

Chapter 3: Use and Occupancy Classification

General Comments

Chapter 3 provides for the classification of buildings, structures and parts thereof based on the purpose or purposes for which they are used.

Section 302 identifies the occupancy groups into which all buildings, structures and parts thereof must be classified.

Sections 303 through 312 identify the occupancy characteristics of each group classification. In some sections, specific group classifications having requirements in common are collectively organized such that one term applies to all. For example, Groups A-1, A-2, A-3, A-4 and A-5 are individual groups. The general term Group A, however, includes each of these individual groups. For this reason, each specific assembly group classification is included in Section 303.

Definitions play a key role in determining the occupancy classification. All definitions are located in Chapter 2. This chapter lists key definitions for classification of occupancies.

In the early years of building code development, the essence of regulatory safeguards from fire was to provide a reasonable level of protection to property. The idea was that if property was adequately protected from fire, then the building occupants would also be protected.

From this outlook on fire safety, the concept of equivalent risk has evolved in the code. This concept maintains that, in part, an acceptable level of risk against the damages of fire respective to a particular occupancy type (group) can be achieved by limiting the height and area of buildings containing such occupancies according to the building's construction type (i.e., its relative fire endurance).

The concept of equivalent risk involves three interdependent considerations: 1. The level of fire hazard associated with the specific occupancy of the facility; 2. The reduction of fire hazard by limiting the floor areas and the height of the building based on the fuel load (combustible contents and burnable building components); and 3. The level of overall fire resistance provided by the type of construction used for the building.

The interdependence of these fire safety considerations can be seen by first looking at Tables 601 and 602, which show the fire-resistance ratings of the principal structural elements comprising a building in relation to the five classifications for types of construction. Type

I construction is the classification that generally requires the highest fire-resistance ratings for structural elements, whereas Type V construction, which is designated as a combustible type of construction, generally requires the least amount of fire-resistance-rated structural elements. If one then looks at Tables 504.3, 504.4 and 506.2, the relationship among group classification, allowable heights and areas and types of construction becomes apparent. Respective to each group classification, the greater the fire-resistance rating of structural elements, as represented by the type of construction, the greater the floor area and height allowances. The greater the potential fire hazards indicated as a function of the group, the lesser the height and area allowances for a particular construction type.

As a result of extensive research and advancements in fire technology, today's building codes are more comprehensive and complex regulatory instruments than they were in the earlier years of code development. While the principle of equivalent risk remains an important component in building codes, perspectives have changed and life safety is now the paramount fire issue. Even so, occupancy classification still plays a key part in organizing and prescribing the appropriate protection measures. As such, threshold requirements for fire protection and means of egress systems are based on occupancy classification (see Chapters 9 and 10).

Other sections of the code also contain requirements respective to the classification of building groups. For example, Section 705 addresses requirements for exterior wall fire-resistance ratings that are tied to the occupancy classification of a building and Section 803.9 contains interior finish requirements that are dependent upon the occupancy classification

Purpose

The purpose of this chapter is to classify a building, structure or part thereof into a group based on the specific purpose for which it is designed or occupied. Throughout the code, group classifications are considered a fundamental principle in organizing and prescribing the appropriate features of construction and occupant safety requirements for buildings, especially general building limitations, means of egress, fire protection systems and interior finishes.

SECTION 301 GENERAL

301.1 Scope. The provisions of this chapter shall control the classification of all buildings and structures as to use and occupancy.

❖ As used throughout the code, the classification of an occupancy into a group is established by the requirements of this chapter. The purpose of these provisions is to provide rational criteria for the classification of various occupancies into groups based on their relative fire hazard and life safety properties. This is necessary because the code utilizes group classification as a fundamental principle for differentiating requirements in other parts of the code related to fire and life safety protection.

SECTION 302 CLASSIFICATION

302.1 General. Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed in this section. A room or space that is intended to be occupied at different times for different purposes shall comply with all of the requirements that are applicable to each of the purposes for which the room or space will be occupied. Structures with multiple occupancies or uses shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically provided for in this code, such structure shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard involved.

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.
2. Business (see Section 304): Group B.
3. Educational (see Section 305): Group E.
4. Factory and Industrial (see Section 306): Groups F-1 and F-2.
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5.
6. Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4.
7. Mercantile (see Section 309): Group M.
8. Residential (see Section 310): Groups R-1, R-2, R-3 and R-4.
9. Storage (see Section 311): Groups S-1 and S-2.
10. Utility and Miscellaneous (see Section 312): Group U.

❖ This section requires all structures to be classified in one or more of the groups listed according to the structure's purpose and function (i.e., its occupancy). By organizing occupancies with similar fire hazard and life safety properties into groups, the code has incorporated the means to differentiate occupancies such that various fire protection and life safety requirements can be rationally organized and

applied. Each specific group has an individual classification. Each represents a different characteristic and level of fire hazard that requires special code provisions to lessen the associated risks. There are some group classifications that are very closely related to other specific groups and, therefore, are collectively referred to as a single group (e.g., Group F applies to Groups F-1 and F-2). In these cases, there are requirements within the code that are common to each specific group classification. These common requirements are applicable based on the reference to the collective classification. For example, the automatic sprinkler system requirement of Section 903.2.8 applies to each specific group classification (R-1, R-2, R-3 and R-4) listed under the term "Group R." Although many requirements applicable to a general occupancy classification are the same for all of the subclassifications within the occupancy group, there are enough differences to warrant the division of the general category into two or more specific classifications.

Example: Both a restaurant (Group A-2) and a church (Group A-3) are included in Group A, but they have different specific group classifications. Both Groups A-2 and A-3 are subject to the same travel distance limitations (see Table 1017.1) and corridor fire-resistance ratings (see Table 1020.1), but have different thresholds for when automatic sprinkler systems are required (see Section 903).

Buildings that contain more than one occupancy group are mixed occupancy buildings. Buildings with mixed occupancies must comply with one of the design options contained in Section 508. Options established in Section 508 include the regulation of the mixed-occupancy conditions as accessory occupancies, nonseparated occupancies or separated occupancies.

Occasionally, a building or space is intended to be occupied for completely different purposes at different times. For instance, a church hall might be used as a day care center during weekdays and as a reception hall for weddings and other similar events at other times. In these cases, the code provisions for each occupancy must be satisfied.

In cases where a structure has a purpose that is not specifically identified within any particular occupancy classification, that structure is to be classified in the group that it most closely resembles. Before an accurate classification can be made, however, a detailed description of the activities or processes taking place inside the building, the occupant load and the materials and equipment used and stored therein must be submitted to the building official. The building official must then compare this information to the various occupancy classifications, determine which one the building most closely resembles and classify the building as such.

Example: A designer presents the building official with a building needing an occupancy group classification. The building official is informed that the build-

ing is to be used as an indoor shooting gallery, open to the public but used mostly by police officers. After reviewing the code, the official cannot find a specific reference to a shooting gallery in Sections 303 through 312 or in the associated tables. The building official asks the designer for additional information about the activities to be conducted in the building and is told that there will be a small sign-in booth, patron waiting/viewing area and the actual shooting area. Based on this information, the building official can determine that the most logical classification of the building is Group A-3, assembly. This classification is based on the fact that the building is used for the congregation of people for recreation. A shooting gallery is similar in many respects to a bowling center, which is classified as Group A-3 (see Commentary Figure 302.1).

**SECTION 303
ASSEMBLY GROUP A**

303.1 Assembly Group A. Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation.

❖ Because of the arrangement and density of the occupant load associated with occupancies classified in the Group A assembly category, the potential for multiple fatalities and injuries from fire is comparatively high. For example, no other use listed in Section 302.1 contemplates occupant loads as dense as 5 square feet (0.46 m²) per person (see Table 1004.1.1). Darkened spaces in theaters, nightclubs and similar spaces serve to increase hazards. In sudden emergencies, the congestion caused by large numbers of people rushing to exits can cause panic conditions. For these and many other reasons, there is a relatively high degree of hazard to life safety in assembly facilities. The relative hazards of assembly occupancies are reflected in the height and area limi-

tations of Tables 504.3, 504.4 and 506.2, which are, in comparison, generally more restrictive than for buildings in other group classifications.

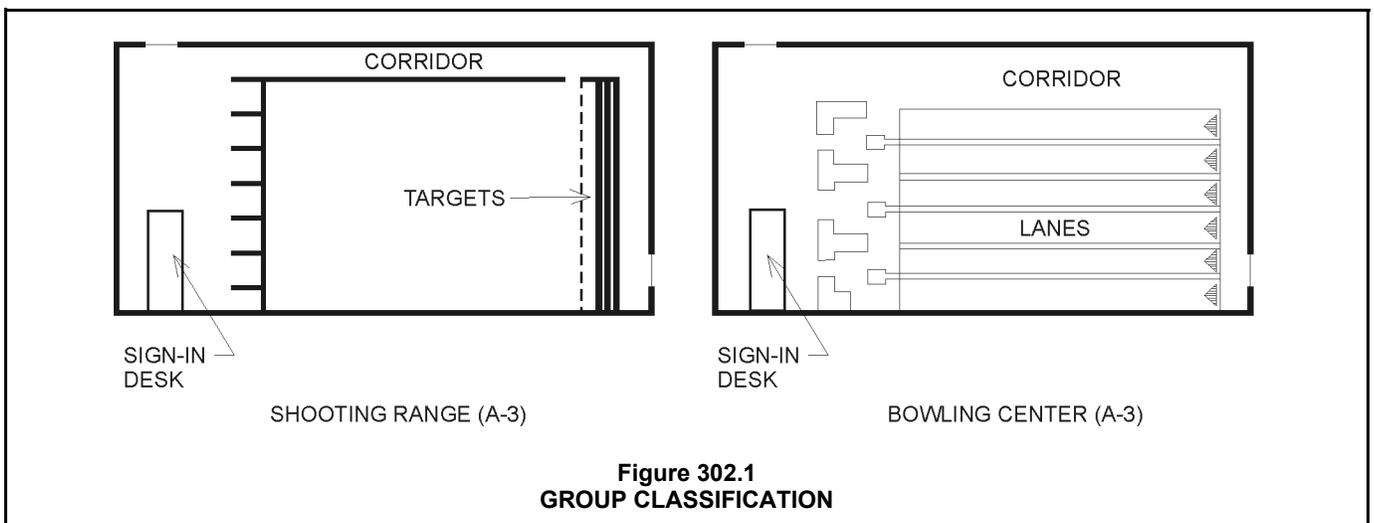
A room or space with an occupant load of 50 or more persons should not be automatically classified as Group A. However, if a room or space is used for assembly purposes (i.e., gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption; or awaiting transportation per Section 303.1) and the occupant load is 50 or more, Group A is likely to be the appropriate designation. Other uses can have an occupant load of more than 50 in a space or room—for example, a large office space, a grocery store or the main floor of a major retail business—but these are not assembly occupancies.

There are five specific assembly group classifications, Groups A-1 through A-5, described in this section. Where used in the code, the general term “Group A” is intended to include all five classifications.

The fundamental characteristics of all assembly occupancies are identified in this section. Structures that are designed or occupied for assembly purposes must be placed in one of the assembly group classifications. There are buildings and spaces which are used for assembly purposes, but are not classified as assembly occupancies. The “exceptions” to this rule include small assembly buildings, tenant spaces and assembly spaces in mixed-use buildings. These exceptions to the Group A classification are addressed in Sections 303.1.1 through 303.1.4.

303.1.1 Small buildings and tenant spaces. A building or tenant space used for assembly purposes with an *occupant load* of less than 50 persons shall be classified as a Group B occupancy.

❖ There are often small establishments that typically serve food and have a few seats that technically meet the definition of an assembly Group A occupancy but due to the low occupant load pose a lower risk than a typical assembly occupancy. These types of buildings



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and tenant spaces are to be considered as Group B occupancies when the occupant load is determined to be less than 50 persons. Examples of this include small “fast food” establishments and small “mom-and-pop” cafes or coffee shops.

303.1.2 Small assembly spaces. The following rooms and spaces shall not be classified as Assembly occupancies:

1. A room or space used for assembly purposes with an *occupant load* of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
 2. A room or space used for assembly purposes that is less than 750 square feet (70 m²) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
- ❖ Assembly rooms or spaces within larger buildings that house other uses may be classified as other than Group A depending on occupant load or the size of the space. Where the occupant load of the assembly space is less than 50, or where the floor area of the space used for assembly purposes is less than 750 square feet (65 m²), a classification of other than Group A is permitted. In both cases, the purpose of the assembly space must be accessory to the principal occupancy of the structure (i.e., the activities in the assembly space are subordinate and secondary to the primary occupancy). If either the maximum occupant load or floor area limit requirement is satisfied and the purpose of the assembly space is accessory to the principal occupancy, the space is permitted to be classified as either a Group B occupancy or as part of the principal occupancy. In either case, Section 508.2 does not apply to this section; these assembly spaces (individually or in aggregation) are not required to be less than 10 percent of the area of the story on which they are located (IBC Interpretation No. 20-04).

The allowances given to assembly spaces in buildings containing multiple uses reflect a practical code consideration that permits a mixed-use condition to exist without requiring compliance with the provisions for mixed occupancies (see Section 508). Although the term “accessory” is used in describing the relationship of the uses, the intent of the term here is that the use of the space is related to, or part of, the main use of the space. These exceptions are not limited by the accessory use requirements found in Section 508.2.

Example 1: An office building, classified as a Group B occupancy, has a conference room used for staff meetings with an occupant load of 40 [see Commentary Figure 303.1.2(1)]. The occupancy classification of a conference room is generally considered a Group A-3. Since the occupant load of the conference room is less than 50 and its function is clearly accessory to the business area, the room is permitted to be classified the same as the main occupancy, Group B.

Example 2: A 749-square-foot (70 m²) assembly

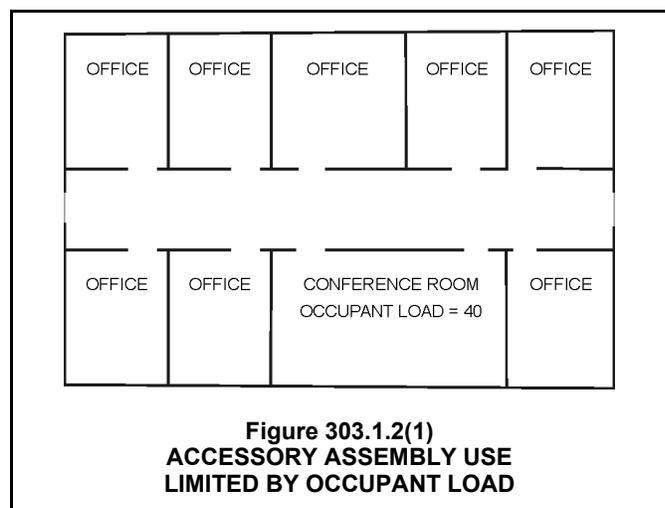
area is located adjacent to a mercantile floor area of 5,000 square feet (465 m²) [see Commentary Figure 303.1.2(2)]. Although the assembly use area occupies 15 percent of the 5,000-square foot (465 m²) floor area, it does not exceed 750 square feet (70 m²) and is not considered a Group A occupancy, but rather is classified as part of the Group M occupancy.

303.1.3 Associated with Group E occupancies. A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy.

❖ A typical educational facility for students in the 12th grade and below invariably contains many types of assembly spaces other than classrooms, including auditoriums, cafeterias, gymnasiums and libraries. These assembly spaces in a Group E building are not intended to be regulated as separate Group A occupancies, regardless of their floor area, but rather an extension of the Group E classification. It is worth mentioning, for these assembly functions to be considered part of the primary Group E occupancy, the assembly functions must be ancillary and supportive to the educational operation of the building. Otherwise, they would be classified into the appropriate Group A occupancy based upon their specific function. These assembly spaces, where classified as a portion of the Group E occupancy, are still considered as assembly in nature and must comply with assembly space requirements specified for accessibility and means of egress. However, often these school facilities are used for other functions such as a meeting of a community service organization or a community crafts fair. These types of uses fall outside of the intent of this section, and therefore such assembly spaces would need to be classified as a Group A.

303.1.4 Accessory to places of religious worship. Accessory religious educational rooms and religious auditoriums with *occupant loads* of less than 100 per room or space are not considered separate occupancies.

❖ “Places of religious worship” are listed as Group A-3 occupancies. In addition to the worship hall, it is common for these facilities to contain smaller rooms used



for educational activities. This provision allows such spaces to be considered as part of the Group A-3 classification rather than create a mixed-occupancy condition. For example, classrooms are normally classified as Group E if occupied by persons of ages through the 12th grade, or as Group B if the education is provided to adults. These types of classrooms could be considered as a part of the Group A-3 occupancy under the provisions of this section. Where such rooms are used at certain times for other than a religious auditorium or for religious education, Section 302 requires that the requirements of each occupancy be applied.

303.2 Assembly Group A-1. Group A-1 occupancy includes assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

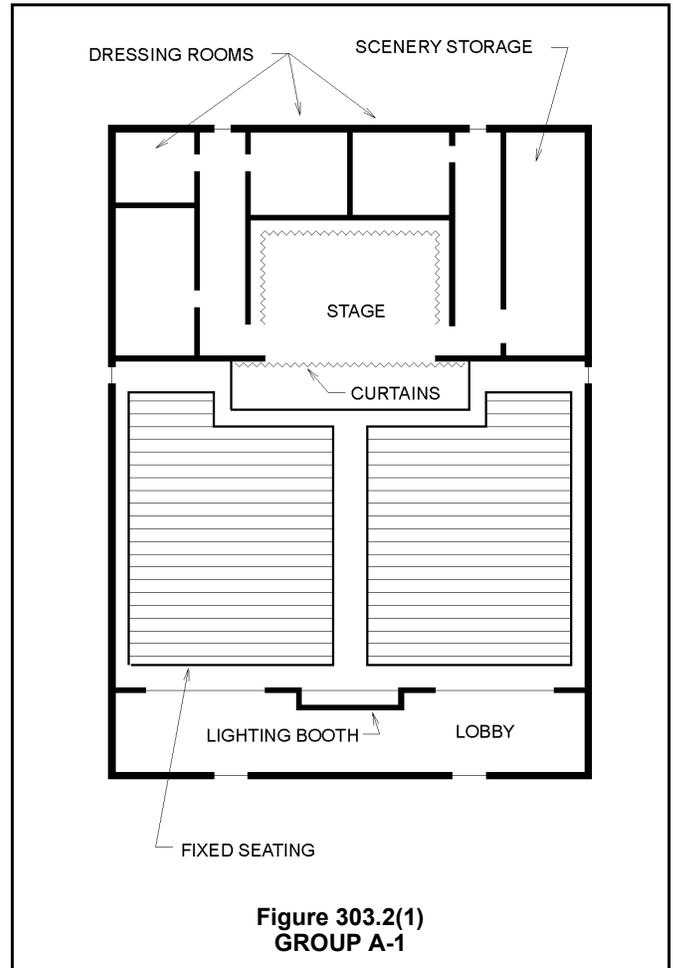
- Motion picture theaters
- Symphony and concert halls
- Television and radio studios admitting an audience
- Theaters

❖ Some of the characteristics of Group A-1 occupancies are large, concentrated occupant loads, low lighting levels, above-normal sound levels and a moderate fuel load.

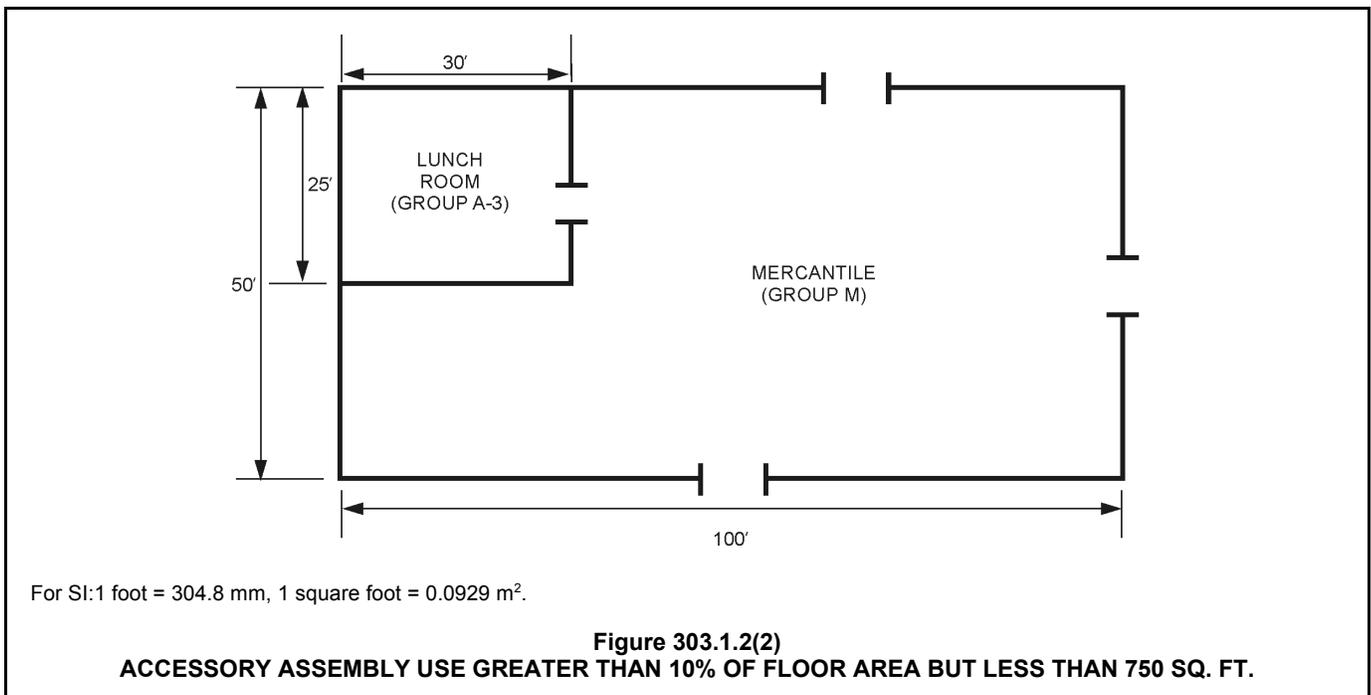
Group A-1 is characterized by two basic types of activities. The first type is one in which the facility is occupied for the production and viewing of theatrical or operatic performances. Facilities of this type ordinarily have fixed seating; a permanent raised stage; a proscenium wall and curtain; fixed or portable scenery drops; lighting devices; dressing rooms; mechanical appliances; or other theatrical accessories and equipment [see Commentary Figure 303.2(1)].

The second type is one in which the structure is pri-

marily occupied for the viewing of motion pictures. Facilities of this type ordinarily have fixed seating, no



**Figure 303.2(1)
GROUP A-1**



For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m².

**Figure 303.1.2(2)
ACCESSORY ASSEMBLY USE GREATER THAN 10% OF FLOOR AREA BUT LESS THAN 750 SQ. FT.**

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stage, a viewing screen, motion picture projection booths and equipment [see Commentary Figure 303.2(2)].

Group A-1 presents a significant potential life safety hazard because of the large occupant loads and the concentration of people within confined spaces. The means of egress is an important factor in the design of such facilities. Theaters for the performing arts that require stages are considered particularly hazardous because of the amount of combustibles such as curtains, drops, scenery, construction materials and other accessories normally associated with stage operation. As such, special protection requirements applicable to stages and platforms are provided in Section 410.

303.3 Assembly Group A-2. Group A-2 occupancy includes assembly uses intended for food and/or drink consumption including, but not limited to:

- Banquet halls
- Casinos (gaming areas)
- Nightclubs
- Restaurants, cafeterias and similar dining facilities (including associated commercial kitchens)
- Taverns and bars

❖ Group A-2 includes occupancies in which people congregate in high densities for social entertainment, including drinking and dancing (e.g., nightclubs, banquet halls, cabarets) and food and drink consumption (e.g., restaurants). The uniqueness of these occupancies is characterized by some or all of the following:

- Low lighting levels;
- Entertainment by a live band or recorded music generating above-normal sound levels;

- No theatrical stage accessories;
- Later-than-average operating hours;
- Tables and seating arranged or positioned so as to create ill-defined aisles;
- A specific area designated for dancing;
- Service facilities for alcoholic beverages and food; and
- High occupant load density.

The fire records are very clear in identifying that the characteristics listed above often cause a delayed awareness of a fire situation and confuse occupants regarding the appropriate response, resulting in an increased egress time and sometimes panic. Together, these factors may result in extensive life and property losses. These characteristics are only advisory in determining whether Group A-2 is the appropriate classification. Often there are additional characteristics that are unique to a project, which also must be taken into consideration when a classification is made.

Not all restaurants have all of these characteristics. Most fast food restaurants will only have two or three of these, yet they are appropriately classified as Group A-2.

Example: The Downtown Club, a popular local nightclub/dance hall, features a different band every weekend [see Commentary Figure 303.3]. It is equipped with a bar and basic kitchen facilities so that beverages and appetizers can be served. There is a platform for a band to perform, a dance floor in front of the platform and numerous cocktail tables and chairs. The tables and chairs are not fixed, resulting in an arrangement with no distinct aisles. When the band

