBC11-21

IBC: 3005.2

**Proponents:** Lee Kranz, representing Myself (lkranz@bellevuewa.gov)

## 2021 International Building Code

**Revise as follows:**

**3005.2 Venting Temperature control.** Elevator machine rooms, machinery spaces that contain the driving machine, and control rooms or spaces that contain the operation or motion controller for elevator operation shall be provided with an independent *ventilation* or air-conditioning system to protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures within the range established for the elevator equipment.

**Reason Statement:** The current title of this subsection is inaccurate. It is clear from reading the text of this subsection that there is an expectation to maintain an acceptable range of temperature in the machine room to prevent the elevator equipment from malfunctioning. The term 'temperature control' is a better description of the reason for this subsection.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This code change will not increase the cost of construction. The intent is to provide a better description of the purpose of the subsection and will not increase or decrease the cost.

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CCCIBC11-21

# CCCIBC13-21

IBC: SECTION 202, 714.5.4, 715.4.1, 715.8

Proponents: Michael O'Brian, representing FCAC (fcac@iccsafe.org)

## 2021 International Building Code

Revise as follows:

**[BF] T RATING.** The time period that the *penetration firestop system*, including the penetrating item, limits the maximum temperature rise to 325° F (181+63° C) above its initial temperature through the penetration on the nonfire side when tested in accordance with ASTM E814 or UL 1479.

**714.5.4 Penetrations in smoke barriers.** Penetrations in *smoke barriers* shall be protected by an approved *through-penetration firestop system* installed and tested in accordance with the requirements of UL 1479 for air leakage. The *L rating* of the system measured at 0.30 inch (~~7.47 Pa~~) of water (74.7 Pa) in both the ambient temperature and elevated temperature tests shall not exceed either of the following:

1. 5.0 cfm per square foot (0.025 m<sup>3</sup>/s × m<sup>2</sup>) of penetration opening for each *through-penetration firestop system*.
2. A total cumulative leakage of 50 cfm (0.024 m<sup>3</sup>/s) for any 100 square feet (9.3 m<sup>2</sup>) of wall area, or floor area.

**715.4.1 Fire test criteria.** *Perimeter fire containment systems* shall be tested in accordance with the requirements of ASTM E2307.

**Exception:** Voids created at the intersection of the exterior curtain wall assemblies and floor assemblies where the vision glass extends to the finished floor level shall be permitted to be protected with an *approved* material to prevent the interior spread of fire. Such material shall be securely installed and capable of preventing the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E119 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (~~0.254 mm~~) of water column (2.5 Pa) for the time period not less than the *fire-resistance rating* of the floor assembly.

**715.8 Joints and voids in smoke barriers.** *Fire-resistant joint systems* protecting *joints* in *smoke barriers*, and perimeter fire containment systems protecting voids at the intersection of a horizontal *smoke barrier* and an exterior curtain wall, shall be tested in accordance with the requirements of UL 2079 for air leakage. The L rating of the joint system shall not exceed 5 cubic feet per minute per linear foot (0.00775 m<sup>3</sup>/s m) of joint at 0.30 inch (~~74.7 Pa~~) of water (74.7 Pa) for both the ambient temperature and elevated temperature tests.

**Reason Statement:** This proposal editorially corrects the format of the metric pressure units in sections 715 and 714. It also editorially corrects the numerical value conversion from inch of water to Pa in 714.5.4 from 7.47 Pa to 74.7 Pa.

In addition, the definition for a T RATING in SECTION 202 DEFINITIONS incorrectly converts the temperature rise between °F and °C. When converting a temperature rise, the equation is °C = 5/9(°F). The 32° F portion of the equation for converting actual temperatures falls out of the equation.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. The proposal is strictly editorial.

CCCIBC13-21

# CCCIBC14-21

IBC: 722.2.1.4, TABLE 722.2.1.4(1)

**Proponents:** Tim Earl, representing The Gypsum Association (tearl@gbhinternational.com)

## 2021 International Building Code

**Revise as follows:**

**722.2.1.4 Concrete ~~W~~ walls with gypsum wallboard or plaster finishes.** The *fire-resistance rating* of cast-in-place or precast concrete walls with finishes of *gypsum wallboard* or plaster applied to one or both sides shall be permitted to be calculated in accordance with the provisions of this section.

**TABLE 722.2.1.4(1)**  
**MULTIPLYING FACTOR FOR FINISHES ON NONFIRE-EXPOSED SIDE OF CONCRETE OR CONCRETE MASONRY WALL**

TYPE OF FINISH APPLIED TO CONCRETE OR CONCRETE MASONRY WALL	TYPE OF AGGREGATE USED IN CONCRETE OR CONCRETE MASONRY			
	Concrete: siliceous or carbonate concrete masonry: siliceous or carbonate; solid claybrick	Concrete: sand-lightweight concrete masonry: clay tile; hollow clay brick; concrete masonry units of expanded shale and < 20% sand	Concrete: lightweight concrete masonry: concrete masonry units of expanded shale, expanded clay, expanded slag, or pumice < 20% sand	Concrete masonry: concrete masonry units of expanded slag, expanded clay, or pumice
Portland cement-sand plaster	1.00	0.75 <sup>a</sup>	0.75 <sup>a</sup>	0.50 <sup>a</sup>
Gypsum-sand plaster	1.25	1.00	1.00	1.00
Gypsum-vermiculite or perlite plaster	1.75	1.50	1.25	1.25
Gypsum wallboard	3.00	2.25	2.25	2.25

For SI: 1 inch = 25.4 mm.

- a. For Portland cement-sand plaster <sup>5</sup>/<sub>8</sub> inch or less in thickness and applied directly to the concrete or concrete masonry on the nonfire-exposed side of the wall, the multiplying factor shall be 1.00.

**Reason Statement:** This proposal simply revises the section title and table title to include the word “concrete,” since that is what section 722.2.1 covers. There are several pages of tables between section 722.2.1 and this section and table, so this will ensure users who go directly to this section do not mistakenly apply these provisions to other types of walls.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction  
 No cost impact, as this is simply adding clarification to the text.

CCCIBC14-21