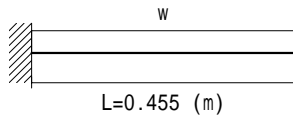


5 - 4 母屋・棟木の設計

母屋(けらば) 小屋 Y7通り X0.5-X1
105.0 (mm) × 105.0 (mm) 米松



A=11025 (mm²) Z=192938 (mm³) I=10129219 (mm⁴)
屋根勾配 4.50 寸(24.23 度) cos =0.91
Fb=28.20 (N/mm²) Fs=2.40 (N/mm²) E=9.800 × 10³ (N/mm²)
L=0.455 (m)
Wg=800 (N/m²)
q=837 (N/m²) Cpe=0.50 Kz=0.968
Ww=q × (Cpe+0.8Kz)=1067 (N/m²)

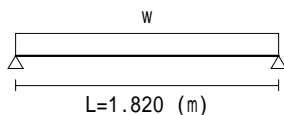
[長期]

$w=(Wg/\cos) \times 0.000=0.0$ (N/m)
 $M=1/2 \times (w \times L^2)=0.00$ (N·m)
 $Q=w \times L=0.0$ (N)
 $fb=1.1 \times Fb/3=10.34$ (N/mm²)
 $fs=1.1 \times Fs/3=0.88$ (N/mm²)
 $/fb=(M/Z)/fb=0.00/10.34=0.00$ 1.0 ----- OK
 $/fs=(1.5 \times Q/A)/fs=0.00/0.88=0.00$ 1.0 ----- OK
 $=1/8 \times (w \times L^4)/(E \times I) \times 2.0=0.000$ L/200=2.275 (mm) ----- OK

[短期風圧時]

$w=((Wg-Ww)/\cos) \times 0.000=0.0$ (N/m)
 $M=1/2 \times (w \times L^2)=0.00$ (N·m)
 $Q=w \times L=0.0$ (N)
 $fb=2 \times Fb/3=18.80$ (N/mm²)
 $fs=2 \times Fs/3=1.60$ (N/mm²)
 $/fb=(M/Z)/fb=0.00/18.80=0.00$ 1.0 ----- OK
 $/fs=(1.5 \times Q/A)/fs=0.00/1.60=0.00$ 1.0 ----- OK

母屋 小屋 Y7通り X1-X4
105.0 (mm) × 105.0 (mm) 米松



A=11025 (mm²) Z=192938 (mm³) I=10129219 (mm⁴)
屋根勾配 4.50 寸(24.23 度) cos =0.91
Fb=28.20 (N/mm²) Fs=2.40 (N/mm²) E=9.800 × 10³ (N/mm²)
L=1.820 (m)
Wg=800 (N/m²)

[長期]

$w=(Wg/\cos) \times 0.000=0.0$ (N/m)
 $M=1/8 \times (w \times L^2)=0.00$ (N·m)
 $Q=1/2 \times (w \times L)=0.0$ (N)
 $fb=1.1 \times Fb/3=10.34$ (N/mm²)
 $fs=1.1 \times Fs/3=0.88$ (N/mm²)
 $/fb=(M/Z)/fb=0.00/10.34=0.00$ 1.0 ----- OK
 $/fs=(1.5 \times Q/A)/fs=0.00/0.88=0.00$ 1.0 ----- OK
 $=5/384 \times (w \times L^4)/(E \times I) \times 2.0=0.000$ L/200=9.100 (mm) ----- OK