

IGCC
CODE CHANGE PROPOSAL FORM
(See instructions on page 2)

Code: GC _____ – 11 (to be filled in by ICC)

Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: If the proposal is for a new section, indicate (new). **105.2.1**

Proponent: Name/Company/Representing (3.3.1): (NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)

Alan Shuman, President, National Association of State Fire Marshals, representing the National Association of State Fire Marshals; and Jim Tidwell, Tidwell Code Consulting, representing Self

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Revise as follows:

Delete Sec. 105.2.1: ~~105.2.1 Used materials, products and equipment. The use of used materials, products and equipment that meet the requirements of this code for new materials is permitted. Used equipment and devices shall be permitted to be reused subject to the approval of the code official.~~

Reason: There is no current prohibition on used materials and equipment; furthermore, Section 503 of the IGCC addresses the specifics of the utilization of used material, and this section specifically exempts fire protection equipment from the requirements. In addition, there are stipulations in the International Fire Code about how such used materials and equipment are to be addressed. The section is unnecessary and conflicts with the IFC.

From the International Fire Code:

104.7 Approved materials and equipment. All materials, equipment and devices *approved* by the *fire code official* shall be constructed and installed in accordance with such approval.

104.7.1 Material and equipment reuse. Materials, equipment and devices shall not be reused or reinstalled unless such elements have been reconditioned, tested and placed in good and proper working condition and *approved*.

From the IFC Commentary: “Used materials, equipment and devices are considered to have completed their life span; however, adequate substitutes are occasionally not available for existing items that have become obsolete but still serve a useful and practical purpose. In such cases, existing used equipment should be approved, provided the application is consistent with the purpose for which the equipment was designed, the function is the same as the “new” item, if one were available, and the intended use can be demonstrated as not compromising the public’s safety.”

Cost Impact:

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: If the proposal is for a new section, indicate (new). **507**

Proponent: Name/Company/Representing (3.3.1): (NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)

Alan Shuman, President, National Association of State Fire Marshals, representing the National Association of State Fire Marshals

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Revise as follows: Delete Section 507, Strawbale Construction.

Reason: Section 507 provides relatively comprehensive construction criteria for a particular type of construction. It is inappropriate and beyond the intent of the IGCC to create a construction regulation that includes structural, fire protection, weather protection and similar regulations. From the IGCC:

101.3 Intent. The purpose of this code is to safeguard the environment, public health, safety and general welfare through the establishment of requirements to reduce the negative potential impacts and increase the positive potential impacts of the built environment on the natural environment and building occupants, by means of minimum requirements related to: conservation of natural resources, materials and energy; the employment of renewable energy technologies, indoor and outdoor air quality; and building operations and maintenance.

102.1 General. This code is an overlay to the other International Codes. This code is not intended to be used as a stand alone construction regulation document or to abridge or supersede safety, health or environmental requirements under other applicable codes or ordinances.

507.4 Structure. Buildings constructed with straw bales shall comply with Sections 507.4.1 through 507.4.15 and the structural provisions of the *International Building Code*, except as otherwise provided for in Sections 507.4.1 through 507.4.15. The type of structural system used shall be a type allowed by the *International Building Code* and Sections 507.4.1 through 507.4.15.

This section clearly conflicts with the IBC by setting out alternative structural criteria for strawbale construction.

From the IBC:

101.3 Intent. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.

It is clear that the construction criteria contained in Section 507 of the IGCC are within the primary scope of the IBC. Just because the criteria are material-specific, the IGCC should not be given authority to supersede the IBC by creating construction requirements that are under the purview of the IBC Code Development Committees. The IBC regulates all other construction materials, and straw bales should be no different.

In addition to the scoping issues, there are several items of concern, including:

507.2.3 Ties. This paragraph is confusing, vague, and nebulous. Ties shall be 3-6 inches from faces, but otherwise equally spaced? Equally is understandable; however, “otherwise equally” leaves a lot of interpretive room. Also, this section states that the retied bales should be tied “firmly”. How firmly retied should the ties be? This is not good code language.

507.2.4 provides the criteria for moisture content of straw bales, and states that “At least 5 percent of and not less than 10 of the bales used shall be randomly selected and tested to determine if all of the bales for the building are of acceptable moisture content.” Moisture content is a very serious issue, and straw bales may vary widely in this regard. To test the moisture content in only five percent of the bales leaves too much to chance. Hay bales can self ignite, or can decompose over time if they aren’t dry enough.

Section 507.2.5 provides the criteria for the density of the bales, and requires that at least 2 percent of the bales to be used be tested. Testing only two percent of the bales for the correct density presents far too much risk. A baler may adjust the compaction rate at any time during the baling process, causing the density to change. What if a bale of hay fails when two percent are tested? Is the entire stock of bales rejected? Is another two percent tested? This section needs work.

Section 507.4.8.1 states that “plaster skins for structural strawbale walls shall be continuously supported along their bottom edge to facilitate the transfer of loads to the foundation system.” To our knowledge, plaster skins are not load bearing components of any acceptable wall system, and should not be used as such without significant justification.

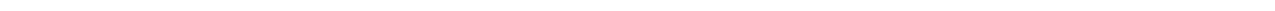
Section 507.6 states that “Strawbale walls constructed with plaster finishes in accordance with Sections 507.6.1 through 507.6.3 shall be deemed to meet the conditions of acceptance as outlined in ASTM Method E119 for fire resistance of non-load bearing walls.” Strawbale construction should not be exempt from fire testing assemblies required to have a fire rating.

There are many requirements in this section that are problematic; those outlined above are good examples. It should be pointed out that the submittal to include these construction requirements for strawbale construction did not include any technical justification for any of them.

Creating an entirely new class of construction within the Green Code is inappropriate on its face; to do so without technical justification places the entire process at risk.

Cost Impact: None

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF



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Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: If the proposal is for a new section, indicate (new). **604.4.1, 604.4.2, 604.4.3**

Proponent: Name/Company/Representing (3.3.1): (NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)

Alan Shuman, President, National Association of State Fire Marshals, representing the National Association of State Fire Marshals

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Revise as follows:

604.4.1 Gaseous fuels. Gaseous fuels including, but not limited to, natural gas, LP gas, coal gas, hydrogen, landfill gas, digester gas and biogas shall be capable of being *metered* at the *building site* to determine the gross consumption and peak demand of each different gaseous fuel by the *building* and each *building* on a *building site*. The installation of *gas meters* and related piping shall be in accordance with the *International Fuel Gas Code*. Installation of tanks and other storage media for gaseous fuels shall be in accordance with the *International Fire Code*.

604.4.2 Liquid fuels. Liquid fuels including, but not limited, to fuel oil, petroleum based diesel, kerosene, gasoline, bio diesel, methanol, ethanol and butane shall be capable of being *metered* at the *building site* to allow a determination of the gross consumption and peak demand of each liquid fuel use by the *building* and each *building* on a *building site*. The installation of *meters*, ~~and~~ related piping, tanks and storage of liquid fuels shall be in accordance with the *International Fire Code* and the *International Mechanical Code*.

604.4.3 Solid fuels. Solid fuels including, but not limited to coal, charcoal, peat, wood products, grains, and municipal waste shall be capable of having their use determined at the *building site* to allow a determination of the gross consumption and peak demand of each solid fuel use by the *building* and each *building* on a *building site*. Storage of solid fuels shall be in accordance with the *International Fire Code*.

Reason: References to the IFC are needed to guide the designer to those regulations regarding these specific installations, just as they are guided to the IFGC and the IMC for regulations contained in those codes.

Cost Impact:

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: If the proposal is for a new section, indicate (new). **606.1.2.5**

Proponent: Name/Company/Representing (3.3.1): (NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)

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Revise as follows: 606.1.2.5 Vestibules. Doors that separate *conditioned space* from the exterior shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time.

Exceptions:

1. Doors to mechanical or electrical equipment rooms.
2. Doors opening directly from a *sleeping unit* or *dwelling unit*.
3. Revolving doors.
4. Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.
5. Doors required by code for egress that are not main entry doors.
6. Doors required for fire department access by the *International Fire Code* that are not main entry doors.

Reason: The fire department access doors required for high piled stock warehouses are not used for entry or exit from the buildings, so should not be required to be protected with a vestibule. This is the same reasoning as exception 5, which has been approved by the committee.

Cost Impact: None

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: If the proposal is for a new section, indicate (new). **611.2.1**

Proponent: Name/Company/Representing (3.3.1): (NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)

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Revise as follows: **611.2.1 Requirements.** The installation, inspection, maintenance, repair and replacement of *solar photovoltaic systems* and all system components shall comply with the manufacturer's instructions, Sections 611.2.1.1 through 611.2.1.4, the International Fire Code, and NFPA 70.

Reason: The IFC in this cycle included comprehensive requirements for firefighter access to roofs equipped with PV systems, marking of system components, etc. These are firefighter safety criteria that should be referenced in the IGCC, just as the electrical code is referenced.

Cost Impact:

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: *If the proposal is for a new section, indicate (new).* **710.6.2**

Proponent: Name/Company/Representing (3.3.1): *(NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)*

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Revise as follows: 710.6.2 Source volume indication. The fire command center for the *building* shall be equipped with a device that indicates the volume of ~~non-potable~~ rainwater ~~water~~ contained in the collection reservoir. The indicator shall be *approved* and shall be in compliance with NFPA 72.

Reason: To be perfectly clear that the water being used under this section is rainwater, not some other non-potable water supply. This makes the section more consistent, as the term “rainwater” is used in the charging paragraph.

Cost Impact: None

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: If the proposal is for a new section, indicate (new). **710.7**

Proponent: Name/Company/Representing (3.3.1): (NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)

Alan Shuman, President, National Association of State Fire Marshals, representing the National Association of State Fire Marshals

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Revise as follows: 710.7 Non-potable water supply to fire pumps project elective. Where projects are intended to qualify for a *non-potable* water supply to fire pumps *project elective* in accordance with Section 303.4, one or more fire pumps shall be located within 200 feet of a source of ~~reclaimed or recycled water~~ a rainwater collection system of sufficient quality, pressure, and capacity for fire pump applications and the fire pumps shall be connected to such source of ~~reclaimed or recycled water~~ rainwater. The connections shall be in accordance with Section 403.3.2 of the *International Building Code*.

Reason: Reclaimed or recycled water is, by definition, wastewater that has been treated to some undefined standard. Many jurisdictions develop standards for reclaimed water to be utilized for irrigation purposes, and the level of contamination allowed is unhealthy for human consumption or contact. Allowing this contaminated water to be piped through a fire pump to a standpipe system or other fire protection system would expose firefighters and building occupants to unacceptable biological hazards unintended by the authors of the IGCC. Clearly stating that the intent of the Code is to permit the use of rainwater for fire protection will avoid unnecessary hazardous conditions in green buildings.

In addition to the health dangers, it should be noted that corrosion of piping and fittings in fire protection systems is an ongoing problem, and allowing treated wastewater in these systems presents the very real possibility that the corrosion and other impacts on the systems will grow worse.

Cost Impact: None

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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Code Sections/Tables/Figures Proposed for Revision (3.3.2); Note: If the proposal is for a new section, indicate (new). **Table 303.1**

Proponent: Name/Company/Representing (3.3.1): (NOTE: DO NOT USE ACRONYMS FOR YOUR COMPANY OR ORGANIZATIONAL NAME)

Alan Shuman, President, National Association of State Fire Marshals, representing the National Association of State Fire Marshals

Email Address: ashuman@sfm.ga.gov

Revise as follows: From Table 303.1, 710.7, delete row “710.7 Non-potable water supply to fire pumps”.

710.7	Non-potable water supply to fire pumps	<input type="checkbox"/>	<input type="checkbox"/>
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Reason: Allowing non-potable water supplies for fire protection (standpipes and sprinklers) introduces health and other biological hazards not previously encountered by firefighters and the public. Microorganisms growing in this medium are unknown and have the potential to significantly increase the health risk to firefighters operating inside a building, especially when the contaminated water is atomized, as in a sprinkler system. While the code sections relating directly to sprinkler systems (710.6) seem to indicate that rainwater is the only acceptable non-potable supply, this table and the section on fire pump water supply have no such limiting language. It should be made as clear as possible that the only non-potable water supply that is acceptable is rainwater – and that treated wastewater is not permitted.

An additional reason for not permitting non-potable water in these systems is that corrosion continues to be a significant problem in fire protection systems. Introducing new, unknown products may exacerbate the corrosion problem, leading to an actual reduction in the life span of these systems, effectively defeating any benefit arising from the use of non-potable water.

Cost Impact: None

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF