

## STADIUM SEATING SYSTEMS: CRITERIA AND OPTIONS

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The presence of stadium seating in movie theatres has become as predictable and commonplace as having mustard for your hotdog. Today, there are virtually no new theatres being constructed without this essential amenity. Moreover, 90 percent of all retrofits to existing theatres include the conversion of at least a portion of the auditoriums to stadium seating. The value stadium seating brings to an exhibitor is no longer a point of debate.

However, to determine the most efficient and economical stadium seating system for your particular installation, you must have a good understanding of the basic criteria and guidelines affecting the layout of your auditorium and the variety of methods for incorporating stadium seating into your facility. The following is intended to answer many of your questions relating to the design and construction of stadium seating systems.

*Generally, are there "rules of thumb" that relate to stadium seating design?*

Yes. But, like all things, not every rule is absolute. The following is intended to highlight some of the basic criteria for your consideration. The author realizes it will not comply with every building department jurisdiction in the country but, for the most part, these are guidelines most exhibitors follow.

The simple diagrams at the bottom of this page are included to provide a reference to the information provided.

- A comfortable distance from the screen to the first row of lower platform or floor seating is 10 feet.

- In retrofits, many exhibitors do not provide any platforms in front of the handicap cross aisle. They rely on the existing slope of the floor to achieve satisfactory viewing angles.

- Unless the auditorium has significant height from the auditorium finish floor to the projection mezzanine or the exhibitor chooses to excavate below grade in front of the handicap cross aisle, platforms in front of the cross aisle typically have a seven-foot rise and are poured-in-place concrete.

- Typically, to achieve a 30-degree viewing angle to the top of the screen, the handicap cross aisle is located back about half the length of the auditorium. This is a general guideline and subject to the screen dimensions and height from the finish floor; the exact location of the cross aisle should be determined in conjunction with your architect.

- The recommended depth of the handicap cross aisle is seven feet, six inches.

- Every handicap space requires one adjacent companion seat.

- Typically, the depth of the stadium seating platform varies from 42 to 48 inches. The platform depth is, for the most part, subject to the criteria of the individual exhibitor. But code requires a minimum distance from the front of the seat to the back of the chair of the row in front, which is based on the number of seats in the row.

- Typical platform riser heights vary from 12 to 21 inches. Many exhibitors employ a medium riser height of 14 inches because it requires only one intermediate step.

- The maximum height for an intermediate step is seven inches.

- The platform stairs must be a minimum of 36 inches wide.

- Typically, the elevation of the last row on the platform is seven foot, six inches below the mid-point of the projection portal.

- Usually, the last row of the platform is deeper than the lower rows.

- The auditorium entrance aisles are typically no less than 5 feet. However, exhibitors may choose to make them narrower depending upon local code and individual preference.

- Auditoriums of less than 200 seats typically require only one entry aisle. Eliminating the second and back entry aisles can add seats and also reduce cost.

- Auditoriums of more than 300 seats typically require an exit from the top of the platform.

*What systems are available for constructing stadium seating platforms?*

Essentially, there are five potential methods for constructing stadium seating platforms. Although I am sure there are other "systems" utilized by some designers and builders in the industry, the following information summarizes the most common methods in use today.

(1) Stringers. This system uses heavy steel formed in the shape of a stair-step cascading from the back wall of the auditorium forward. The steel stringers combined with horizontal steel and bracing form the skeleton of the stadium seating platform.

Typically, this system is practical only in new construction, as the one-piece steel stringers must be craned into the auditorium prior to installing the roof.

(2) Concrete. This system is one of the oldest and most traditional methods of forming stadium platforms. It involves the use of poured-in-place concrete as a structural and fill material to form the stadium seating platforms.

This approach requires extensive forming for the concrete to form the stadium platforms. Use of this system can

