



***ARE 5.0 Exam Review Guide:
Project Development & Documentation
Errata***

(updated 8/29/22)

This page will be updated regularly.

CHAPTER 11: Systems Integration: Structural Systems

(1) p. 11-23: Example 11.12 contains an error in the solution. The correction is in red below.

Solution

$$f = P/A$$

The resulting units are in inches. The measurement of the column is given in feet, so that needs to be converted to inches to get the result in lb/in^2 . The formula for the area of a round column is πr^2 .

$$A = 3.14 \times [6]^2 = 113.04 \text{ in}^2$$

Plug this value into the equation for determining stress:

$$f = 200 \text{ lb/in}^2 / 113.04 \text{ in}^2$$

Answer:

$$f = 1.77 \text{ lb/in}^2$$

(2) p. 11-52: Section 11.15 contains an error. The words “smile” and “frown” should be switched. See corrections in red below.

girder. As a permanent deflection (a positive camber is a curve in the upward direction [like a **frown**] while a negative camber is a curve in the downward direction [like a **smile**]), the camber compensates for the dead load imposed on the structure. When

CHAPTER 22: Systems Integration: Occupants

(1) p. 22-4: The solution to Example 22.2 contains an error. The correction appears in red below.

Solution

Per the 2018 IBC, Table 1004.5 Maximum Floor Area Allowances Per Occupant (see Appendix A.6), allocates net or gross load factor per occupant. For offices, the occupant load factor is 150 gross square feet and accessory storage areas are allocated an occupant load factor of 300 gross square feet. Exercise rooms are also allocated an occupant load factor of 50 gross square feet per person.

As is, the spaces would have the following occupancies:

Office 07: 170 square feet/150 = 2 occupants

Office 08: 156 square feet/150 = 2 occupants

Office 09: 96 square feet/150 = 1 occupant

Elec/ Data: 60 square feet/300 = 1 occupant

If Office 08 is to be converted into an exercise room, then 156 square feet is divided by 50 for an occupant load of 4 occupants, if rounded up to the nearest whole number.

2 occupants + 4 occupants + 1 occupant + 1 occupant = 8 occupants

Answer:

8 occupants