

# AZBO Code Review and Development Committee

## AZBO Code Review & Development Committee Amendments recommended for the 2009 ICC Codes

### 2009 INTERNATIONAL BUILDING CODE

#### Revision to: Table 1607.1

Revise as follows:

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
27. Residential		
One- and two-family dwellings		
Uninhabitable attics with limited storage <sup>i,j,k</sup>	<del>20</del> <u>40</u>	
Habitable attics and sleeping areas	<del>30</del> <u>40</u>	
(no other changes in item 27)		

**Reason:** Industry standards in Arizona indicate designers based their calculations on the 40 psf for all second floor areas.

**Committee Reason:** Although this does exceed the minimum requirements set forth by the code, the committee members representing the building industry indicated the homebuilders and designers preferred to continue with the 40 psf in bed room areas. The increased design would lessen deflection in floor systems, provide a uniform design for headers and lessen complaints from buyers.

#### Revision to: Sections 308.2, 308.3, 310.1, 310.2, (new) 424, 309.2.9, 1008.1.2

Replace with new text as follows:

**308.2, Group I-1.** This occupancy shall include buildings, structures, or parts thereof housing more than 10 persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides supervisory care services. The occupants are capable of responding to an emergency without physical assistance from staff. The group shall include, but not be limited to the following:

- Alcohol and drug abuse centers
- Assisted living centers
- Congregate care facilities
- Convalescent facilities
- Group homes
- Halfway houses
- Residential board and care facilities
- Social rehabilitation facilities

A facility such as the above with 10 or fewer persons shall be classified as a Group R-4 Condition 1, or shall comply with the International Residential Code in accordance with 101.2 where the building is in compliance with Section 424 of this code.

**308.3, Group I-2.** This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing, custodial, personal, or directed care on a 24-hour basis of more than 5 persons who are not capable of self-preservation by responding to an emergency situation without physical assistance from staff. This group shall include, but not be limited to the following:

- Child care facilities
- Detoxification facilities
- Hospitals
- Mental hospitals
- Nursing homes (both intermediate care and skilled nursing facilities)

This occupancy shall also include assisted living facilities providing personal or directed care on a 24-hour basis of more than 10 persons who are not capable of responding to an emergency situation without physical assistance from staff. Assisted living facilities providing personal or directed care on a 24-hour basis of 10 or fewer persons who are not capable of responding to an emergency situation without physical assistance from staff shall be classified as R-4 Condition 2.

**310.1 Group R-4.** Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living homes including not more than 10 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code and Section 424 or shall comply with the *International Residential Code* provided the building is protected by an *automatic sprinkler system* in accordance with Section 424.

**310.1.1 Condition 1.** This occupancy condition shall include facilities licensed to provide supervisory care services, in which occupants are capable of self-preservation by responding to an emergency situation without physical assistance from staff. Condition 1 facilities housing more than 10 persons shall be classified as group I-1.

**310.1.2 Condition 2.** This occupancy condition shall include facilities licensed to provide personal or directed care services, in which occupants are incapable of self-preservation by responding to an emergency situation without physical assistance from staff. Condition 2 facilities housing more than 10 persons shall be classified as Group 1-2.

**310.2 Definitions.** Delete the definition for **PERSONAL CARE SERVICE** and replace with the following: Assistance with activities of daily living that can be performed by persons without professional skills or professional training and includes the coordination or provision of intermittent nursing services and the administration of medications and treatments.

Delete the definition of **RESIDENTIAL CARE/ASSISTED LIVING FACILITY** and replace with the following: A building or part thereof housing a maximum of 10 persons, excluding staff, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides supervisory, personal, or directed care services. This classification shall include, but not be limited to, the following: residential board and care facilities, group homes, congregate care facilities, assisted living homes.

Add the following definitions:

**SUPERVISORY CARE SERVICE.** General supervision, including daily awareness of resident functioning and continuing needs.

**DIRECTED CARE SERVICE.** Care of residents, including personal care services, who are incapable of recognizing danger, summoning assistance, expressing need, or making basic care decisions.

Add a new **Section 424 ASSISTED LIVING HOMES**, as follows:

**424.1 Applicability.** The provisions of this section shall apply to a building or part thereof housing not more than 10 persons, excluding staff, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment, which provides licensed care services. Except as specifically required by this division, R-4 occupancies shall meet all the applicable provisions of Group R-3.

**424.2 General.** Building or portions of buildings classified as R-4 may be constructed of any materials allowed by this code, shall not exceed two stories in height nor be located above the second story in any building and shall not exceed two thousand square feet above the first story, except as provided in Section 506.

**424.3 Special Provisions.** R-4 occupancies having more than 2,000 square feet above the first story shall be of not less than one-hour fire-resistive construction throughout.

**424.3.1 Mixed Uses.** R-4 occupancies shall be separated from other occupancies as provided in Table 508.4.

**424.4 Access and Means of Egress Facilities**

**424.4.1 Accessibility.** R-4 occupancies shall be provided with at least one accessible route as provided in Section 1104.1.

## 424.4.2 Exits

**424.4.2.1 Number of Exits.** Every story, basement, or portion thereof shall have not less than two exits.

Exception: Basements and stories above the first floor containing no sleeping rooms used by residents may have only one means of egress as provided in Chapter 10.

**424.4.2.2 Distance to Exits.** The maximum travel distance shall comply with Section 1016, except that the maximum travel distance from the center point of any sleeping room to an exit shall not exceed 75 feet.

**424.4.2.3 Emergency Exit Illumination.** In event of a power failure, exit illumination shall be automatically provided from an emergency system powered by storage batteries or an onsite generator set installed in accordance with the International Electric Code.

**424.4.2.4 Emergency Escape and Rescue.** R-4 occupancies shall comply with the requirements of Section 1029, except that Exception #1 to 1029 does not apply to R-4 occupancies.

**424.4.2.5 Delayed Egress Locks.** In R-4 Condition 2 occupancies, delayed egress locks shall be permitted in accordance with 1008.1.4.4, Items 1, 2, 4, 5, and 6 or 1008.1.9.8.

## 424.5 Smoke Alarms and Sprinkler Systems.

**424.5.1 Smoke Alarms.** All habitable rooms and hallways in R-4 occupancies shall be provided with smoke alarms installed in accordance with Section 907.2.11.

**424.5.2 Sprinkler Systems.** R-4 occupancies shall be provided with a sprinkler system installed in accordance with 903.2.8. Sprinkler systems installed under this section shall be installed throughout, including attached garages, and in Condition 2 facilities, shall include concealed spaces of or containing combustible materials. Such systems may not contain unsupervised valves between the domestic water riser control valve and the sprinklers. In Condition 2 occupancies, such systems shall contain water flow switches electrically supervised by an approved supervising station, and shall sound an audible signal at a constantly attended location.

**1008.1.2, Door Swing,** delete the text of exception #4, and replace with the following;

4. Doors within or serving a single dwelling unit in Groups R-2 and R-3, as applicable in 101.2, and R-4.

**Reason:** The purpose of this amendment is to bring the provisions of the code into agreement with the licensing rules of the Arizona Department of Health Services. DHS license categories have a threshold of 10 residents to move from a residential home setting to an institutional setting. DHS rules (R9-10-701) state, "Assisted living home" or "home" means an assisted living facility that provides resident rooms to (10) or fewer residents, as distinct from an "assisted living center", which provides services to more than (10) persons. In addition, the license classifications to provide "personal care services" and "directed care services" to residents allow for residents to be bed-bound. The use of "Condition" distinctions is reflective of similar distinctions in I-occupancies.

Each state has unique agency programs for assisted living occupancies, which establish license categories based on numbers of residents and the familiar ambulatory/non-ambulatory distinction. Uniformity could be accomplished by either trusting health service agencies nationally to agree to uniform thresholds and other licensing characteristics, or by amending building codes to allow each state to adapt to that state's unique rules. If numerical thresholds are provided on a "fill in the blanks" basis, condition categories can be added or deleted, and definitions can be customized to match licensure definitions, the hazards associated with these facilities can be addressed comprehensively on a state-by-state basis.

The most hazardous scenario is a facility in an ordinary, un-rated residential structure, occupied by (10) bed-bound residents, supervised by a single caregiver. Provisions for exiting, smoke detectors, emergency illumination, sprinklers, et al, can substantially increase the chances of survival in a fire or other emergency for these residents.

**Revision to: 716.5.4 2007 Supplement**

**Revise as follows:** Add new exception:

4. Such walls are penetrated by ducted HVAC systems, have a required fire-resistance rating of 1 hour or less and are in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. For the purposes of this exception, a ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure's HVAC system. Such a duct system shall be constructed of sheet steel not less than 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals.

**Reason:** Currently the code is less restrictive for penetrations of a fire barrier than a fire partition. This proposal adds an additional exception for fire partitions. This proposal duplicates provisions of Section 716.5.2 Exception 3 as an exception 4 for fire partitions. It is logical to allow the exception for a wall type where the code places lesser restrictions on its use. This exception does not limit the size of a duct penetration as Exception 3 does currently. If this exception is acceptable for fire barriers, it should be acceptable for fire partitions.

**Revision to: Section 1210.2**

**Revise as follows:**

**1210.2 Walls.** Walls within 2 feet (610 mm) of service sinks, urinals and water closets shall have a smooth, hard, nonabsorbent surface, to a height of 4 feet (1219 mm) above the floor and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture.

**Reason:** The areas around service sinks are as susceptible to moisture as the urinals and water closets as splattering of water and other liquids is common place. Also, with the use of cleaning chemicals and other items that can and will be used at the service sinks makes the walls as subject to the effects experienced at the urinals and water closets.

**Revision to: 3109**

Revise as follows:

Section 3109 is hereby REPEALED

**Reason:** The requirements of this section do not comply with Arizona state law governing swimming pool enclosure requirements.

**2009 INTERNATIONAL RESIDENTIAL CODE**

**Revision to: TABLE R 301.5**

Revise as follows:

USE	LIVE LOAD
Attics with limited storage <sup>b,g</sup>	<del>20</del> <u>40</u>
Habitable attics and attics served with fixed stairs	<del>30</del> <u>40</u>
Sleeping rooms	<del>30</del> <u>40</u>

(No other changes to Table)

**Reason:** Industry standards in Arizona indicate designers based their calculations on the 40 psf for all second floor areas.

**Committee Reason:** Although this does exceed the minimum requirements set forth by the code, the committee members representing the building industry indicated the homebuilders and designers preferred to continue with the 40 psf in bed room areas. The increased design would lessen deflection in floor systems, provide a uniform design for headers and lessen complaints from buyers.

**Revision to: Section G2415.10**

**Proposal: G2415.10 (404.10) Minimum burial depth.** Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) below grade for metal piping and 18 inches (457mm) for plastic piping.

**Delete: G2415.10.1**

**Reason:** The distinction between metal piping and plastic piping in regards to burial depth is because the plastic piping is more susceptible to damage and needs the increased depth for protection.

The elimination of the section addressing individual outside appliances is because the risks are the same whether the line serves multiple appliances or a single appliance. With similar risks, similar depths should be required.

**Revision to: Section P2803.6.1**

**Revise as follows:**

**P2803.6.1 Requirements for discharge piping.** The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater except where the discharge is to the outdoors, not subject to freezing and the piping terminates not less than 6 inches (152mm) and not more than 12 inches (305mm) above grade.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping

12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.
14. Direct the discharge in a downward direction.

**Reason:** This change will allow the P & T pressure relief drain pipe to extend direct from the water heater to an exterior location where no freeze potential exists. This is consistent with the IPC Section 504.6.5 (IRC P2803.6.1.5) which allows the discharge to go directly outdoors. The 6” minimum termination height provides the required air gap. This proposed change does set a termination height limit of 12”. This method of drainage and termination is very common in locations that have previously utilized the Uniform Plumbing Code for over 50 years. No data exists to suggest this method has created unsafe conditions. The Committee reason for disapproval of Item P50-07/08 clarifies that the code allows a discharge pipe to terminate over a water heater drip pan. The code currently establishes drip pan drain terminations at 6” minimum and 24” maximum termination heights in IPC Section 504.7.2. If it’s safe to drain a discharge pipe to a drip pan using these heights, then it certainly would be no more harmful to use the similar heights for an outdoors termination.

This proposal improves the termination requirements.

This method is also more energy efficient by not creating a direct open pipe for air flow from and to the outdoors as will occur where an indirect waste receptor is utilized in the room with the water heater.

**Revision to: M1503.1**

**Revise as follows:**

Add new text as follows:

**M1503.1 General.** Range hoods shall discharge to the outdoors through a single wall duct. The duct serving the hood shall have a smooth interior surface, shall be airtight, and shall be equipped with a backdraft damper. Changes in size or direction shall be accomplished with a pre-manufactured transition fitting. Ducts serving range hoods shall not terminate in an attic or crawl space or areas inside the building. (No other changes)

**2009 INTERNATIONAL PLUMBING CODE**

**Revision to: Section 101**

**Add a new section 101.5 to read as follows:**

**101.5 Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

**Reason:** This provision is included in all the other International codes and needs to be included in the International Plumbing Code to maintain uniformity among the codes.

**Revision to: Section 504.6**

**Revise as follows:**

**504.6 Requirements for discharge piping.** The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater except where the discharge is to the outdoors, not subject to freezing and the piping terminates not less than 6 inches (152mm) and not more than 12 inches (305mm) above grade.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.

4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.
14. Direct the discharge in a downward direction.

**Reason:** This change will allow the P & T pressure relief drain pipe to extend direct from the water heater to an exterior location where no freeze potential exists. This is consistent with the IPC Section 504.6.5 (IRC P2803.6.1.5) which allows the discharge to go directly outdoors. The 6” minimum termination height provides the required air gap. This proposed change does set a termination height limit of 12”. This method of drainage and termination is very common in locations that have previously utilized the Uniform Plumbing Code for over 50 years. No data exists to suggest this method has created unsafe conditions. The Committee reason for disapproval of Item P50-07/08 clarifies that the code allows a discharge pipe to terminate over a water heater drip pan. The code currently establishes drip pan drain terminations at 6” minimum and 24” maximum termination heights in IPC Section 504.7.2. If it’s safe to drain a discharge pipe to a drip pan using these heights, then it certainly would be no more harmful to use the similar heights for an outdoors termination.

This proposal improves the termination requirements.

This method is also more energy efficient by not creating a direct open pipe for air flow from and to the out doors as will occur where an indirect waste receptor is utilized in the room with the water heater.

In many commercial tenant spaces it is common practice to locate a water heater above the lay-in ceiling in an attic or interstitial space. Many times these locations are above a restroom or storage room. IPC Section 802.3 would prohibit an indirect waste receptor in such locations. A drain pipe needs to extend beyond the room or space containing the water heater.

Also, IPC 802.3 prohibits indirect waste receptors in rest rooms and 504.6.2 requires an air gap in the same room as the water heater, thereby prohibiting water heaters in rest rooms. This change would allow a reasonable option where the need exists.

## **2009 INTERNATIONAL FUEL GAS CODE**

### **Revision to: Section 404.9**

**404.9 Minimum burial depth.** Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) below grade for metal piping and 18 inches (457mm) for plastic piping.

### **Delete: Section 404.9.1**

**Reason:** The distinction between metal piping and plastic piping in regards to burial depth is because the plastic piping is more susceptible to damage and needs the increased depth for protection.

The elimination of the section addressing individual outside appliances is because the risks are the same whether the line serves multiple appliances or a single appliance. With similar risks, similar depths should be required.

## **2009 INTERNATIONAL MECHANICAL CODE**

**No Changes**