

Steel Frame (Problems 2&3, cont)

Using Information developed in Probs. 2&3
 Compute the following:

1. Size Typical interior roof joist _____
2. Size Roof Girder B3-C3 _____
3. Size Roof Edge Girder B4-C4 _____
4. Size Typical interior floor joist _____
5. Size Floor Girder B3- C3 _____
6. Size Floor Edge Girder B4-C4 _____
7. Size Typ Interior Column B3 _____

Steel Frame (Problem 4) *

Live Load: Roof 30 lbs/ft²
 Dead Load: Roof 50 lbs/ft²

Steel F_b 50,000 lbs/ in²
 Factor of Safety .66

Compute the following Values:

1. Uniform load (w), roof joist _____
2. End reaction, roof joist _____
3. End reaction, roof girder _____
4. M_{max} , roof joist _____
5. M_{max} , Roof Girder _____
6. Section Modulus, Roof Joist _____
7. Section Modulus, Roof Girder _____
8. Size Roof Joist _____
9. Size Roof Girder _____
10. Max.axial load in Column (P) _____
11. Preliminary Column Size _____
12. Slenderness Ratio (KL/r)
 L and r in inches! _____
13. Max. allowable stress in
 Compression (f_b) based
 On Slenderness R(See Table) _____
14. Final Column Size _____



