Course Description

• This seminar addresses the key issues of the 2021 International Building Code® (IBC®) regarding the proper classification of buildings based on occupancy.

• The process for correctly evaluating a building for code compliance relies on the correct determination of occupancy classification(s).
Course Description

• Everything starts with occupancy classification!
• A clear understanding of the classification process provides the groundwork for the proper application of many other important code provisions.

Goal

• Participants will be able to assign the appropriate occupancy classification(s) based on IBC Chapter 3

Objectives

Upon completion, participants will be better able to:
1. Identify and describe the 26 specific occupancy groups established in the 2021 IBC.
2. Determine how occupant load can sometimes be important in the occupancy classification process.
3. Identify those areas, rooms and spaces that are to be regulated as incidental uses.
Occupancy Classification—Introduction
Evaluate the building for use and occupancy:
- How the space will be used.
- The abilities of the occupants to respond in an emergency.
- Specific requirements (levels of safety) related to the various occupancy groups.

Occupancy Classification—General Requirements
Section 302.1
Occupy Groups
- Structures are to be classified into one or more of the occupancy classifications established in the code.
- The 10 general types are further subdivided into 26 specific occupancies.
  - In addition, three of the specific occupancies are further subdivided into Conditions 1 and 2.
Occupancy Classification—General Requirements
Section 302.1

• Where a room or space is to be occupied for different types of uses at different times, all of the requirements applicable to each of the uses must be considered.
• Those buildings that contain two or more distinct occupancy classifications must comply with the provisions of Section 508 for mixed-occupancy buildings.
• Occupied roofs to be classified in group that occupancy most nearly resembles, based on fire safety and relative hazard.

Use vs. Occupancy

• "Use" and "Occupancy" are terms that differ in meaning and application within the IBC.
• "Use" describes the activity that occurs within the space, room or building.
  • "Use" is seldom utilized in the IBC as the scoping mechanism.
  • Examples include occupant load calculation and incidental uses.
• "Occupancy" describes the specific classification a "use" is assigned when applying the code to a space, room or building.
  • Almost all code provisions with application to a limited number of situations are regulated by "Occupancy".
  • Primary examples include allowable height and area, fire protection features and means of egress requirements.

Use vs. Occupancy

• Multiple uses do not necessarily create multiple occupancies.
• General occupancy classification is intended to include related support areas such as corridors, stairways, restrooms, mechanical equipment rooms, small storage areas, etc.
• Support areas of higher hazard are often regulated as incidental uses.
Occupancy Classification—
General Requirements
Section 302.1

- When in doubt, it is important that an occupancy classification be assigned that most nearly resembles those occupancies with similar fire safety and life safety risks.

Classification of Occupancies
Section 302

- Chapter 3 provides an extensive listing of various uses and their corresponding occupancy classifications.
- There are many special cases and exceptions.
- Unsure of classification? Ask for more information.
- If two or more distinct occupancy groups are present, the provisions of Section 508 will apply.

Occupancy Classification

- Occupant-related Hazards
  - Number of occupants.
  - Density of the occupants.
  - Age of the occupants.
  - Mobility of the occupants.
  - Awareness of the occupants.
Occupancy Classification

- Content-related Hazards
  - Density of contents.
  - Quantity of contents.
  - Type of contents.
  - Environment of contents.
  - Flammability of contents.

Incidental Uses

Section 509.2

- Prior to the discussion on the proper classification of buildings by occupancy, it is important to clarify the scope of Section 509 addressing incidental uses.
- Incidental uses have no relationship to:
  - Occupancy classification
  - Mixed occupancies
  - Incidental uses shall not be individually classified in accordance with Section 302.1.
  - Incidental uses shall be included in the building occupancies within which they are located.
Incidental Uses
Section 509
• Rooms or spaces that pose risks which aren’t addressed by the provisions specific to a general occupancy group:
  • Presence of combustible or hazardous material.
  • Presence of a hazardous activity or equipment.
• Limited to those found in Table 509.1.
• Regulated according to their hazard level.
• Regulated as part of primary occupancy.
• Not regulated as accessory occupancy.
• Not regulated under mixed occupancy provisions.
  • Limited to 10% of area of story in which located.

Incidental Uses Identification
Uses are those listed in Table 509.1, including:
• Furnace rooms where any piece of equipment exceeds a 400,000-Btu per hour input rating.
• Paint shops (where located in other than a Group F occupancy, and not when Group H occupancy).
• Laboratories in Group E occupancies.
• Vocational shops located in Group E occupancies.
• Laundry rooms over 100 square feet.
• Physical plant maintenance shops in Group I-2 occupancies.

Incidental Uses Classification
• Occupancy classification is consistent with the general classification of the area of the building in which the incidental use is located.
  • A refrigerant machinery room in a manufacturing building. Classified as Group E occupancy.
  • A physical plant maintenance shop in a hospital. Classified as Group I-2 occupancy.
Incidental Uses Classification

- Separated or Protected Per Table 509.1

Incidental Uses: Separation and Protection

- Intent is to isolate incidental use hazard from remainder of building, typically through use of:
  - Fire-resistance-rated separation; or
  - Smoke-resistant separation plus sprinkler system.
- Under certain conditions, sprinkler option cannot be substituted for fire-resistance-rated separation.
- Both fire-resistance-rated separation and automatic sprinkler system protection are mandated in limited cases.
Incidental Uses
Table 509.1

- Table 509.1 allows for the installation of an automatic sprinkler system provided the incidental use:
  - Is separated by construction capable of resisting passage of smoke.
  - Has doors that are automatic or self closing (no openings).
  - Has smoke dampers on air transfer openings in walls.

- Other:
  - Need not be fire-resistance rated.
  - Not required to be built as smoke partition (Section 710).

Separation
Section 509.4.1

Protection
Section 509.4.2
Protection
Section 509.4.2

Occupancy Classification

Occupancy Classification — General Requirements
Section 302.1

<table>
<thead>
<tr>
<th>Types of Use</th>
<th>General Occupancy Group</th>
<th>Occupancy Sub-Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Group B</td>
<td>None</td>
</tr>
<tr>
<td>Educational</td>
<td>Group E</td>
<td>None</td>
</tr>
<tr>
<td>Factory / Industrial</td>
<td>Group F</td>
<td>F-1, F-2</td>
</tr>
<tr>
<td>High Hazard</td>
<td>Group H</td>
<td>H-1, H-2, H-3, H-4, H-5</td>
</tr>
<tr>
<td>Institutional</td>
<td>Group I</td>
<td>I-1, I-2, I-3, I-4</td>
</tr>
<tr>
<td>Mercantile</td>
<td>Group M</td>
<td>None</td>
</tr>
<tr>
<td>Residential</td>
<td>Group R</td>
<td>R-1, R-2, R-3, R-4</td>
</tr>
<tr>
<td>Storage</td>
<td>Group S</td>
<td>S-1, S-2</td>
</tr>
<tr>
<td>Utility</td>
<td>Group U</td>
<td>None</td>
</tr>
</tbody>
</table>
Assembly Group A occupancies include buildings or portions of buildings where persons (usually 50 or more) gather for:

- Civic, social or religious functions.
- Recreation.
- Food and/or drink consumption.
- Awaiting transportation.
- Similar activities.

Small buildings and tenant spaces: Buildings or tenant spaces with an occupant load of 49 or less. The building or space is a stand-alone use and is not accessory to any other occupancy. The classification of Group B is appropriate.

Small assembly spaces: A room with an occupant load less than 50 and accessory to another occupancy is to be classified either as a part of that occupancy or as Group B.
Occupancy Classification—Assembly Section 303.1.2, #2

Small assembly spaces: Similar to Item #1, a room or space with a floor area of less than 750 square feet and accessory to another occupancy is to be classified as a part of that occupancy or as Group B.

Casino Gaming Area Associated with a Hotel

Occupancy Classification—Assembly Section 303.1.3

Associated with Group E: In a Group E educational occupancy, assembly areas that are accessory to the educational portions of the building may be classified as portions of the Group E.

Associated assembly rooms classified as Group E

Occupancy Classification—Assembly Section 303.1.4

Accessory to places of religious worship: In places of religious worship, accessory religious educational rooms and religious auditoriums with occupant loads of less than 100 need not be considered as separate occupancies.
Spaces in Group A fall into two basic groups:

- Those assembly uses that occur within a building (Groups A-1, A-2, A-3 and A-4).
- Those assembly uses that occur in structures primarily open to the exterior (Group A-5).

### Occupancy Classification—Assembly Section 303.2

**Group A-1**

**Characteristics**
- High occupant density
- Usually fixed seating
- Foyers/lobbies
- Stages, platforms or projection screen
- Low-light conditions
- Sizable occupant loads

**Examples**
- Motion picture theaters
- Symphony/concert halls
- Television/radio studios
- Performance theaters

**Group A-2**

**Characteristics**
- Consumption of food and/or drink (primary characteristic)
- Moderate occupant density
- Variable lighting levels
- Aisles not clearly defined
- Movable furnishings

**Examples**
- Banquet halls
- Casino gaming areas
- Nightclubs
- Taverns and bars
- Restaurants (including related kitchen)
**Occupancy Classification—Assembly**

**Section 303.5**

**Group A-4**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting levels can fluctuate</td>
<td>Arenas</td>
</tr>
<tr>
<td>Some food or drink consumption</td>
<td>Skating rinks</td>
</tr>
<tr>
<td>Spectator seating typically fixed</td>
<td>Gymnasiums</td>
</tr>
<tr>
<td>Medium to high density</td>
<td></td>
</tr>
</tbody>
</table>

**Examples**

- Arenas
- Skating rinks
- Gymnasiums

**Occupancy Classification—Assembly**

**Section 303.4**

**Group A-3**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate occupant density</td>
<td>Art galleries</td>
</tr>
<tr>
<td>Adequate lighting levels</td>
<td>Exhibition halls</td>
</tr>
<tr>
<td>Moderate fire loading</td>
<td>Libraries</td>
</tr>
<tr>
<td></td>
<td>Museums</td>
</tr>
<tr>
<td></td>
<td>Places of religious worship</td>
</tr>
</tbody>
</table>

**Examples**

- Art galleries
- Exhibition halls
- Libraries
- Museums
- Places of religious worship

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**Occupancy Classification—Assembly**

- Group A-3 is the default classification for assembly occupancies.

- If an assembly use cannot obviously be classified as one of the four other indoor Group A classifications, then it should be considered as a Group A-3 occupancy.
Occupancy Classification—Assembly
Section 303.6

Group A-5

**Characteristics**
- No enclosure to contain smoke, although spectator might be protected from rain and sun
- Limited or no conditioned air
- Most seating is fixed

**Examples**
- Amusement park structures
- Bleachers and reviewing stands
- Grandstands
- Stadiums

Occupancy Classification—Business
Section 304.1

Group B

**Characteristics**
- Many occupants are familiar with the premises
- Most occupants are adults capable of recognizing and effectively responding to “emergency situations”
- Moderate fire load

**Examples**
- Ambulatory care facilities
- Banks
- Barber/beauty shops
- Office areas
- Outpatient clinics
- Post offices
- Training and skill development

**Q&A**
- Is there an occupant load or floor area limit for “educational occupancies for students above the 12th grade” to be considered as Group B occupancies?
- Under what conditions would “training and skill development” be classified as a Group A?
Occupancy Classification—Educational Sections 305.1, 305.2

Group E

Characteristics
- Six or more occupants at a time
- Students younger than college age
- 2½ years to the 12th grade is the general default age for this classification

Examples
- High schools (through 12th grade)
- Middle schools
- Elementary schools
- Preschools
- Day care facilities (more than 5 children, older than 2½ years)

Occupancy Classification—Educational Section 308.5.1

- Infant/Toddler Care Classification as Group E:
  - A child care facility housing infants and toddlers is classified as Group E, rather than Group I-4, where:
    - More than 5, but no more than 100, children are 2½ years of age or less.
    - Rooms where such infants/toddlers are cared for are located on level of exit discharge.
    - Each of these infant/toddler care rooms has an exit door directly to the outside.

Occupancy Classification—Educational

- Group E—Day Care Facility
  - Minimum of one exit door directly to exterior at exit discharge level
  - Nursery 1 and 2 years
  - 2 years
  - 3 years
  - 4 years
  - Office
  - Multipurpose Room

Group E—Day Care Facility
**Occupancy Q&A**

- If there is a total of five or fewer children in an educational setting within a dwelling unit, what is the proper classification?
  - The condition is not much different from that of a large family. Therefore, such small educational facilities are to be classified as Group R-3 or may be designed and constructed under the provisions of the *International Residential Code*.
- What if the day care use is located in a building with another occupancy? What if it is located in a stand-alone condition with no other occupancy?

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**Occupancy Classification—Factory/Industrial**

**Section 306.1**

Group F occupancies are facilities where manufacturing operations and similar industrial activities occur, other than those classified as Group H. Operations may include assembling, fabricating, finishing, manufacturing, packaging, repair or processing work.

- F-1: where combustible materials are used in the operations.
- F-2: where all of the materials are noncombustible.

**Section 306.2**

Examples

- Aircraft, automobile, appliance and machine manufacturers
- Water/sewer treatment
- Clothing manufacturers
- Furniture makers
- Woodworking shops
- Energy storage systems in dedicated use buildings
Occupancy Classification—Factory/Industrial Section 306.3

Group F-2 Low-Hazard Factory

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
</table>
| • Similar to Group F-1, but no combustibles other than limited amounts in finishing, packing or processing operations | • Ceramic products  
• Glass products  
• Masonry manufacturing  
• Metal fabrication plant |

Occupancy Q&A

• What is the classification of an energy storage system (ESS) area in a mixed-use building?
  • The ESS area would be regulated as the same occupancy as the major occupancy served by the ESS.

Occupancy Classification—High Hazard Section 307.1

Group H occupancies:

• Involve the manufacturing, processing, generation or storage of materials that constitute a physical and/or health hazard.

• Quantities of such hazardous materials exceed those permitted within control areas as regulated by Section 414.2, based on Tables 307.1(1) and/or 307.1(2).


Occupancy Classification—High Hazard
Section 307.1.1

Conditions not considered as Group H: There are 19 conditions where a classification of Group H is not to be assigned.

Even if the structure meets one of these conditions, the applicable provisions of Section 414 and the International Fire Code® (IFC®) for such materials must be met.

Conditions not considered as Group H

- Application of flammable finishes in conformance with Section 416 of the IFC and the IBC.
- Sales and storage of flammable and combustible liquids in Group M occupancies if compliant with the IFC.
- Aerosol storage in conformance with the IFC.

Conditions not considered as Group H (cont.)

- Closed piping systems containing flammable or combustible liquids or gases utilized for operation of machinery or equipment.
- Dry cleaning establishments with specified safeguards.
- Liquor stores and distributors without bulk storage.
- Corrosive personal or household products in original packaging used in retail display.
Occupancy Classification—High Hazard
Section 307.1.1

Conditions not considered as Group H (cont.)

• Commonly used corrosive building materials.
• Refrigeration systems.
• Agricultural materials only stored or utilized on the premises.
• Stationary battery systems for facility emergency power.
• Personal and household products in retail display (not considered corrosives).
Occupancy Classification—High Hazard
Section 307.1.1

Conditions not considered as Group H

• Distilling or brewing of beverages conforming to requirements of the IFC.
• Storage of beer, distilled spirits and wines in barrels and casks conforming to the requirements of the IFC.

Occupancy Classification

• Where compliance with Section 307.1 is not met, Tables 307.1(1) and 307.1(2) can be applied to determine if buildings, structures or materials are exempt from the Group H classification.
• In accordance with Section 307.2, the design of high-hazard buildings must conform to additional requirements in the IFC and Section 414 of the IBC.

Occupancy Classification—High Hazard
Tables 307.1(1), 307.1(2)

• Use Table 307.1(1) for the maximum allowable quantities of materials posing a physical hazard.
• Use Table 307.1(2) for materials posing a health hazard.

If the quantity of hazardous materials does not exceed the total amount permitted, then the use is not considered a Group H occupancy.
Occupancy Classification—Example

**GIVEN:** A fully sprinklered Group F-1 industrial building housing Class II combustible liquids. The Class II liquids are all stored in approved safety cans. The entire building is to be considered as a single control area.

**DETERMINE:** The maximum allowable quantity of the Class II liquids in storage in order to maintain the Group F-1 classification.
Occupancy Classification—Example

SOLUTION:

Basic MAQs in accordance with Table 307.1(1) 120 gallons
Sprinkler increase in accordance with Note d (100%) 120 gallons
Safety can increase in accordance with Note e (100%) 240 gallons
Total of maximum quantity permitted for Group F-1 classification (storage only, no materials in use) 480 gallons

Assuming there will be some materials in use:

Basic MAQs in accordance with Table 307.1(1) 30 gallons
Sprinkler increase in accordance with Note d (100%) 30 gallons
Maximum amount permitted in use 60 gallons
Total of 480 gallons permitted with no more than 60 gallons in use (Note b) for classification as Group F-1.

Maximum Allowable Quantity Per Container, Tank, Vessel or Storage System

<table>
<thead>
<tr>
<th>Material</th>
<th>Container Size</th>
<th>Tank Volume</th>
<th>Vessel Volume</th>
<th>Storage System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,000 gallons</td>
<td>5,000 gallons</td>
<td>10,000 gallons</td>
<td>20,000 gallons</td>
</tr>
<tr>
<td></td>
<td>B1</td>
<td>B2</td>
<td>B3</td>
<td>B4</td>
</tr>
<tr>
<td></td>
<td>120 gallons</td>
<td>240 gallons</td>
<td>360 gallons</td>
<td>480 gallons</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Occancy Classification—High Hazard Section 414.2

Control Areas
If the amount of hazardous materials exceeds that provided by Table 307.1(1) or 307.1(2), it is still possible that a Group H occupancy does not exist.

Additional quantities are permitted in non-Group H buildings if they are properly distributed in control areas complying with Section 414.2.

Occancy Classification—High Hazard Section 202

Control Areas
• Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used or handled.

• A similar approach is provided in Section 428 for addressing laboratory suites in college and university settings.

Occancy Classification—High Hazard Section 414.2.1, 414.2.2

Control areas
• Must be separated from each other by fire barriers and/or horizontal assemblies.

• Are limited to a specified percentage of maximum allowable quantities based on the floor level under consideration (see Table 414.2.2).
Occupancy Classification—High Hazard
Section 414.2.3

Control areas

- Are limited to a maximum number per story as established by Table 414.2.2.
- Shall be separated with the minimum degree of fire resistance as established in Table 414.2.2 and Section 414.2.4.

<table>
<thead>
<tr>
<th>TABLE 414.2.2</th>
<th>DESIGN AND NUMBER OF CONTROL AREAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>STORY</td>
<td>PERCENTAGE OF THE MAXIMUM ALLOWABLE INFLAMMABLE LIQUID STORAGE, VOLUME</td>
</tr>
<tr>
<td>Above grade</td>
<td>100%</td>
</tr>
<tr>
<td>Below grade</td>
<td>75%</td>
</tr>
<tr>
<td>Below grade</td>
<td>50%</td>
</tr>
<tr>
<td>Below grade</td>
<td>25%</td>
</tr>
<tr>
<td>Below grade</td>
<td>Less than 5%</td>
</tr>
</tbody>
</table>

* Percentages shall be of the maximum allowable quantity per control area shown in Tables 414.2.2 and 414.2.4, with all increases allowed by the water in buildings.

A similar approach to the regulation of hazardous materials is established in Section 428 regarding laboratory suites.
Occupancy Classification—High Hazard

Where the amount of hazardous materials exceeds those permitted in complying control areas or laboratory suites, and is such that none of the conditions set forth in Section 307.1.1 are applicable, then the use is to be classified as a Group H occupancy.

There are 5 categories of Group H to address the hazards more directly.

- Oxidizers, Class 4
- Unstable (reactive) materials, Class 3 detonable and Class 4
- Explosives
- Detonable pyrophoric materials
- Organic peroxides, unclassified detonable

Occupancy Classification—High Hazard

Types of Materials by Group
Group H-1 (Section 307.3)
- Explosives
- Oxidizers, Class 4
- Detonable pyrophoric materials
- Unstable (reactive) materials, Class 3 detonable and Class 4
- Organic peroxides, unclassified detonable

Occupancy Classification—High Hazard

Types of Materials by Group
Group H-2 (Section 307.4)
- Combustible dust
- Flammable and combustible liquids (Class I, II and IIIA) in open systems
- Cryogenic fluids, flammable
- Organic peroxides, Class I
- Oxidizers, Class 3, in open systems
- Pyrophoric materials, nondetonable
- Unstable (reactive) materials, Class 3, nondetonable
- Water-reactive materials, Class 3
- Flammable gases
### Occupancy Classification—High Hazard

#### Types of Materials by Group

**Group H-3 (Section 307.5)**
- Combustible fibers
- Flammable and combustible liquids (Class I, II and IIIA) in closed systems
- Flammable solids
- Organic peroxides, Classes II and III
- Oxidizers, Class 2

**Group H-4 (Section 307.6)**
- Corrosives
- Toxic materials
- Highly toxic materials

**Group H-5 (Section 307.7)**
- Oxidizers, Class 3, in closed systems
- Oxidizing gases
- Unstable (reactive) materials, Class 2
- Water-reactive materials, Class 2
- Organic peroxides, Classes II and III
- Oxidizing gases
- Unstable (reactive) materials, Class 2
- Water-reactive materials, Class 2
- Cryogenic fluids, oxidizing
- Consumer fireworks, 1.4G (Class C, Common)

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### Occupancy Classification—High Hazard

**Types of Materials by Group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group H-3 (Section 307.5)</strong></td>
<td>- Combustible fibers&lt;br&gt;- Flammable and combustible liquids (Class I, II and IIIA) in closed systems&lt;br&gt;- Flammable solids&lt;br&gt;- Organic peroxides, Classes II and III&lt;br&gt;- Oxidizers, Class 2</td>
</tr>
<tr>
<td><strong>Group H-4 (Section 307.6)</strong></td>
<td>- Corrosives&lt;br&gt;- Toxic materials&lt;br&gt;- Highly toxic materials</td>
</tr>
<tr>
<td><strong>Group H-5 (Section 307.7)</strong></td>
<td>- Oxidizers, Class 3, in closed systems&lt;br&gt;- Oxidizing gases&lt;br&gt;- Unstable (reactive) materials, Class 2&lt;br&gt;- Water-reactive materials, Class 2&lt;br&gt;- Organic peroxides, Classes II and III&lt;br&gt;- Oxidizing gases&lt;br&gt;- Unstable (reactive) materials, Class 2&lt;br&gt;- Water-reactive materials, Class 2&lt;br&gt;- Cryogenic fluids, oxidizing&lt;br&gt;- Consumer fireworks, 1.4G (Class C, Common)</td>
</tr>
</tbody>
</table>

### Occupancy Classification—Required Information

- Section 414.3 references the need for submittal to the building official:
  - A report and opinion prepared by a qualified person or firm, identifying the maximum expected quantities of hazardous material based on the material classification categories established in Tables 307.1(1) and 307.1(2).
  - Report to include methods of protection from hazards, including use of control areas, fire protections systems and Group H occupancies.
  - Expert opinion to be utilized to assist building official in addressing hazards, recommending safeguards and assigning proper occupancy classification.
Occupancy Classification—Institutional

- Group I—Characteristics
  - People are cared for or live in a supervised environment.
  - People with physical limitations because of health or age are harbored for medical treatment or other care/treatment.
  - People who are detained for penal or correctional purposes or in which the liberty of the occupants is restricted.

Examples

- Group homes
- Rehabilitation facilities
- Halfway houses
- Assisted living facilities
- Residents require assistance with day-to-day living tasks.
- Housed on a 24-hour basis.
- Custodial care includes persons who evacuate at a slower rate.
- Residents may have mental and psychiatric complications.

Occupancy Classification—Institutional

Group I-1 (Section 308.2)

Characteristics

- More than 16 occupants (not including staff).
- Residents require assistance with day-to-day living tasks.
- Housed on a 24-hour basis.
- Custodial care includes persons who evacuate at a slower rate.
- Residents may have mental and psychiatric complications.

Examples

- Group homes
- Rehabilitation facilities
- Halfway houses
- Assisted living facilities

Occupancy Classification—Institutional

Group I-1 (Section 308.2)

- Group I-1, Condition 1
  - All persons receiving custodial care are capable, without assistance, of responding to an emergency situation to complete building evacuation or relocation.
- Group I-1, Condition 2
  - Any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation or relocation.
Occupancy Classification - Q&A

What is considered as requiring "limited verbal or physical assistance"?

- Applies to persons who, because of age, physical limitations, cognitive limitations, treatment or chemical dependency, and may not independently recognize, respond or evacuate without limited verbal or physical assistance during an emergency situation.
  - Limited verbal assistance includes prompting, giving and repeating instructions.
  - Limited physical assistance includes assistance with transfers to walking aids or mobility devices and assistance with egress.

Occupancy Classification—Institutional

Group I-2 (Section 308.3)

**Characteristics**
- Used for medical care activities for six or more persons.
- Receive 24-hour care.
- May be semi-aware or semi-ambulatory, but not capable of self-preservation.

**Examples**
- Hospitals
- Detoxification facilities
- Nursing homes
- 24-hour infant/toddler care facilities (foster care facilities)

Group I-2 (Section 308.3)

- Group I-2, Condition 1
  - Nursing homes, foster care facilities and similar uses that provide nursing and medical care but do not provide emergency care, surgery and obstetrics.
- Group I-2, Condition 2
  - Hospitals and similar facilities that provide nursing and medical care, and could also provide emergency care, surgery and obstetrics.
Occupancy Classification - Q&A

• Are convalescent facilities considered as Group I-1 if the residents are incapable of self-preservation for some period of time?

• How are alcohol and drug centers to be classified if lockdown of the residents is possible?

Occupancy Classification—Institutional

**Group I-3 (Section 308.4)**

**Characteristics**
- More than 5 occupants (not including staff).
- Supervised.
- Physically restricted from evacuating the building.

**Examples**
- Detention centers
- Jails
- Prerlease centers
- Prisons

Further classified into 5 occupancy conditions based on capability of free movement within facility.

Occupancy Classification—Q&A

• What is a facility classified that has 5 or fewer individuals restrained or secured, such as a drunk tank at a sports arena or a viewing room in a jewelry store?
### Occupancy Classification—Institutional

**Group I-4 (Section 308.5)**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>• More than 5 occupants.</td>
<td>• Adult care facilities</td>
</tr>
<tr>
<td>• Any age.</td>
<td>• Child care facilities</td>
</tr>
<tr>
<td>• Receive custodial care for less than 24 hours a day.</td>
<td></td>
</tr>
<tr>
<td>• Occupants have ability to respond to emergency situations.</td>
<td></td>
</tr>
<tr>
<td>• May require limited verbal or physical assistance.</td>
<td></td>
</tr>
</tbody>
</table>

**Group I-4 (Section 308.5.1)**

- **NOTE:** Child day care facilities are classified as Group E if all of the following apply:
  - More than 5 but not more than 100 children, 2½ years of age or less.
  - Rooms where such children are located are on the level of exit discharge.
  - Each such room has an exit door directly to the outside.

### Occupancy Classification—Mercantile

**Group M (Section 309.1)**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Display, sell and stock merchandise.</td>
<td>• Retail stores</td>
</tr>
<tr>
<td>• If merchandise is hazardous, see Table 414.2.5(1) for quantity limits.</td>
<td>• Motor fuel-dispensing facilities</td>
</tr>
</tbody>
</table>

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**Occupancy Classification—Mercantile**

- Motor vehicle service stations
  - Group M applies to buildings that provide fuel and/or retail facilities only, and not to areas having facilities for vehicle repair.
  - Structures with facilities for vehicle service and/or repair are to be classified as Group S-1 (Section 311.2).

**Occupancy Classification—Mercantile**

![Diagram showing Group M—Service Station with Group S-1 Repair Facility]

**Occupancy Classification—Residential**

- Residential occupancies fall into two categories:
  - Transient (Group R-1)
  - Nontransient (Group R-2)
  - Transient/Nontransient (Groups R-3 and R-4)

  Transient—Occupancy of a dwelling unit or sleeping unit for not more than 30 days.
  - In addition, residential occupancies are regulated as dwelling units and sleeping units.
### Occupancy Classification—Residential

**Group R-1 (Section 310.2)**

**Characteristics**
- Occupants are primarily transient.
- Includes sleeping units and/or dwelling units.

**Examples**
- Hotels
- Motels
- Boarding houses (transient)*
- Bed and breakfast establishments*

* Congregate living facilities for transient occupants are classified as Group R-3 occupancies where the occupant load is 10 or less.

---

### Occupancy Classification Discussion Q&A

- What is the classification of a transient residential occupancy (hotel) composed of individual detached dwelling units, such as 20 cabins rented out on a per-night basis?
### Occupancy Classification—Residential

#### Group R-2 (Section 310.3)

**Characteristics**
- Occupants are primarily permanent.
- Consists of congregate living facilities or apartment buildings (3 or more dwelling units).

**Examples**
- Apartment houses
- Dormitories*
- Fraternities and sororities*
- Monasteries and convents*

---

#### Group R-2 (Section 310.3)

* Congregate living facilities (nontransient) with 16 or fewer occupants are classified as Group R-3 occupancies.

---

#### Group R-3 (Section 310.4)

**Characteristics**
- Occupants not transient in nature.
- Typically small occupant loads.

**Examples**
- One- and two-family dwellings outside the scope of the IRC.*
- Smaller congregate living facilities.
- Adult care and child care facilities for 5 or fewer persons for less than 24 hours.
Occupancy Classification—Residential

• Group R-3 (Section 310.4)
*Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with separate means of egress are typically regulated by the IRC, so the IBC is not applicable.

Occupancy Classification—Residential

Section 310.4

• Group R-3 occupancies also include:
  • Care facilities providing accommodations for 5 or fewer persons receiving care,
  • Congregate living facilities (transient) with 10 or fewer occupants,
  • Congregate living facilities (nontransient) with 16 or fewer occupants,
  • Lodging houses (such as bed-and-breakfasts) with 5 or fewer guest rooms and 10 or fewer occupants,
  • Owner-occupied lodging houses with 5 or fewer guest rooms and 10 or fewer total occupants permitted to be constructed per the IRC.

Occupancy Classification—Residential

Group R-4 (Section 310.5)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care facilities having more than 5 but not more than 16 occupants, excluding staff.</td>
<td>Residential care facilities</td>
</tr>
<tr>
<td></td>
<td>Assisted living facilities</td>
</tr>
</tbody>
</table>
Occupancy Classification—Residential

Group R-4 (Section 310.5)

• Group R-4, Condition 1
  • All persons receiving custodial care are capable, without assistance, of responding to an emergency situation to complete building evacuation or relocation.

• Group R-4, Condition 2
  • Any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation or relocation.

Occupancy Classification—Residential

Section 310.5

• Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided.

Occupancy Classification—Storage

• Group S classifications are similar to those in the Group F categories.
  • Classification as Group H required where determined by Section 307.

• Those storage occupancies classified as Group S-1 typically contain some degree of combustible materials.

• No storage of combustible materials is anticipated in Group S-2 occupancies.
Occupancy Classification—Storage

- Room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy. (Section 311.1)
  - No limits on floor area
  - Application based upon how "accessory" is defined

Examples

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage of primarily combustible materials that do not qualify as hazardous materials beyond the exempt amount permitted (see Section 307).</td>
<td>Clothing, woolen wearing apparel, silks</td>
</tr>
<tr>
<td></td>
<td>Furniture storage</td>
</tr>
<tr>
<td></td>
<td>Motor vehicle repair garages</td>
</tr>
<tr>
<td></td>
<td>Paper products</td>
</tr>
<tr>
<td></td>
<td>Tires, bulk storage</td>
</tr>
</tbody>
</table>

Group S-1, Moderate Hazard (Section 311.2)

Examples

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage of primarily combustible materials that do not qualify as hazardous materials beyond the exempt amount permitted (see Section 307).</td>
<td>Food product storage</td>
</tr>
<tr>
<td></td>
<td>Glass storage</td>
</tr>
<tr>
<td></td>
<td>Metal storage</td>
</tr>
<tr>
<td></td>
<td>Parking garages</td>
</tr>
<tr>
<td></td>
<td>Pottery storage</td>
</tr>
</tbody>
</table>
Occupancy Classification—Utility and Miscellaneous

Group U occupancies include buildings of an accessory character and miscellaneous structures not classified in any other specific occupancy.

- Limited regulations established due to anticipation of limited fire and life hazards
- Includes non-occupiable structures that may need to be regulated for structural purposes, location on lot, etc.

Examples
- Agricultural buildings
- Barns
- Carports
- Tanks and towers
- Livestock shelters
- Private garages
- Stables

Greenhouses

- Greenhouses not classified as another occupancy to be classified as Group U occupancies. (Section 312.1.1).
Occupancy Classification—Q&A

• What is the classification of an agricultural building that has occasional public use, such as a livestock show or equestrian lessons?
• What about a greenhouse that is a portion of a home improvement center?

Occupancy Classification—Summary

• Once the occupancy classification(s) determination is complete, it is now possible to begin application of the remainder of the code.
Final Reflection

This slide will help the learner to reflect on the day and what they will take back to the job and apply.

• **What?** What happened and what was observed in the training?
• **So what?** What did you learn? What difference did this training make?
• **Now what?** How will you do things differently back on the job as a result of this training?

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