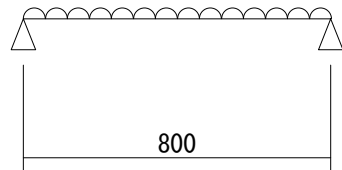


3. 4. たる木・母屋・根太・他の設計

3. 4. 2. 部材の設計



8m

梁
E120-F330 12.0 × 45.0 (cm)

ω

800

スパン L = 800.0 (cm)

負担幅 w = 91.0 (cm)

A = 540.0 (cm²)

Fb = 33.00 (N/mm²)

E = Eb = 12000 (N/mm²)

ωg0 = 1200 (N/m²)

Z = 4050.0 (cm³)

Fs = 3.60 (N/mm²)

ωp0 = 100 (N/m²)

I = 91125.0 (cm⁴)

Eb = 12000 (N/mm²)

ωg = 10.92 (N/cm)

ωp = 0.91 (N/cm)

長期

fb=1.10 × Fb / 3 = 12.10

ω = 11.83 (N/cm)

total

σ / fb = M / (fb × Z)

τ / fs = (1.5 × Q) / (fs × A)

δ = (5 × ω × L⁴) / (384 × E × I)

δ × 2.0

fs=1.10 × Fs / 3 = 1.32 (N/mm²)

M1 = 946400 (N·cm)

M2 = 0 (N·cm)

M1 = 946400 (N·cm)

M2 = 0 (N·cm)

Q = 4732.0 (N)

Q = 4732.0 (N)

= 0.19 ≤ 1.0 OK

= 0.10 ≤ 1.0 OK

= 0.58 (cm) ≤ 2.00 OK

= l / 693 ≤ l / 250 OK

短期

fb=2.00 × Fb / 3 = 22.00

ω = 11.83 (N/cm)

total

σ / fb = M / (fb × Z)

τ / fs = (1.5 × Q) / (fs × A)

δ = (5 × ω × L⁴) / (384 × Eb × I)

fs=2.00 × Fs / 3 = 2.40 (N/mm²)

M1 = 946400 (N·cm)

M2 = 0 (N·cm)

M1 = 946400 (N·cm)

M2 = 0 (N·cm)

Q = 4732.0 (N)

Q = 4732.0 (N)

= 0.11 ≤ 1.0 OK

= 0.05 ≤ 1.0 OK

= 0.58 (cm) ≤ 4.00 OK

= l / 1387 ≤ l / 150 OK