

## 横架材の計算

桝組太郎邸 新築工事

8-1

まぐさ<1F- 1><>	長期(常時)
S-P-F 甲種2級	2-206
YO通り X2~X4	
1) [ 0.0] 4190.3 / 4154.1 2) [113.8] 161.9 / 161.9 3) [455.0] 823.6 / 751.1 4) [910.0] 823.6 / 751.1 5) [1365.0] 823.6 / 751.1 6) [1706.3] 161.9 / 161.9 7) [1820.0] 5628.1 / 5591.9 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1397.3(\text{Q})}{10640.00(\text{A})} = 0.20\text{N/mm}^2$ $f_s = 0.66\text{N/mm}^2$ 検定比 = $0.20 / 0.66 = 0.30 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{767871.3(\text{M})}{248260.00(\text{Z})} = 3.09\text{N/mm}^2$ $f_b = 6.65\text{N/mm}^2$ 検定比 = $3.09 / 6.65 = 0.46 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.1657 cm $0.1657 / 0.61 = 0.27 \leq 1 \dots \text{OK}$	

まぐさ<1F- 1><>	短期(積雪時)
S-P-F 甲種2級	2-206
YO通り X2~X4	
1) [ 0.0] 5658.1 / 5621.9 2) [113.8] 161.9 / 161.9 3) [455.0] 823.6 / 751.1 4) [910.0] 823.6 / 751.1 5) [1365.0] 823.6 / 751.1 6) [1706.3] 161.9 / 161.9 7) [1820.0] 7660.1 / 7623.9 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1397.3(\text{Q})}{10640.00(\text{A})} = 0.20\text{N/mm}^2$ $f_s = 0.96\text{N/mm}^2$ 検定比 = $0.20 / 0.96 = 0.21 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{767871.3(\text{M})}{248260.00(\text{Z})} = 3.09\text{N/mm}^2$ $f_b = 9.68\text{N/mm}^2$ 検定比 = $3.09 / 9.68 = 0.32 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.1657 cm $0.1657 / 0.81 = 0.20 \leq 1 \dots \text{OK}$	

まぐさ<1F- 2><>	長期(常時)
S-P-F 甲種2級	2-210
YO通り X6~X8	
1) [ 0.0] 3385.7 / 3385.7 2) [113.8] 171.0 / 171.0 3) [455.0] 2186.1 / 1606.5 4) [910.0] 2186.1 / 1606.5 5) [1365.0] 2186.1 / 1606.5 6) [1706.3] 171.0 / 171.0 7) [1820.0] 6294.9 / 5715.2 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3450.2(\text{Q})}{17860.00(\text{A})} = 0.29\text{N/mm}^2$ $f_s = 0.66\text{N/mm}^2$ 検定比 = $0.29 / 0.66 = 0.44 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2008841.2(\text{M})}{699510.00(\text{Z})} = 2.87\text{N/mm}^2$ $f_b = 5.39\text{N/mm}^2$ 検定比 = $2.87 / 5.39 = 0.53 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0912 cm $0.0912 / 0.61 = 0.15 \leq 1 \dots \text{OK}$	

まぐさ<1F- 2><>	短期(積雪時)
S-P-F 甲種2級	2-210
YO通り X6~X8	
1) [ 0.0] 4764.9 / 4764.9 2) [113.8] 171.0 / 171.0 3) [455.0] 2186.1 / 1606.5 4) [910.0] 2186.1 / 1606.5 5) [1365.0] 2186.1 / 1606.5 6) [1706.3] 171.0 / 171.0 7) [1820.0] 7468.0 / 6888.4 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3450.2(\text{Q})}{17860.00(\text{A})} = 0.29\text{N/mm}^2$ $f_s = 0.96\text{N/mm}^2$ 検定比 = $0.29 / 0.96 = 0.30 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2008841.2(\text{M})}{699510.00(\text{Z})} = 2.87\text{N/mm}^2$ $f_b = 7.83\text{N/mm}^2$ 検定比 = $2.87 / 7.83 = 0.37 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0912 cm $0.0912 / 0.81 = 0.11 \leq 1 \dots \text{OK}$	

## 横架材の計算

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まぐさ<1F- 3><> S-P-F 甲種2級	長期(常時) 2-210
Y0通り X:9.5~X:11.5	
1) [ 0.0] 5371.1 / 4501.6 2) [113.8] 171.0 / 171.0 3) [455.0] 3257.0 / 2387.5 4) [910.0] 3257.0 / 2387.5 5) [1365.0] 3257.0 / 2387.5 6) [1706.3] 171.0 / 171.0 7) [1820.0] 5975.3 / 5105.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 5056.6(Q)}{17860.00(A)} = 0.42\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.42 / 0.66 = 0.64 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2983349.3(M)}{699510.00(Z)} = 4.26\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $4.26 / 5.39 = 0.79 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.1354 cm $0.1354 / 0.61 = 0.22 \leq 1 \dots \text{OK}$	

まぐさ<1F- 3><> S-P-F 甲種2級	短期(積雪時) 2-210
Y0通り X:9.5~X:11.5	
1) [ 0.0] 6274.1 / 5404.6 2) [113.8] 171.0 / 171.0 3) [455.0] 3257.0 / 2387.5 4) [910.0] 3257.0 / 2387.5 5) [1365.0] 3257.0 / 2387.5 6) [1706.3] 171.0 / 171.0 7) [1820.0] 7279.1 / 6409.6 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 5056.6(Q)}{17860.00(A)} = 0.42\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.42 / 0.96 = 0.44 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2983349.3(M)}{699510.00(Z)} = 4.26\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $4.26 / 7.83 = 0.54 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.1354 cm $0.1354 / 0.81 = 0.17 \leq 1 \dots \text{OK}$	

まぐさ<1F- 4><> S-P-F 甲種2級	長期(常時) 2-206
X:12.5通り Y1~Y3	
1) [ 0.0] 3287.0 / 3250.8 2) [113.8] 161.9 / 161.9 3) [455.0] 823.6 / 751.1 4) [910.0] 823.6 / 751.1 5) [1365.0] 823.6 / 751.1 6) [1706.3] 161.9 / 161.9 7) [1820.0] 3287.0 / 3250.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1397.3(Q)}{10640.00(A)} = 0.20\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.20 / 0.66 = 0.30 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{767871.3(M)}{248260.00(Z)} = 3.09\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $3.09 / 6.65 = 0.46 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.1657 cm $0.1657 / 0.61 = 0.27 \leq 1 \dots \text{OK}$	

まぐさ<1F- 4><> S-P-F 甲種2級	短期(積雪時) 2-206
X:12.5通り Y1~Y3	
1) [ 0.0] 4526.9 / 4490.7 2) [113.8] 161.9 / 161.9 3) [455.0] 823.6 / 751.1 4) [910.0] 823.6 / 751.1 5) [1365.0] 823.6 / 751.1 6) [1706.3] 161.9 / 161.9 7) [1820.0] 4526.9 / 4490.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1397.3(Q)}{10640.00(A)} = 0.20\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.20 / 0.96 = 0.21 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{767871.3(M)}{248260.00(Z)} = 3.09\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $3.09 / 9.68 = 0.32 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.1657 cm $0.1657 / 0.81 = 0.20 \leq 1 \dots \text{OK}$	

## 横架材の計算

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まぐさ<1F- 5><>	長期(常時)
S-P-F 甲種2級	2-206
X:12.5通り Y5~Y7	
1) [ 0.0] 624.8 / 588.6 2) [113.8] 161.9 / 161.9 3) [455.0] 1068.1 / 995.6 4) [910.0] 1057.8 / 985.3 5) [1365.0] 992.0 / 919.5 6) [1706.3] 161.9 / 161.9 7) [1820.0] 472.5 / 436.3 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1739.9(Q)}{10640.00(A)} = 0.25N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.25 / 0.66 = 0.37 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{968380.9(M)}{248260.00(Z)} = 3.90N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $3.90 / 6.65 = 0.59 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.2083 cm $0.2083 / 0.61 = 0.34 \leq 1 \dots \text{OK}$	

まぐさ<1F- 5><>	短期(積雪時)
S-P-F 甲種2級	2-206
X:12.5通り Y5~Y7	
1) [ 0.0] 986.0 / 949.8 2) [113.8] 161.9 / 161.9 3) [455.0] 1429.3 / 1356.8 4) [910.0] 1410.5 / 1338.1 5) [1365.0] 1298.7 / 1226.3 6) [1706.3] 161.9 / 161.9 7) [1820.0] 724.9 / 688.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2263.8(Q)}{10640.00(A)} = 0.32N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.32 / 0.96 = 0.33 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1280831.7(M)}{248260.00(Z)} = 5.16N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $5.16 / 9.68 = 0.53 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.2751 cm $0.2751 / 0.81 = 0.34 \leq 1 \dots \text{OK}$	

まぐさ<1F- 6><>	長期(常時)
S-P-F 甲種2級	2-206
Y8通り X:10.5~X:11.5	
1) [ 0.0] 8228.3 / 7648.6 2) [113.8] 161.9 / 161.9 3) [455.0] 2336.3 / 1756.6 4) [796.3] 161.9 / 161.9 5) [910.0] 1936.3 / 1356.6 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1330.1(Q)}{10640.00(A)} = 0.19N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.19 / 0.66 = 0.28 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{549932.5(M)}{248260.00(Z)} = 2.22N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $2.22 / 6.65 = 0.33 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0249 cm $0.0249 / 0.30 = 0.08 \leq 1 \dots \text{OK}$	

まぐさ<1F- 6><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y8通り X:10.5~X:11.5	
1) [ 0.0] 10702.1 / 10122.4 2) [113.8] 161.9 / 161.9 3) [455.0] 2643.1 / 2063.4 4) [796.3] 161.9 / 161.9 5) [910.0] 2188.7 / 1609.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1483.5(Q)}{10640.00(A)} = 0.21N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.21 / 0.96 = 0.22 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{619725.5(M)}{248260.00(Z)} = 2.50N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $2.50 / 9.68 = 0.26 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0280 cm $0.0280 / 0.40 = 0.07 \leq 1 \dots \text{OK}$	

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まぐさ<1F- 7><>	長期(常時)
S-P-F 甲種2級	2-208
Y4通り X:10.75~X:11.75	
1) [227.5] 4508.0 / 3348.6 2) [682.5] 5238.0 / 4078.6  番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 5055.5(Q)}{13984.00(A)} = 0.54\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.54 / 0.66 = 0.82 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.75$ , $K_s=1.00$ $\sigma = \frac{1150121.0(M)}{428840.00(Z)} = 2.68\text{N}/\text{mm}^2$ $f_b = 5.94\text{N}/\text{mm}^2$ 検定比 = $2.68 / 5.94 = 0.45 \leq 1 \dots \text{OK}$	
[たわみ] $I=3945.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/300) かつ 1.00 cm 以下 最大たわみ量 = 0.0345 cm $0.0345 / 0.30 = 0.11 \leq 1 \dots \text{OK}$	

まぐさ<1F- 7><>	短期(積雪時)
S-P-F 甲種2級	2-208
Y4通り X:10.75~X:11.75	
1) [227.5] 4779.2 / 3619.8 2) [682.5] 6000.0 / 4840.7  番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 5694.8(Q)}{13984.00(A)} = 0.61\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.61 / 0.96 = 0.64 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.75$ , $K_s=1.00$ $\sigma = \frac{1295564.0(M)}{428840.00(Z)} = 3.02\text{N}/\text{mm}^2$ $f_b = 8.64\text{N}/\text{mm}^2$ 検定比 = $3.02 / 8.64 = 0.35 \leq 1 \dots \text{OK}$	
[たわみ] $I=3945.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/225) かつ 2.00 cm 以下 最大たわみ量 = 0.0382 cm $0.0382 / 0.40 = 0.09 \leq 1 \dots \text{OK}$	

まぐさ<1F- 8><>	長期(常時)
S-P-F 甲種2級	2-206
Y4通り X:6.5~X8	
1) [0.0] 7438.1 / 6677.3 2) [113.8] 122.0 / 122.0 3) [455.0] 2618.8 / 1749.3 4) [910.0] 3593.3 / 2723.8 5) [1251.3] 122.0 / 122.0 6) [1365.0] 9347.2 / 8767.5  番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3390.5(Q)}{10640.00(A)} = 0.48\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.48 / 0.66 = 0.72 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1501042.5(M)}{248260.00(Z)} = 6.05\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $6.05 / 6.65 = 0.91 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.46 cm (スパンの 1/300) かつ 1.00 cm 以下 最大たわみ量 = 0.1951 cm $0.1951 / 0.46 = 0.43 \leq 1 \dots \text{OK}$	

まぐさ<1F- 8><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y4通り X:6.5~X8	
1) [0.0] 10345.3 / 9584.5 2) [113.8] 122.0 / 122.0 3) [455.0] 2618.8 / 1749.3 4) [910.0] 3593.3 / 2723.8 5) [1251.3] 122.0 / 122.0 6) [1365.0] 11588.2 / 11008.6  番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3390.5(Q)}{10640.00(A)} = 0.48\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.48 / 0.96 = 0.50 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1501042.5(M)}{248260.00(Z)} = 6.05\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $6.05 / 9.68 = 0.62 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/225) かつ 2.00 cm 以下 最大たわみ量 = 0.1951 cm $0.1951 / 0.61 = 0.32 \leq 1 \dots \text{OK}$	

## 横架材の計算

梓組太郎邸 新築工事

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まぐさ<1F- 9><>	長期(常時)
S-P-F 甲種2級	2-206
Y6通り X7~X8	
1) [ 0.0 ] 1996.4 / 1416.7 2) [113.8] 122.0 / 122.0 3) [455.0] 1827.2 / 1247.6 4) [796.3] 122.0 / 122.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1035.6(Q)}{10640.00(A)} = 0.15N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.15 / 0.66 = 0.22 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{429574.3(M)}{248260.00(Z)} = 1.73N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $1.73 / 6.65 = 0.26 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0194 cm $0.0194 / 0.30 = 0.06 \leq 1 \dots \text{OK}$	

まぐさ<1F- 9><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y6通り X7~X8	
1) [ 0.0 ] 1996.4 / 1416.7 2) [113.8] 122.0 / 122.0 3) [455.0] 1827.2 / 1247.6 4) [796.3] 122.0 / 122.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1035.6(Q)}{10640.00(A)} = 0.15N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.15 / 0.96 = 0.15 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{429574.3(M)}{248260.00(Z)} = 1.73N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $1.73 / 9.68 = 0.18 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0194 cm $0.0194 / 0.40 = 0.05 \leq 1 \dots \text{OK}$	

まぐさ<1F-10><>	長期(常時)
S-P-F 甲種2級	2-206
Y6通り X9~X10	
1) [ 0.0 ] 1583.2 / 1003.5 2) [113.8] 122.0 / 122.0 3) [455.0] 1827.2 / 1247.6 4) [796.3] 122.0 / 122.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1035.6(Q)}{10640.00(A)} = 0.15N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.15 / 0.66 = 0.22 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{429574.3(M)}{248260.00(Z)} = 1.73N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $1.73 / 6.65 = 0.26 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0194 cm $0.0194 / 0.30 = 0.06 \leq 1 \dots \text{OK}$	

まぐさ<1F-10><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y6通り X9~X10	
1) [ 0.0 ] 1583.2 / 1003.5 2) [113.8] 122.0 / 122.0 3) [455.0] 1827.2 / 1247.6 4) [796.3] 122.0 / 122.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1035.6(Q)}{10640.00(A)} = 0.15N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.15 / 0.96 = 0.15 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{429574.3(M)}{248260.00(Z)} = 1.73N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $1.73 / 9.68 = 0.18 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0194 cm $0.0194 / 0.40 = 0.05 \leq 1 \dots \text{OK}$	

## 横架材の計算

梓組太郎邸 新築工事

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まぐさ<1F-14><> S-P-F 甲種2級	長期(常時) 2-206
Y:5.25通り X:5.25~X:6.5	
1) [ 0.0 ] 5880.8 / 4591.0 2) [227.5] 1881.8 / 1302.2 3) [682.5] 1881.8 / 1302.2 4) [1023.8] 149.3 / 149.3 5) [1137.5] 589.0 / 407.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2273.1(Q)}{10640.00(A)} = 0.32N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.32 / 0.66 = 0.49 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{695178.0(M)}{248260.00(Z)} = 2.80N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $2.80 / 6.65 = 0.42 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.38 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0642 cm $0.0642 / 0.38 = 0.17 \leq 1 \dots \text{OK}$	

まぐさ<1F-14><> S-P-F 甲種2級	短期(積雪時) 2-206
Y:5.25通り X:5.25~X:6.5	
1) [ 0.0 ] 5880.8 / 4591.0 2) [227.5] 1881.8 / 1302.2 3) [682.5] 1881.8 / 1302.2 4) [1023.8] 149.3 / 149.3 5) [1137.5] 589.0 / 407.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2273.1(Q)}{10640.00(A)} = 0.32N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.32 / 0.96 = 0.33 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{695178.0(M)}{248260.00(Z)} = 2.80N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $2.80 / 9.68 = 0.29 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.51 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0642 cm $0.0642 / 0.51 = 0.13 \leq 1 \dots \text{OK}$	

まぐさ<1F-18><> S-P-F 甲種2級	長期(常時) 2-210
X1通り Y1~Y3	
1) [ 0.0 ] 5238.2 / 4368.7 2) [113.8] 171.0 / 171.0 3) [455.0] 3141.5 / 2272.0 4) [910.0] 3395.2 / 2525.7 5) [1365.0] 3235.7 / 2366.2 6) [1706.3] 171.0 / 171.0 7) [1820.0] 5332.4 / 4462.9 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 5080.8(Q)}{17860.00(A)} = 0.43N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.43 / 0.66 = 0.65 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{3015122.5(M)}{699510.00(Z)} = 4.31N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $4.31 / 5.39 = 0.80 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.1361 cm $0.1361 / 0.61 = 0.22 \leq 1 \dots \text{OK}$	

まぐさ<1F-18><> S-P-F 甲種2級	短期(積雪時) 2-210
X1通り Y1~Y3	
1) [ 0.0 ] 6160.6 / 5291.1 2) [113.8] 171.0 / 171.0 3) [455.0] 3141.5 / 2272.0 4) [910.0] 3395.2 / 2525.7 5) [1365.0] 3235.7 / 2366.2 6) [1706.3] 171.0 / 171.0 7) [1820.0] 6254.8 / 5385.3 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 5080.8(Q)}{17860.00(A)} = 0.43N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.43 / 0.96 = 0.44 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{3015122.5(M)}{699510.00(Z)} = 4.31N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $4.31 / 7.83 = 0.55 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.1361 cm $0.1361 / 0.81 = 0.17 \leq 1 \dots \text{OK}$	

## 横架材の計算

梓組太郎邸 新築工事

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まぐさ<1F-20><>	長期(常時)
S-P-F 甲種2級	2-206
X8通り Y5~Y6	
1) [ 0.0] 624.7 / 552.3 2) [113.8] 122.0 / 122.0 3) [455.0] 1043.9 / 899.0 4) [796.3] 122.0 / 122.0 5) [910.0] 813.1 / 740.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 644.0(\text{Q})}{10640.00(\text{A})} = 0.09\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.09 / 0.66 = 0.14 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{251367.2(\text{M})}{248260.00(\text{Z})} = 1.01\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $1.01 / 6.65 = 0.15 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0115 cm $0.0115 / 0.30 = 0.04 \leq 1 \dots \text{OK}$	

まぐさ<1F-20><>	短期(積雪時)
S-P-F 甲種2級	2-206
X8通り Y5~Y6	
1) [ 0.0] 624.7 / 552.3 2) [113.8] 122.0 / 122.0 3) [455.0] 1043.9 / 899.0 4) [796.3] 122.0 / 122.0 5) [910.0] 813.1 / 740.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 644.0(\text{Q})}{10640.00(\text{A})} = 0.09\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.09 / 0.96 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{251367.2(\text{M})}{248260.00(\text{Z})} = 1.01\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $1.01 / 9.68 = 0.10 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0115 cm $0.0115 / 0.40 = 0.03 \leq 1 \dots \text{OK}$	

まぐさ<1F-22><>	長期(常時)
S-P-F 甲種2級	2-206
X5通り Y4~Y2	
1) [113.8] 122.0 / 122.0 2) [455.0] 244.0 / 244.0 3) [910.0] 244.0 / 244.0 4) [1365.0] 244.0 / 244.0 5) [1706.3] 122.0 / 122.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 488.0(\text{Q})}{10640.00(\text{A})} = 0.07\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.07 / 0.66 = 0.10 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{235933.5(\text{M})}{248260.00(\text{Z})} = 0.95\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $0.95 / 6.65 = 0.14 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0514 cm $0.0514 / 0.61 = 0.08 \leq 1 \dots \text{OK}$	

まぐさ<1F-22><>	短期(積雪時)
S-P-F 甲種2級	2-206
X5通り Y4~Y2	
1) [113.8] 122.0 / 122.0 2) [455.0] 244.0 / 244.0 3) [910.0] 244.0 / 244.0 4) [1365.0] 244.0 / 244.0 5) [1706.3] 122.0 / 122.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 488.0(\text{Q})}{10640.00(\text{A})} = 0.07\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.07 / 0.96 = 0.07 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{235933.5(\text{M})}{248260.00(\text{Z})} = 0.95\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $0.95 / 9.68 = 0.10 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0514 cm $0.0514 / 0.81 = 0.06 \leq 1 \dots \text{OK}$	

# 横架材の計算

## 桝組太郎邸 新築工事

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まぐさ<1F-23><>	長期(常時)
S-P-F 甲種2級	2-206
Y8通り X:6.5~X:7.5	
1) [ 0.0 ] 2325.0 / 2325.0 2) [113.8] 161.9 / 161.9 3) [455.0] 1376.3 / 1086.5 4) [796.3] 161.9 / 161.9 5) [910.0] 2785.3 / 2495.5 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 850.1(Q)}{10640.00(A)} = 0.12N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.12 / 0.66 = 0.18 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{331535.0(M)}{248260.00(Z)} = 1.34N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $1.34 / 6.65 = 0.20 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0152 cm $0.0152 / 0.30 = 0.05 \leq 1 \dots \text{OK}$	

まぐさ<1F-23><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y8通り X:6.5~X:7.5	
1) [ 0.0 ] 3158.3 / 3158.3 2) [113.8] 161.9 / 161.9 3) [455.0] 1376.3 / 1086.5 4) [796.3] 161.9 / 161.9 5) [910.0] 3517.6 / 3227.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 850.1(Q)}{10640.00(A)} = 0.12N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.12 / 0.96 = 0.12 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{331535.0(M)}{248260.00(Z)} = 1.34N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $1.34 / 9.68 = 0.14 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0152 cm $0.0152 / 0.40 = 0.04 \leq 1 \dots \text{OK}$	

まぐさ<1F-24><>	長期(常時)
S-P-F 甲種2級	2-206
Y8通り X:8.5~X:9.5	
1) [ 0.0 ] 2005.8 / 1715.9 2) [113.8] 161.9 / 161.9 3) [455.0] 2253.5 / 1963.7 4) [796.3] 161.9 / 161.9 5) [910.0] 1853.5 / 1563.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1288.7(Q)}{10640.00(A)} = 0.18N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.18 / 0.66 = 0.28 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{531093.2(M)}{248260.00(Z)} = 2.14N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $2.14 / 6.65 = 0.32 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0240 cm $0.0240 / 0.30 = 0.08 \leq 1 \dots \text{OK}$	

まぐさ<1F-24><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y8通り X:8.5~X:9.5	
1) [ 0.0 ] 2367.0 / 2077.1 2) [113.8] 161.9 / 161.9 3) [455.0] 2560.3 / 2270.5 4) [796.3] 161.9 / 161.9 5) [910.0] 2105.9 / 1816.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1442.1(Q)}{10640.00(A)} = 0.20N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.20 / 0.96 = 0.21 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{600886.2(M)}{248260.00(Z)} = 2.42N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $2.42 / 9.68 = 0.25 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0271 cm $0.0271 / 0.40 = 0.07 \leq 1 \dots \text{OK}$	



## 横架材の計算

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まぐさ<1F-25><>	長期(常時)
S-P-F 甲種2級	2-206
X10通り Y4~Y6	
1) [ 0.0 ] 211.6 / 139.1 2) [113.8] 122.0 / 122.0 3) [455.0] 667.1 / 522.2 4) [910.0] 667.1 / 522.2 5) [1365.0] 667.1 / 522.2 6) [1706.3] 122.0 / 122.0 7) [1820.0] 211.6 / 139.1 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1122.7(Q)}{10640.00(A)} = 0.16N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.16 / 0.66 = 0.24 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{620958.5(M)}{248260.00(Z)} = 2.50N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $2.50 / 6.65 = 0.38 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.1339 cm $0.1339 / 0.61 = 0.22 \leq 1 \dots \text{OK}$	

まぐさ<1F-25><>	短期(積雪時)
S-P-F 甲種2級	2-206
X10通り Y4~Y6	
1) [ 0.0 ] 211.6 / 139.1 2) [113.8] 122.0 / 122.0 3) [455.0] 667.1 / 522.2 4) [910.0] 667.1 / 522.2 5) [1365.0] 667.1 / 522.2 6) [1706.3] 122.0 / 122.0 7) [1820.0] 211.6 / 139.1 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1122.7(Q)}{10640.00(A)} = 0.16N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.16 / 0.96 = 0.16 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{620958.5(M)}{248260.00(Z)} = 2.50N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $2.50 / 9.68 = 0.26 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.1339 cm $0.1339 / 0.81 = 0.17 \leq 1 \dots \text{OK}$	

まぐさ<1F-26><>	長期(常時)
S-P-F 甲種2級	2-208
Y4通り X3~X5	
1) [ 0.0 ] 1227.0 / 1154.5 2) [113.8] 126.6 / 126.6 3) [455.0] 730.8 / 585.9 4) [910.0] 3682.1 / 3537.2 5) [1365.0] 1387.6 / 1242.7 6) [1592.5] 2716.1 / 2716.1 7) [1706.3] 126.6 / 126.6 8) [1820.0] 10230.6 / 7839.5 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 5567.6(Q)}{13984.00(A)} = 0.60N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.60 / 0.66 = 0.90 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.75$ , $K_s=1.00$ $\sigma = \frac{2480641.1(M)}{428840.00(Z)} = 5.78N/mm^2$ $f_b = 5.94N/mm^2$ 検定比 = $5.78 / 5.94 = 0.97 \leq 1 \dots \text{OK}$	
[たわみ] $I=3945.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.2254 cm $0.2254 / 0.61 = 0.37 \leq 1 \dots \text{OK}$	

まぐさ<1F-26><>	短期(積雪時)
S-P-F 甲種2級	2-208
Y4通り X3~X5	
1) [ 0.0 ] 1227.0 / 1154.5 2) [113.8] 126.6 / 126.6 3) [455.0] 730.8 / 585.9 4) [910.0] 4611.5 / 4466.6 5) [1365.0] 1387.6 / 1242.7 6) [1592.5] 4032.8 / 4032.8 7) [1706.3] 126.6 / 126.6 8) [1820.0] 10230.6 / 7839.5 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 7184.4(Q)}{13984.00(A)} = 0.77N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.77 / 0.96 = 0.80 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.75$ , $K_s=1.00$ $\sigma = \frac{3053292.3(M)}{428840.00(Z)} = 7.12N/mm^2$ $f_b = 8.64N/mm^2$ 検定比 = $7.12 / 8.64 = 0.82 \leq 1 \dots \text{OK}$	
[たわみ] $I=3945.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.2772 cm $0.2772 / 0.81 = 0.34 \leq 1 \dots \text{OK}$	

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まぐさ<1F-27><>	長期(常時)
S-P-F 甲種2級	2-206
Y8通り X:3.25~X:3.75	
1) [227.5] 1521.0 / 1521.0	
番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 760.5(\text{Q})}{10640.00(\text{A})} = 0.11\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.11 / 0.66 = 0.16 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{173019.4(\text{M})}{248260.00(\text{Z})} = 0.70\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $0.70 / 6.65 = 0.10 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.15\text{ cm}$ (スパンの $1/300$ ) かつ $1.00\text{ cm}$ 以下 最大たわみ量 = $0.0018\text{ cm}$ $0.0018 / 0.15 = 0.01 \leq 1 \dots \text{OK}$	

まぐさ<1F-27><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y8通り X:3.25~X:3.75	
1) [227.5] 1827.8 / 1827.8	
番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 913.9(\text{Q})}{10640.00(\text{A})} = 0.13\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.13 / 0.96 = 0.13 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{207915.9(\text{M})}{248260.00(\text{Z})} = 0.84\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $0.84 / 9.68 = 0.09 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.20\text{ cm}$ (スパンの $1/225$ ) かつ $2.00\text{ cm}$ 以下 最大たわみ量 = $0.0022\text{ cm}$ $0.0022 / 0.20 = 0.01 \leq 1 \dots \text{OK}$	

まぐさ<1F-28><>	長期(常時)
S-P-F 甲種2級	2-206
X2通り Y:5.75~Y:7.75	
1) [227.5] 1798.2 / 1798.2	
2) [682.5] 584.7 / 584.7	
3) [1137.5] 1645.9 / 1645.9	
4) [1592.5] 1166.4 / 1166.4	
番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2701.9(\text{Q})}{10640.00(\text{A})} = 0.38\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.38 / 0.66 = 0.58 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1170982.5(\text{M})}{248260.00(\text{Z})} = 4.72\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $4.72 / 6.65 = 0.71 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.61\text{ cm}$ (スパンの $1/300$ ) かつ $1.00\text{ cm}$ 以下 最大たわみ量 = $0.2640\text{ cm}$ $0.2640 / 0.61 = 0.44 \leq 1 \dots \text{OK}$	

まぐさ<1F-28><>	短期(積雪時)
S-P-F 甲種2級	2-206
X2通り Y:5.75~Y:7.75	
1) [227.5] 2312.8 / 2312.8	
2) [682.5] 584.7 / 584.7	
3) [1137.5] 2051.7 / 2051.7	
4) [1592.5] 1364.3 / 1364.3	
番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3329.0(\text{Q})}{10640.00(\text{A})} = 0.47\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.47 / 0.96 = 0.49 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1416108.3(\text{M})}{248260.00(\text{Z})} = 5.70\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $5.70 / 9.68 = 0.59 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.81\text{ cm}$ (スパンの $1/225$ ) かつ $2.00\text{ cm}$ 以下 最大たわみ量 = $0.3175\text{ cm}$ $0.3175 / 0.81 = 0.39 \leq 1 \dots \text{OK}$	

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まぐさ<2F- 1><>	長期(常時)
S-P-F 甲種2級	2-206
X0通り Y1~Y3	
1) [ 0.0] 470.0 / 470.0 2) [113.8] 148.6 / 148.6 3) [455.0] 843.4 / 843.4 4) [910.0] 1692.5 / 1692.5 5) [1365.0] 843.4 / 843.4 6) [1706.3] 148.6 / 148.6 7) [1820.0] 470.0 / 470.0	強度用 / たわみ用 (N)
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1838.3(Q)}{10640.00(A)} = 0.26N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.26 / 0.66 = 0.39 \leq 1 \dots \text{OK}$	番号 [位置] 強度用 / たわみ用 (N)
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1170740.2(M)}{248260.00(Z)} = 4.72N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $4.72 / 6.65 = 0.71 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.2376 cm $0.2376 / 0.61 = 0.39 \leq 1 \dots \text{OK}$	

まぐさ<2F- 1><>	短期(積雪時)
S-P-F 甲種2級	2-206
X0通り Y1~Y3	
1) [ 0.0] 722.4 / 722.4 2) [113.8] 148.6 / 148.6 3) [455.0] 1150.2 / 1150.2 4) [910.0] 2418.9 / 2418.9 5) [1365.0] 1150.2 / 1150.2 6) [1706.3] 148.6 / 148.6 7) [1820.0] 722.4 / 722.4	強度用 / たわみ用 (N)
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2508.3(Q)}{10640.00(A)} = 0.35N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.35 / 0.96 = 0.37 \leq 1 \dots \text{OK}$	番号 [位置] 強度用 / たわみ用 (N)
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1640843.5(M)}{248260.00(Z)} = 6.61N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $6.61 / 9.68 = 0.68 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.3312 cm $0.3312 / 0.81 = 0.41 \leq 1 \dots \text{OK}$	

まぐさ<2F- 2><>	長期(常時)
S-P-F 甲種2級	2-206
Y0通り X2~X4	
1) [ 0.0] 517.0 / 517.0 2) [113.8] 148.6 / 148.6 3) [455.0] 2972.4 / 2972.4 4) [910.0] 1017.0 / 1017.0 5) [1365.0] 1017.0 / 1017.0 6) [1706.3] 148.6 / 148.6 7) [1820.0] 2504.8 / 2504.8	強度用 / たわみ用 (N)
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3140.7(Q)}{10640.00(A)} = 0.44N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.44 / 0.66 = 0.67 \leq 1 \dots \text{OK}$	番号 [位置] 強度用 / たわみ用 (N)
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1387241.5(M)}{248260.00(Z)} = 5.59N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $5.59 / 6.65 = 0.84 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.3201 cm $0.3201 / 0.61 = 0.53 \leq 1 \dots \text{OK}$	

まぐさ<2F- 2><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y0通り X2~X4	
1) [ 0.0] 869.7 / 869.7 2) [113.8] 148.6 / 148.6 3) [455.0] 4098.0 / 4098.0 4) [910.0] 1378.2 / 1378.2 5) [1365.0] 1378.2 / 1378.2 6) [1706.3] 148.6 / 148.6 7) [1820.0] 3803.9 / 3803.9	強度用 / たわみ用 (N)
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 4255.8(Q)}{10640.00(A)} = 0.60N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.60 / 0.96 = 0.62 \leq 1 \dots \text{OK}$	番号 [位置] 強度用 / たわみ用 (N)
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1899830.6(M)}{248260.00(Z)} = 7.61N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $7.61 / 9.68 = 0.79 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.4363 cm $0.4363 / 0.81 = 0.54 \leq 1 \dots \text{OK}$	

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まぐさ<2F- 3><>	長期(常時)
S-P-F 甲種2級	2-206
X4通り Y0~Y2	
1) [113.8] 112.4 / 112.4 2) [455.0] 224.8 / 224.8 3) [910.0] 224.8 / 224.8 4) [1365.0] 224.8 / 224.8 5) [1706.3] 112.4 / 112.4	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 449.6(\text{Q})}{10640.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.66 = 0.10 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{217346.5(\text{M})}{248260.00(\text{Z})} = 0.88\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $0.88 / 6.65 = 0.13 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.61 \text{ cm}$ (スパンの $1/300$ ) かつ $1.00 \text{ cm}$ 以下 最大たわみ量 = $0.0474 \text{ cm}$ $0.0474 / 0.61 = 0.08 \leq 1 \dots \text{OK}$	

まぐさ<2F- 3><>	短期(積雪時)
S-P-F 甲種2級	2-206
X4通り Y0~Y2	
1) [113.8] 112.4 / 112.4 2) [455.0] 224.8 / 224.8 3) [910.0] 224.8 / 224.8 4) [1365.0] 224.8 / 224.8 5) [1706.3] 112.4 / 112.4	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 449.6(\text{Q})}{10640.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.96 = 0.07 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{217346.5(\text{M})}{248260.00(\text{Z})} = 0.88\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $0.88 / 9.68 = 0.09 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.81 \text{ cm}$ (スパンの $1/225$ ) かつ $2.00 \text{ cm}$ 以下 最大たわみ量 = $0.0474 \text{ cm}$ $0.0474 / 0.81 = 0.06 \leq 1 \dots \text{OK}$	

まぐさ<2F- 4><>	長期(常時)
S-P-F 甲種2級	2-206
X5通り Y2~Y4	
1) [ 0.0] 30.2 / 30.2 2) [113.8] 112.4 / 112.4 3) [455.0] 285.2 / 285.2 4) [910.0] 285.2 / 285.2 5) [1365.0] 285.2 / 285.2 6) [1706.3] 112.4 / 112.4 7) [1820.0] 217.3 / 217.3	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 540.2(\text{Q})}{10640.00(\text{A})} = 0.08\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.08 / 0.66 = 0.12 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{272332.3(\text{M})}{248260.00(\text{Z})} = 1.10\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $1.10 / 6.65 = 0.16 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.61 \text{ cm}$ (スパンの $1/300$ ) かつ $1.00 \text{ cm}$ 以下 最大たわみ量 = $0.0592 \text{ cm}$ $0.0592 / 0.61 = 0.10 \leq 1 \dots \text{OK}$	

まぐさ<2F- 4><>	短期(積雪時)
S-P-F 甲種2級	2-206
X5通り Y2~Y4	
1) [ 0.0] 30.2 / 30.2 2) [113.8] 112.4 / 112.4 3) [455.0] 285.2 / 285.2 4) [910.0] 285.2 / 285.2 5) [1365.0] 285.2 / 285.2 6) [1706.3] 112.4 / 112.4 7) [1820.0] 217.3 / 217.3	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 540.2(\text{Q})}{10640.00(\text{A})} = 0.08\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.08 / 0.96 = 0.08 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{272332.3(\text{M})}{248260.00(\text{Z})} = 1.10\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $1.10 / 9.68 = 0.11 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.81 \text{ cm}$ (スパンの $1/225$ ) かつ $2.00 \text{ cm}$ 以下 最大たわみ量 = $0.0592 \text{ cm}$ $0.0592 / 0.81 = 0.07 \leq 1 \dots \text{OK}$	

## 横架材の計算

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まぐさ<2F- 5><>	長期(常時)
S-P-F 甲種2級	2-206
YO通り X6~X8 	
1) [ 0.0] 987.6 / 987.6 2) [113.8] 148.6 / 148.6 3) [455.0] 1284.9 / 1284.9 4) [910.0] 1218.1 / 1218.1 5) [1365.0] 1142.0 / 1142.0 6) [1706.3] 148.6 / 148.6 7) [1820.0] 768.6 / 768.6 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2006.8(Q)}{10640.00(A)} = 0.28N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.28 / 0.66 = 0.43 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1123273.1(M)}{248260.00(Z)} = 4.52N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $4.52 / 6.65 = 0.68 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.2420 cm $0.2420 / 0.61 = 0.40 \leq 1 \dots \text{OK}$	

まぐさ<2F- 5><>	短期(積雪時)
S-P-F 甲種2級	2-206
YO通り X6~X8 	
1) [ 0.0] 1558.7 / 1558.7 2) [113.8] 148.6 / 148.6 3) [455.0] 1856.0 / 1856.0 4) [910.0] 1742.6 / 1742.6 5) [1365.0] 1612.0 / 1612.0 6) [1706.3] 148.6 / 148.6 7) [1820.0] 1184.2 / 1184.2 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2814.9(Q)}{10640.00(A)} = 0.40N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.40 / 0.96 = 0.41 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1598765.5(M)}{248260.00(Z)} = 6.44N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $6.44 / 9.68 = 0.67 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.3440 cm $0.3440 / 0.81 = 0.43 \leq 1 \dots \text{OK}$	

まぐさ<2F- 6><>	長期(常時)
S-P-F 甲種2級	2-206
YO通り X:9.5~X:11.5 	
1) [ 0.0] 692.5 / 692.5 2) [113.8] 148.6 / 148.6 3) [455.0] 989.7 / 989.7 4) [910.0] 989.7 / 989.7 5) [1365.0] 989.7 / 989.7 6) [1706.3] 148.6 / 148.6 7) [1820.0] 1296.7 / 1296.7 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1633.2(Q)}{10640.00(A)} = 0.23N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.23 / 0.66 = 0.35 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{917551.0(M)}{248260.00(Z)} = 3.70N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $3.70 / 6.65 = 0.56 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.1976 cm $0.1976 / 0.61 = 0.33 \leq 1 \dots \text{OK}$	

まぐさ<2F- 6><>	短期(積雪時)
S-P-F 甲種2級	2-206
YO通り X:9.5~X:11.5 	
1) [ 0.0] 1053.7 / 1053.7 2) [113.8] 148.6 / 148.6 3) [455.0] 1350.9 / 1350.9 4) [910.0] 1350.9 / 1350.9 5) [1365.0] 1350.9 / 1350.9 6) [1706.3] 148.6 / 148.6 7) [1820.0] 2058.7 / 2058.7 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2175.0(Q)}{10640.00(A)} = 0.31N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.31 / 0.96 = 0.32 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1246244.7(M)}{248260.00(Z)} = 5.02N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $5.02 / 9.68 = 0.52 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.2680 cm $0.2680 / 0.81 = 0.33 \leq 1 \dots \text{OK}$	

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まぐさ<2F- 7><>	長期(常時)
S-P-F 甲種2級	2-206
X:12.5通り Y1~Y3	
1) [ 0.0] 471.9 / 471.9 2) [113.8] 148.6 / 148.6 3) [455.0] 944.0 / 944.0 4) [910.0] 2379.6 / 2379.6 5) [1365.0] 944.0 / 944.0 6) [1706.3] 148.6 / 148.6 7) [1820.0] 471.9 / 471.9 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2282.5(\text{Q})}{10640.00(\text{A})} = 0.32\text{N/mm}^2$ $f_s = 0.66\text{N/mm}^2$ 検定比 = $0.32 / 0.66 = 0.49 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1529170.1(\text{M})}{248260.00(\text{Z})} = 6.16\text{N/mm}^2$ $f_b = 6.65\text{N/mm}^2$ 検定比 = $6.16 / 6.65 = 0.93 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.61 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.3045 cm $0.3045 / 0.61 = 0.50 \leq 1 \dots \text{OK}$	

まぐさ<2F- 7><>	短期(積雪時)
S-P-F 甲種2級	2-206
X:12.5通り Y1~Y3	
1) [ 0.0] 724.3 / 724.3 2) [113.8] 148.6 / 148.6 3) [455.0] 1322.6 / 1322.6 4) [910.0] 3597.6 / 3597.6 5) [1365.0] 1322.6 / 1322.6 6) [1706.3] 148.6 / 148.6 7) [1820.0] 724.3 / 724.3 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3270.0(\text{Q})}{10640.00(\text{A})} = 0.46\text{N/mm}^2$ $f_s = 0.96\text{N/mm}^2$ 検定比 = $0.46 / 0.96 = 0.48 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{2255615.5(\text{M})}{248260.00(\text{Z})} = 9.09\text{N/mm}^2$ $f_b = 9.68\text{N/mm}^2$ 検定比 = $9.09 / 9.68 = 0.94 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.81 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.4460 cm $0.4460 / 0.81 = 0.55 \leq 1 \dots \text{OK}$	

まぐさ<2F- 8><>	長期(常時)
S-P-F 甲種2級	2-206
X2通り Y6~Y7	
1) [ 0.0] 527.3 / 527.3 2) [113.8] 148.6 / 148.6 3) [455.0] 770.3 / 770.3 4) [796.3] 148.6 / 148.6 5) [910.0] 375.0 / 375.0 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 533.8(\text{Q})}{10640.00(\text{A})} = 0.08\text{N/mm}^2$ $f_s = 0.66\text{N/mm}^2$ 検定比 = $0.08 / 0.66 = 0.11 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{192159.7(\text{M})}{248260.00(\text{Z})} = 0.77\text{N/mm}^2$ $f_b = 6.65\text{N/mm}^2$ 検定比 = $0.77 / 6.65 = 0.12 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0090 cm $0.0090 / 0.30 = 0.03 \leq 1 \dots \text{OK}$	

まぐさ<2F- 8><>	短期(積雪時)
S-P-F 甲種2級	2-206
X2通り Y6~Y7	
1) [ 0.0] 888.5 / 888.5 2) [113.8] 148.6 / 148.6 3) [455.0] 1077.1 / 1077.1 4) [796.3] 148.6 / 148.6 5) [910.0] 627.4 / 627.4 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N/mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 687.2(\text{Q})}{10640.00(\text{A})} = 0.10\text{N/mm}^2$ $f_s = 0.96\text{N/mm}^2$ 検定比 = $0.10 / 0.96 = 0.10 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N/mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{261952.7(\text{M})}{248260.00(\text{Z})} = 1.06\text{N/mm}^2$ $f_b = 9.68\text{N/mm}^2$ 検定比 = $1.06 / 9.68 = 0.11 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0121 cm $0.0121 / 0.40 = 0.03 \leq 1 \dots \text{OK}$	

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まぐさ<2F-10><>	長期(常時)
S-P-F 甲種2級	2-206
X8通り Y4~Y5	
1) [113.8] 112.4 / 112.4 2) [455.0] 224.8 / 224.8 3) [796.3] 112.4 / 112.4	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 224.8(Q)}{10640.00(A)} = 0.03N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.03 / 0.66 = 0.05 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{63925.4(M)}{248260.00(Z)} = 0.26N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $0.26 / 6.65 = 0.04 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0032 cm $0.0032 / 0.30 = 0.01 \leq 1 \dots \text{OK}$	

まぐさ<2F-10><>	短期(積雪時)
S-P-F 甲種2級	2-206
X8通り Y4~Y5	
1) [113.8] 112.4 / 112.4 2) [455.0] 224.8 / 224.8 3) [796.3] 112.4 / 112.4	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 224.8(Q)}{10640.00(A)} = 0.03N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.03 / 0.96 = 0.03 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{63925.4(M)}{248260.00(Z)} = 0.26N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $0.26 / 9.68 = 0.03 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0032 cm $0.0032 / 0.40 = 0.01 \leq 1 \dots \text{OK}$	

まぐさ<2F-11><>	長期(常時)
S-P-F 甲種2級	2-206
Y6通り X7~X8	
1) [113.8] 112.4 / 112.4 2) [455.0] 224.8 / 224.8 3) [796.3] 112.4 / 112.4	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 224.8(Q)}{10640.00(A)} = 0.03N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.03 / 0.66 = 0.05 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{63925.4(M)}{248260.00(Z)} = 0.26N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $0.26 / 6.65 = 0.04 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0032 cm $0.0032 / 0.30 = 0.01 \leq 1 \dots \text{OK}$	

まぐさ<2F-11><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y6通り X7~X8	
1) [113.8] 112.4 / 112.4 2) [455.0] 224.8 / 224.8 3) [796.3] 112.4 / 112.4	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 224.8(Q)}{10640.00(A)} = 0.03N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.03 / 0.96 = 0.03 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{63925.4(M)}{248260.00(Z)} = 0.26N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $0.26 / 9.68 = 0.03 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0032 cm $0.0032 / 0.40 = 0.01 \leq 1 \dots \text{OK}$	

## 横架材の計算

枠組太郎邸 新築工事

8-16

まぐさ<2F-16><>	長期(常時)
S-P-F 甲種2級	2-206
Y4通り X3~X4	
1) [ 0.0] 374.2 / 374.2 2) [113.8] 112.4 / 112.4 3) [455.0] 599.0 / 599.0 4) [796.3] 112.4 / 112.4 5) [910.0] 2162.6 / 2162.6 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 411.9(Q)}{10640.00(A)} = 0.06N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.06 / 0.66 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{149054.1(M)}{248260.00(Z)} = 0.60N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $0.60 / 6.65 = 0.09 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0070 cm $0.0070 / 0.30 = 0.02 \leq 1 \dots \text{OK}$	

まぐさ<2F-16><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y4通り X3~X4	
1) [ 0.0] 374.2 / 374.2 2) [113.8] 112.4 / 112.4 3) [455.0] 599.0 / 599.0 4) [796.3] 112.4 / 112.4 5) [910.0] 3092.0 / 3092.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 411.9(Q)}{10640.00(A)} = 0.06N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.06 / 0.96 = 0.06 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{149054.1(M)}{248260.00(Z)} = 0.60N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $0.60 / 9.68 = 0.06 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0070 cm $0.0070 / 0.40 = 0.02 \leq 1 \dots \text{OK}$	

まぐさ<2F-17><>	長期(常時)
S-P-F 甲種2級	2-206
Y4通り X8~X:10.5	
1) [ 0.0] 2501.5 / 2501.5 2) [113.8] 112.4 / 112.4 3) [455.0] 3002.3 / 3002.3 4) [910.0] 599.0 / 599.0 5) [1365.0] 599.0 / 599.0 6) [1820.0] 599.0 / 599.0 7) [2161.3] 112.4 / 112.4 8) [2275.0] 2313.7 / 2313.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3233.0(Q)}{10640.00(A)} = 0.46N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.46 / 0.66 = 0.69 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1486504.6(M)}{248260.00(Z)} = 5.99N/mm^2$ $f_b = 6.65N/mm^2$ 検定比 = $5.99 / 6.65 = 0.90 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.76 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.5225 cm $0.5225 / 0.76 = 0.69 \leq 1 \dots \text{OK}$	

まぐさ<2F-17><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y4通り X8~X:10.5	
1) [ 0.0] 3680.4 / 3680.4 2) [113.8] 112.4 / 112.4 3) [455.0] 4329.9 / 4329.9 4) [910.0] 599.0 / 599.0 5) [1365.0] 599.0 / 599.0 6) [1820.0] 599.0 / 599.0 7) [2161.3] 112.4 / 112.4 8) [2275.0] 3638.2 / 3638.2 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 4295.1(Q)}{10640.00(A)} = 0.61N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.61 / 0.96 = 0.63 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1915923.3(M)}{248260.00(Z)} = 7.72N/mm^2$ $f_b = 9.68N/mm^2$ 検定比 = $7.72 / 9.68 = 0.80 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 1.01 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.6057 cm $0.6057 / 1.01 = 0.60 \leq 1 \dots \text{OK}$	



## 横架材の計算

桝組太郎邸 新築工事

8-17

まぐさ<2F-18><>	長期(常時)
S-P-F 甲種2級	2-206
Y4通り X:6.5~X:7.5	
1) [ 0.0] 4759.9 / 4759.9 2) [113.8] 112.4 / 112.4 3) [455.0] 599.0 / 599.0 4) [796.3] 112.4 / 112.4 5) [910.0] 374.2 / 374.2 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 411.9(\text{Q})}{10640.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.66 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{149054.1(\text{M})}{248260.00(\text{Z})} = 0.60\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $0.60 / 6.65 = 0.09 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0070 cm $0.0070 / 0.30 = 0.02 \leq 1 \dots \text{OK}$	

まぐさ<2F-18><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y4通り X:6.5~X:7.5	
1) [ 0.0] 7667.1 / 7667.1 2) [113.8] 112.4 / 112.4 3) [455.0] 599.0 / 599.0 4) [796.3] 112.4 / 112.4 5) [910.0] 374.2 / 374.2 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 411.9(\text{Q})}{10640.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.96 = 0.06 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{149054.1(\text{M})}{248260.00(\text{Z})} = 0.60\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $0.60 / 9.68 = 0.06 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0070 cm $0.0070 / 0.40 = 0.02 \leq 1 \dots \text{OK}$	

まぐさ<2F-19><>	長期(常時)
S-P-F 甲種2級	2-206
X:10.5通り Y6~Y7	
1) [ 0.0] 1522.4 / 1522.4 2) [113.8] 148.6 / 148.6 3) [455.0] 770.3 / 770.3 4) [796.3] 148.6 / 148.6 5) [910.0] 375.0 / 375.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 533.8(\text{Q})}{10640.00(\text{A})} = 0.08\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.08 / 0.66 = 0.11 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{192159.7(\text{M})}{248260.00(\text{Z})} = 0.77\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $0.77 / 6.65 = 0.12 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 1.00 cm以下 最大たわみ量 = 0.0090 cm $0.0090 / 0.30 = 0.03 \leq 1 \dots \text{OK}$	

まぐさ<2F-19><>	短期(積雪時)
S-P-F 甲種2級	2-206
X:10.5通り Y6~Y7	
1) [ 0.0] 2477.1 / 2477.1 2) [113.8] 148.6 / 148.6 3) [455.0] 1077.1 / 1077.1 4) [796.3] 148.6 / 148.6 5) [910.0] 627.4 / 627.4 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 687.2(\text{Q})}{10640.00(\text{A})} = 0.10\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.10 / 0.96 = 0.10 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{261952.7(\text{M})}{248260.00(\text{Z})} = 1.06\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $1.06 / 9.68 = 0.11 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.40 cm (スパンの 1/ 225) かつ 2.00 cm以下 最大たわみ量 = 0.0121 cm $0.0121 / 0.40 = 0.03 \leq 1 \dots \text{OK}$	

## 横架材の計算

枠組太郎邸 新築工事

8-18

まぐさ<2F-20><>	長期(常時)
S-P-F 甲種2級	2-206
Y8通り X:6.5~X:7.5	
1) [ 0.0] 987.6 / 987.6 2) [113.8] 148.6 / 148.6 3) [455.0] 1218.1 / 1218.1 4) [796.3] 148.6 / 148.6 5) [910.0] 844.7 / 844.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 757.7(\text{Q})}{10640.00(\text{A})} = 0.11\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.11 / 0.66 = 0.16 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{294033.3(\text{M})}{248260.00(\text{Z})} = 1.18\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $1.18 / 6.65 = 0.18 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.30 \text{ cm}$ (スパンの $1/300$ ) かつ $1.00 \text{ cm}$ 以下 最大たわみ量 = $0.0135 \text{ cm}$ $0.0135 / 0.30 = 0.04 \leq 1 \dots \text{OK}$	

まぐさ<2F-20><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y8通り X:6.5~X:7.5	
1) [ 0.0] 1558.7 / 1558.7 2) [113.8] 148.6 / 148.6 3) [455.0] 1742.6 / 1742.6 4) [796.3] 148.6 / 148.6 5) [910.0] 1314.8 / 1314.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1019.9(\text{Q})}{10640.00(\text{A})} = 0.14\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.14 / 0.96 = 0.15 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{413348.0(\text{M})}{248260.00(\text{Z})} = 1.66\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $1.66 / 9.68 = 0.17 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.40 \text{ cm}$ (スパンの $1/225$ ) かつ $2.00 \text{ cm}$ 以下 最大たわみ量 = $0.0188 \text{ cm}$ $0.0188 / 0.40 = 0.05 \leq 1 \dots \text{OK}$	

まぐさ<2F-21><>	長期(常時)
S-P-F 甲種2級	2-206
Y8通り X:4.5~X:6	
1) [ 0.0] 768.6 / 768.6 2) [113.8] 148.6 / 148.6 3) [227.5] 1399.9 / 1399.9 4) [455.0] 1142.0 / 1142.0 5) [910.0] 1218.1 / 1218.1 6) [1251.3] 148.6 / 148.6 7) [1365.0] 987.6 / 987.6 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2482.6(\text{Q})}{10640.00(\text{A})} = 0.35\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.35 / 0.66 = 0.53 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{760382.2(\text{M})}{248260.00(\text{Z})} = 3.06\text{N}/\text{mm}^2$ $f_b = 6.65\text{N}/\text{mm}^2$ 検定比 = $3.06 / 6.65 = 0.46 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.46 \text{ cm}$ (スパンの $1/300$ ) かつ $1.00 \text{ cm}$ 以下 最大たわみ量 = $0.1010 \text{ cm}$ $0.1010 / 0.46 = 0.22 \leq 1 \dots \text{OK}$	

まぐさ<2F-21><>	短期(積雪時)
S-P-F 甲種2級	2-206
Y8通り X:4.5~X:6	
1) [ 0.0] 1184.2 / 1184.2 2) [113.8] 148.6 / 148.6 3) [227.5] 1998.4 / 1998.4 4) [455.0] 1612.0 / 1612.0 5) [910.0] 1742.6 / 1742.6 6) [1251.3] 148.6 / 148.6 7) [1365.0] 1558.7 / 1558.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3469.5(\text{Q})}{10640.00(\text{A})} = 0.49\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.49 / 0.96 = 0.51 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.84$ , $K_s=1.00$ $\sigma = \frac{1073279.4(\text{M})}{248260.00(\text{Z})} = 4.32\text{N}/\text{mm}^2$ $f_b = 9.68\text{N}/\text{mm}^2$ 検定比 = $4.32 / 9.68 = 0.45 \leq 1 \dots \text{OK}$	
[たわみ] $I=1737.9$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.61 \text{ cm}$ (スパンの $1/225$ ) かつ $2.00 \text{ cm}$ 以下 最大たわみ量 = $0.1426 \text{ cm}$ $0.1426 / 0.61 = 0.24 \leq 1 \dots \text{OK}$	

## 横架材の計算

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8-19

屋根ばり<2F- 1><>	長期(常時)
S-P-F 甲種2級	2-210
Y4通り X6-X:6.5	
1) [ 0.0] 4145.1 / 4145.1 2) [227.5] 54.6 / 54.6 3) [455.0] 4358.4 / 4358.4 番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 27.3(Q)}{17860.00(A)} = 0.00\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.00 / 0.66 = 0.00 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{6210.7(M)}{699510.00(Z)} = 0.01\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.01 / 5.39 = 0.00 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.23 cm(スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0000 cm $0.0000 / 0.23 = 0.00 \leq 1 \dots \text{OK}$	

屋根ばり<2F- 1><>	短期(積雪時)
S-P-F 甲種2級	2-210
Y4通り X6-X:6.5	
1) [ 0.0] 6914.5 / 6914.5 2) [227.5] 54.6 / 54.6 3) [455.0] 7265.6 / 7265.6 番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 27.3(Q)}{17860.00(A)} = 0.00\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.00 / 0.96 = 0.00 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{6210.7(M)}{699510.00(Z)} = 0.01\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.01 / 7.83 = 0.00 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.30 cm(スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0000 cm $0.0000 / 0.30 = 0.00 \leq 1 \dots \text{OK}$	

屋根ばり<2F- 2><>	長期(常時)
S-P-F 甲種2級	2-210
Y2通り X:8.5-X:12.5	
1) [ 0.0] 2268.2 / 2268.2 2) [113.8] 27.3 / 27.3 3) [455.0] 443.5 / 443.5 4) [910.0] 511.4 / 511.4 5) [1365.0] 587.6 / 587.6 6) [1820.0] 663.7 / 663.7 7) [2275.0] 662.9 / 662.9 8) [2730.0] 955.7 / 955.7 9) [3185.0] 54.6 / 54.6 10) [3526.3] 27.3 / 27.3 番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1992.4(Q)}{17860.00(A)} = 0.17\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.17 / 0.66 = 0.25 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2241375.8(M)}{699510.00(Z)} = 3.20\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $3.20 / 5.39 = 0.59 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.82 cm(スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.4038 cm $0.4038 / 1.82 = 0.22 \leq 1 \dots \text{OK}$	

屋根ばり<2F- 2><>	短期(積雪時)
S-P-F 甲種2級	2-210
Y2通り X:8.5-X:12.5	
1) [ 0.0] 3659.3 / 3659.3 2) [113.8] 27.3 / 27.3 3) [455.0] 722.4 / 722.4 4) [910.0] 838.0 / 838.0 5) [1365.0] 968.5 / 968.5 6) [1820.0] 1099.1 / 1099.1 7) [2275.0] 1097.5 / 1097.5 8) [2730.0] 1581.5 / 1581.5 9) [3185.0] 54.6 / 54.6 10) [3526.3] 27.3 / 27.3 番号) [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3256.5(Q)}{17860.00(A)} = 0.27\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.27 / 0.96 = 0.28 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{3690945.6(M)}{699510.00(Z)} = 5.28\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $5.28 / 7.83 = 0.67 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 2.43 cm(スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.6643 cm $0.6643 / 2.43 = 0.27 \leq 1 \dots \text{OK}$	

## 横架材の計算

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屋根ばり<2F- 3><>	長期(常時)
S-P-F 甲種2級	2-210
Y2通り X2~X4	
1) [ 0.0] 2279.8 / 2279.8 2) [113.8] 27.3 / 27.3 3) [455.0] 587.6 / 587.6 4) [910.0] 511.4 / 511.4 5) [1365.0] 443.5 / 443.5 6) [1706.3] 27.3 / 27.3 7) [1820.0] 2268.2 / 2268.2	強度用 / たわみ用(N)
番号 [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 834.6(Q)}{17860.00(A)} = 0.07N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = 0.07 / 0.66 = 0.11 $\leq 1 \dots \circ K$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{470394.4(M)}{699510.00(Z)} = 0.67N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = 0.67 / 5.39 = 0.12 $\leq 1 \dots \circ K$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 0.91 cm(スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0214 cm 0.0214 / 0.91 = 0.02 $\leq 1 \dots \circ K$	

屋根ばり<2F- 3><>	短期(積雪時)
S-P-F 甲種2級	2-210
Y2通り X2~X4	
1) [ 0.0] 3672.0 / 3672.0 2) [113.8] 27.3 / 27.3 3) [455.0] 968.5 / 968.5 4) [910.0] 838.0 / 838.0 5) [1365.0] 722.4 / 722.4 6) [1706.3] 27.3 / 27.3 7) [1820.0] 3659.3 / 3659.3	強度用 / たわみ用(N)
番号 [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1353.3(Q)}{17860.00(A)} = 0.11N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = 0.11 / 0.96 = 0.12 $\leq 1 \dots \circ K$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{769072.3(M)}{699510.00(Z)} = 1.10N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = 1.10 / 7.83 = 0.14 $\leq 1 \dots \circ K$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 1.21 cm(スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0350 cm 0.0350 / 1.21 = 0.03 $\leq 1 \dots \circ K$	

隅木<1F- 1><1>	長期(常時)
S-P-F 甲種2級	2-210
X:12.5, Y8~X:13.16, Y:8.66	
1) [ 0.0] 401.6 / 401.6 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 318.2 / 318.2	強度用 / たわみ用(N)
番号 [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 426.2(Q)}{17860.00(A)} = 0.04N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = 0.04 / 0.66 = 0.05 $\leq 1 \dots \circ K$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{250554.2(M)}{699510.00(Z)} = 0.36N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = 0.36 / 5.39 = 0.07 $\leq 1 \dots \circ K$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 0.42 cm(スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0076 cm 0.0076 / 0.42 = 0.02 $\leq 1 \dots \circ K$	

隅木<1F- 1><1>	短期(積雪時)
S-P-F 甲種2級	2-210
X:12.5, Y8~X:13.16, Y:8.66	
1) [ 0.0] 688.7 / 688.7 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 547.1 / 547.1	強度用 / たわみ用(N)
番号 [位置]強度用 / たわみ用(N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 655.1(Q)}{17860.00(A)} = 0.06N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = 0.06 / 0.96 = 0.06 $\leq 1 \dots \circ K$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{397847.8(M)}{699510.00(Z)} = 0.57N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = 0.57 / 7.83 = 0.07 $\leq 1 \dots \circ K$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 0.57 cm(スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0121 cm 0.0121 / 0.57 = 0.02 $\leq 1 \dots \circ K$	

## 横架材の計算

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隅木<1F- 1><2> S-P-F 甲種2級	長期(常時) 2-210
X:12.5, Y8~X:10.5, Y6	
1) [160.9] 40.9 / 40.9 2) [643.5] 234.2 / 234.2 3) [1286.9] 386.5 / 386.5 4) [1930.4] 538.7 / 538.7 5) [2413.0] 41.0 / 41.0 6) [2573.9] 298.4 / 298.4 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 696.8(\text{Q})}{17860.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.66 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{503938.7(\text{M})}{699510.00(\text{Z})} = 0.72\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.72 / 5.39 = 0.13 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.29 cm (スパンの 1/ 200) かつ 2.00 cm 以下 最大たわみ量 = 0.0463 cm $0.0463 / 1.29 = 0.04 \leq 1 \dots \text{OK}$	

隅木<1F- 1><2> S-P-F 甲種2級	短期(積雪時) 2-210
X:12.5, Y8~X:10.5, Y6	
1) [160.9] 40.9 / 40.9 2) [643.5] 343.0 / 343.0 3) [1286.9] 604.1 / 604.1 4) [1930.4] 865.3 / 865.3 5) [2413.0] 41.0 / 41.0 6) [2573.9] 510.9 / 510.9 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1077.7(\text{Q})}{17860.00(\text{A})} = 0.09\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.09 / 0.96 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{784075.9(\text{M})}{699510.00(\text{Z})} = 1.12\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $1.12 / 7.83 = 0.14 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.72 cm (スパンの 1/ 150) かつ 3.00 cm 以下 最大たわみ量 = 0.0721 cm $0.0721 / 1.72 = 0.04 \leq 1 \dots \text{OK}$	

隅木<2F- 3><1> S-P-F 甲種2級	長期(常時) 2-210
X0, Y0~X:-0.66, Y:-0.66	
1) [ 0.0] 401.6 / 401.6 2) [263.4] 67.0 / 67.0 3) [643.5] 318.2 / 318.2 4) [687.7] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 426.2(\text{Q})}{17860.00(\text{A})} = 0.04\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.04 / 0.66 = 0.05 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{250554.2(\text{M})}{699510.00(\text{Z})} = 0.36\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.36 / 5.39 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.42 cm (スパンの 1/ 200) かつ 2.00 cm 以下 最大たわみ量 = 0.0076 cm $0.0076 / 0.42 = 0.02 \leq 1 \dots \text{OK}$	

隅木<2F- 3><1> S-P-F 甲種2級	短期(積雪時) 2-210
X0, Y0~X:-0.66, Y:-0.66	
1) [ 0.0] 688.7 / 688.7 2) [263.4] 67.0 / 67.0 3) [643.5] 547.1 / 547.1 4) [687.7] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 655.1(\text{Q})}{17860.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.96 = 0.06 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{397847.8(\text{M})}{699510.00(\text{Z})} = 0.57\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.57 / 7.83 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.57 cm (スパンの 1/ 150) かつ 3.00 cm 以下 最大たわみ量 = 0.0121 cm $0.0121 / 0.57 = 0.02 \leq 1 \dots \text{OK}$	

## 横架材の計算

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隅木<2F- 3><2> S-P-F 甲種2級	長期(常時) 2-210
X0, Y0~X2, Y2	
1) [160.9] 41.0 / 41.0 2) [643.5] 234.2 / 234.2 3) [1286.9] 386.5 / 386.5 4) [1930.4] 538.7 / 538.7 5) [2413.0] 40.9 / 40.9 6) [2573.9] 886.8 / 886.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 696.8(\text{Q})}{17860.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.66 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{503938.7(\text{M})}{699510.00(\text{Z})} = 0.72\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.72 / 5.39 = 0.13 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.29 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0463 cm $0.0463 / 1.29 = 0.04 \leq 1 \dots \text{OK}$	

隅木<2F- 3><2> S-P-F 甲種2級	短期(積雪時) 2-210
X0, Y0~X2, Y2	
1) [160.9] 41.0 / 41.0 2) [643.5] 343.0 / 343.0 3) [1286.9] 604.1 / 604.1 4) [1930.4] 865.3 / 865.3 5) [2413.0] 40.9 / 40.9 6) [2573.9] 1517.7 / 1517.7 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1077.7(\text{Q})}{17860.00(\text{A})} = 0.09\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.09 / 0.96 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{784075.9(\text{M})}{699510.00(\text{Z})} = 1.12\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $1.12 / 7.83 = 0.14 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.72 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0721 cm $0.0721 / 1.72 = 0.04 \leq 1 \dots \text{OK}$	

隅木<2F- 4><1> S-P-F 甲種2級	長期(常時) 2-210
X0, Y4~X1~-0.66, Y:4.66	
1) [ 0.0] 401.6 / 401.6 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 318.2 / 318.2 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 426.2(\text{Q})}{17860.00(\text{A})} = 0.04\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.04 / 0.66 = 0.05 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{250554.2(\text{M})}{699510.00(\text{Z})} = 0.36\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.36 / 5.39 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.42 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0076 cm $0.0076 / 0.42 = 0.02 \leq 1 \dots \text{OK}$	

隅木<2F- 4><1> S-P-F 甲種2級	短期(積雪時) 2-210
X0, Y4~X1~-0.66, Y:4.66	
1) [ 0.0] 688.7 / 688.7 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 547.1 / 547.1 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 655.1(\text{Q})}{17860.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.96 = 0.06 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{397847.8(\text{M})}{699510.00(\text{Z})} = 0.57\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.57 / 7.83 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.57 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0121 cm $0.0121 / 0.57 = 0.02 \leq 1 \dots \text{OK}$	

## 横架材の計算

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隅木<2F- 4><2> S-P-F 甲種2級	長期(常時) 2-210
X0, Y4~X2, Y2	
1) [160.9] 40.9 / 40.9 2) [643.5] 234.2 / 234.2 3) [1286.9] 386.5 / 386.5 4) [1930.4] 537.9 / 537.9 5) [2413.0] 41.0 / 41.0	強度用 / たわみ用 (N)
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 696.2(\text{Q})}{17860.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.66 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{503677.0(\text{M})}{699510.00(\text{Z})} = 0.72\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.72 / 5.39 = 0.13 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.29 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0463 cm $0.0463 / 1.29 = 0.04 \leq 1 \dots \text{OK}$	

隅木<2F- 4><2> S-P-F 甲種2級	短期(積雪時) 2-210
X0, Y4~X2, Y2	
1) [160.9] 40.9 / 40.9 2) [643.5] 343.0 / 343.0 3) [1286.9] 604.1 / 604.1 4) [1930.4] 863.8 / 863.8 5) [2413.0] 41.0 / 41.0	強度用 / たわみ用 (N)
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1076.6(\text{Q})}{17860.00(\text{A})} = 0.09\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.09 / 0.96 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{783598.4(\text{M})}{699510.00(\text{Z})} = 1.12\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $1.12 / 7.83 = 0.14 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.72 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0720 cm $0.0720 / 1.72 = 0.04 \leq 1 \dots \text{OK}$	

隅木<2F- 5><1-1> S-P-F 甲種2級	長期(常時) 2-210
X2, Y8~X:1.34, Y:8.66	
1) [ 0.0] 401.6 / 401.6 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 318.2 / 318.2	強度用 / たわみ用 (N)
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 426.2(\text{Q})}{17860.00(\text{A})} = 0.04\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.04 / 0.66 = 0.05 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{250554.2(\text{M})}{699510.00(\text{Z})} = 0.36\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.36 / 5.39 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.42 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0076 cm $0.0076 / 0.42 = 0.02 \leq 1 \dots \text{OK}$	

隅木<2F- 5><1-1> S-P-F 甲種2級	短期(積雪時) 2-210
X2, Y8~X:1.34, Y:8.66	
1) [ 0.0] 688.7 / 688.7 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 547.1 / 547.1	強度用 / たわみ用 (N)
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 655.1(\text{Q})}{17860.00(\text{A})} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.96 = 0.06 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{397847.8(\text{M})}{699510.00(\text{Z})} = 0.57\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.57 / 7.83 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.57 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0121 cm $0.0121 / 0.57 = 0.02 \leq 1 \dots \text{OK}$	

## 横架材の計算

桝組太郎邸 新築工事

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隅木<2F- 5><2> S-P-F 甲種2級	長期(常時) 2-210
X:4.75, Y:5.25~X6, Y4	
1) [321.7] 995.6 / 995.6 2) [965.2] 1146.9 / 1146.9 3) [1447.8] 41.0 / 41.0	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1259.3(Q)}{17860.00(A)} = 0.11N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.11 / 0.66 = 0.16 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{574880.3(M)}{699510.00(Z)} = 0.82N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $0.82 / 5.39 = 0.15 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = $0.80 \text{ cm}$ (スパンの $1/200$ ) かつ $2.00 \text{ cm}$ 以下 最大たわみ量 = $0.0220 \text{ cm}$ $0.0220 / 0.80 = 0.03 \leq 1 \dots \text{OK}$	

隅木<2F- 5><2> S-P-F 甲種2級	短期(積雪時) 2-210
X:4.75, Y:5.25~X6, Y4	
1) [321.7] 1648.6 / 1648.6 2) [965.2] 1908.0 / 1908.0 3) [1447.8] 41.0 / 41.0	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2086.2(Q)}{17860.00(A)} = 0.18N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.18 / 0.96 = 0.18 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{952763.4(M)}{699510.00(Z)} = 1.36N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $1.36 / 7.83 = 0.17 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = $1.07 \text{ cm}$ (スパンの $1/150$ ) かつ $3.00 \text{ cm}$ 以下 最大たわみ量 = $0.0364 \text{ cm}$ $0.0364 / 1.07 = 0.03 \leq 1 \dots \text{OK}$	

隅木<2F- 5><2> S-P-F 甲種2級	長期(常時) 2-210
X2, Y8~X:4.75, Y:5.25	
1) [321.7] 81.9 / 81.9 2) [643.5] 152.3 / 152.3 3) [965.2] 81.9 / 81.9 4) [1286.9] 304.6 / 304.6 5) [1608.7] 81.9 / 81.9 6) [1930.4] 456.8 / 456.8 7) [2252.1] 81.9 / 81.9 8) [2573.9] 609.1 / 609.1 9) [2895.6] 81.9 / 81.9 10) [3217.3] 761.4 / 761.4 11) [3378.2] 41.0 / 41.0	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1748.0(Q)}{17860.00(A)} = 0.15N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.15 / 0.66 = 0.22 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1275490.8(M)}{699510.00(Z)} = 1.82N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $1.82 / 5.39 = 0.34 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = $1.77 \text{ cm}$ (スパンの $1/200$ ) かつ $2.00 \text{ cm}$ 以下 最大たわみ量 = $0.2139 \text{ cm}$ $0.2139 / 1.77 = 0.12 \leq 1 \dots \text{OK}$	

隅木<2F- 5><2> S-P-F 甲種2級	短期(積雪時) 2-210
X2, Y8~X:4.75, Y:5.25	
1) [321.7] 81.9 / 81.9 2) [643.5] 261.1 / 261.1 3) [965.2] 81.9 / 81.9 4) [1286.9] 522.2 / 522.2 5) [1608.7] 81.9 / 81.9 6) [1930.4] 783.4 / 783.4 7) [2252.1] 81.9 / 81.9 8) [2573.9] 1044.5 / 1044.5 9) [2895.6] 81.9 / 81.9 10) [3217.3] 1305.6 / 1305.6 11) [3378.2] 41.0 / 41.0	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2836.4(Q)}{17860.00(A)} = 0.24N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.24 / 0.96 = 0.25 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2045868.2(M)}{699510.00(Z)} = 2.92N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $2.92 / 7.83 = 0.37 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = $2.36 \text{ cm}$ (スパンの $1/150$ ) かつ $3.00 \text{ cm}$ 以下 最大たわみ量 = $0.3419 \text{ cm}$ $0.3419 / 2.36 = 0.14 \leq 1 \dots \text{OK}$	



## 横架材の計算

梓組太郎邸 新築工事

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隅木<2F- 6><> S-P-F 甲種2級	長期(常時) 2-210
X6, Y4~X4, Y2	
1) [ 0.0 ] 1796.7 / 1796.7 2) [160.9] 40.9 / 40.9 3) [643.5] 1071.7 / 1071.7 4) [1286.9] 843.3 / 843.3 5) [1930.4] 631.4 / 631.4 6) [2413.0] 41.0 / 41.0 7) [2573.9] 310.8 / 310.8 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1424.2(\text{Q})}{17860.00(\text{A})} = 0.12\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.12 / 0.66 = 0.18 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1097171.4(\text{M})}{699510.00(\text{Z})} = 1.57\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $1.57 / 5.39 = 0.29 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.29 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.1004 cm $0.1004 / 1.29 = 0.08 \leq 1 \dots \text{OK}$	

隅木<2F- 6><> S-P-F 甲種2級	短期(積雪時) 2-210
X6, Y4~X4, Y2	
1) [ 0.0 ] 3077.5 / 3077.5 2) [160.9] 40.9 / 40.9 3) [643.5] 1779.2 / 1779.2 4) [1286.9] 1387.5 / 1387.5 5) [1930.4] 1025.9 / 1025.9 6) [2413.0] 41.0 / 41.0 7) [2573.9] 533.6 / 533.6 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2325.6(\text{Q})}{17860.00(\text{A})} = 0.20\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.20 / 0.96 = 0.20 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1801891.7(\text{M})}{699510.00(\text{Z})} = 2.58\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $2.58 / 7.83 = 0.33 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.72 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.1648 cm $0.1648 / 1.72 = 0.10 \leq 1 \dots \text{OK}$	

隅木<2F- 7><> S-P-F 甲種2級	長期(常時) 2-210
X:6.5, Y4~X:8.5, Y2	
1) [ 0.0 ] 1796.7 / 1796.7 2) [160.9] 40.9 / 40.9 3) [643.5] 1071.7 / 1071.7 4) [1286.9] 843.3 / 843.3 5) [1930.4] 631.4 / 631.4 6) [2413.0] 41.0 / 41.0 7) [2573.9] 310.8 / 310.8 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1424.2(\text{Q})}{17860.00(\text{A})} = 0.12\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.12 / 0.66 = 0.18 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1097171.4(\text{M})}{699510.00(\text{Z})} = 1.57\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $1.57 / 5.39 = 0.29 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.29 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.1004 cm $0.1004 / 1.29 = 0.08 \leq 1 \dots \text{OK}$	

隅木<2F- 7><> S-P-F 甲種2級	短期(積雪時) 2-210
X:6.5, Y4~X:8.5, Y2	
1) [ 0.0 ] 3077.5 / 3077.5 2) [160.9] 40.9 / 40.9 3) [643.5] 1779.2 / 1779.2 4) [1286.9] 1387.5 / 1387.5 5) [1930.4] 1025.9 / 1025.9 6) [2413.0] 41.0 / 41.0 7) [2573.9] 533.6 / 533.6 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2325.6(\text{Q})}{17860.00(\text{A})} = 0.20\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.20 / 0.96 = 0.20 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1801891.7(\text{M})}{699510.00(\text{Z})} = 2.58\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $2.58 / 7.83 = 0.33 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.72 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.1648 cm $0.1648 / 1.72 = 0.10 \leq 1 \dots \text{OK}$	

## 横架材の計算

梓組太郎邸 新築工事

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隅木<2F- 8><1-1>	長期(常時)
S-P-F 甲種2級	2-210
X:10.5, Y8~X:11.16, Y:8.66	
1) [ 0.0 ] 401.6 / 401.6 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 318.2 / 318.2	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 426.2(Q)}{17860.00(A)} = 0.04\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.04 / 0.66 = 0.05 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{250554.2(M)}{699510.00(Z)} = 0.36\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.36 / 5.39 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.42\text{ cm}$ (スパンの $1/200$ ) かつ $2.00\text{ cm}$ 以下 最大たわみ量 = $0.0076\text{ cm}$ $0.0076 / 0.42 = 0.02 \leq 1 \dots \text{OK}$	

隅木<2F- 8><1-1>	短期(積雪時)
S-P-F 甲種2級	2-210
X:10.5, Y8~X:11.16, Y:8.66	
1) [ 0.0 ] 688.7 / 688.7 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 547.1 / 547.1	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 655.1(Q)}{17860.00(A)} = 0.06\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.06 / 0.96 = 0.06 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{397847.8(M)}{699510.00(Z)} = 0.57\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.57 / 7.83 = 0.07 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.57\text{ cm}$ (スパンの $1/150$ ) かつ $3.00\text{ cm}$ 以下 最大たわみ量 = $0.0121\text{ cm}$ $0.0121 / 0.57 = 0.02 \leq 1 \dots \text{OK}$	

隅木<2F- 8><2>	長期(常時)
S-P-F 甲種2級	2-210
X8, Y:5.5~X:6.5, Y4	
1) [ 0.0 ] 761.4 / 761.4 2) [160.9] 40.9 / 40.9 3) [643.5] 995.6 / 995.6 4) [1286.9] 1146.9 / 1146.9 5) [1769.5] 41.0 / 41.0	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1137.4(Q)}{17860.00(A)} = 0.10\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.10 / 0.66 = 0.14 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{712132.5(M)}{699510.00(Z)} = 1.02\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $1.02 / 5.39 = 0.19 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $0.97\text{ cm}$ (スパンの $1/200$ ) かつ $2.00\text{ cm}$ 以下 最大たわみ量 = $0.0402\text{ cm}$ $0.0402 / 0.97 = 0.04 \leq 1 \dots \text{OK}$	

隅木<2F- 8><2>	短期(積雪時)
S-P-F 甲種2級	2-210
X8, Y:5.5~X:6.5, Y4	
1) [ 0.0 ] 1305.6 / 1305.6 2) [160.9] 40.9 / 40.9 3) [643.5] 1648.6 / 1648.6 4) [1286.9] 1908.0 / 1908.0 5) [1769.5] 41.0 / 41.0	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1862.5(Q)}{17860.00(A)} = 0.16\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.16 / 0.96 = 0.16 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1178692.1(M)}{699510.00(Z)} = 1.69\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $1.69 / 7.83 = 0.22 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = $1.29\text{ cm}$ (スパンの $1/150$ ) かつ $3.00\text{ cm}$ 以下 最大たわみ量 = $0.0664\text{ cm}$ $0.0664 / 1.29 = 0.05 \leq 1 \dots \text{OK}$	

## 横架材の計算

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隅木<2F- 8><2> S-P-F 甲種2級	長期(常時) 2-210
X:10.5, Y8~X8, Y:5.5	
1) [160.9] 40.9 / 40.9 2) [643.5] 234.2 / 234.2 3) [1286.9] 386.5 / 386.5 4) [1930.4] 538.7 / 538.7 5) [2573.9] 691.0 / 691.0 6) [3056.5] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1118.4(Q)}{17860.00(A)} = 0.09N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.09 / 0.66 = 0.14 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{948589.9(M)}{699510.00(Z)} = 1.36N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $1.36 / 5.39 = 0.25 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 1.61 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.1363 cm $0.1363 / 1.61 = 0.08 \leq 1 \dots \text{OK}$	

隅木<2F- 8><2> S-P-F 甲種2級	短期(積雪時) 2-210
X:10.5, Y8~X8, Y:5.5	
1) [160.9] 40.9 / 40.9 2) [643.5] 343.0 / 343.0 3) [1286.9] 604.1 / 604.1 4) [1930.4] 865.3 / 865.3 5) [2573.9] 1126.4 / 1126.4 6) [3056.5] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1771.5(Q)}{17860.00(A)} = 0.15N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.15 / 0.96 = 0.15 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1508864.3(M)}{699510.00(Z)} = 2.16N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $2.16 / 7.83 = 0.28 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 2.14 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.2158 cm $0.2158 / 2.14 = 0.10 \leq 1 \dots \text{OK}$	

床ばり<2F- 2><2> べいまつE120-F330	長期(常時) 610
X5通り Y4~Y0	
1) [ 0.0] 1040.1 / 1040.1 2) [113.8] 137.6 / 101.4 3) [455.0] 2250.3 / 1598.1 4) [910.0] 2250.3 / 1598.1 5) [1365.0] 2250.3 / 1598.1 6) [1820.0] 3894.6 / 3242.4 7) [2275.0] 2404.9 / 1752.8 8) [2730.0] 2404.9 / 1752.8 9) [3185.0] 2404.9 / 1752.8 10) [3526.3] 137.6 / 101.4 11) [3640.0] 1398.0 / 1398.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=3.6N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 9183.6(Q)}{32900.00(A)} = 0.42N/mm^2$ $f_s = 1.32N/mm^2$ 検定比 = $0.42 / 1.32 = 0.32 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=33.0N/mm^2$ , $K_d=1.10$ , $K_z=1.00$ , $K_s=1.00$ $\sigma = \frac{9913975.7(M)}{1288580.00(Z)} = 7.69N/mm^2$ $f_b = 12.10N/mm^2$ 検定比 = $7.69 / 12.10 = 0.64 \leq 1 \dots \text{OK}$	
[たわみ] $I=15140.9$ , $E=1200.0 kN/cm^2$ 許容たわみ量 = 0.91 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.7634 cm $0.7634 / 0.91 = 0.84 \leq 1 \dots \text{OK}$	
[平成12建告1459号] 許容たわみ量 = 1.46 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 1.1502 cm $1.1502 / 1.46 = 0.79 \leq 1 \dots \text{OK}$	

床ばり<2F- 2><2> べいまつE120-F330	短期(積雪時) 610
X5通り Y4~Y0	
1) [ 0.0] 1040.1 / 1040.1 2) [113.8] 137.6 / 101.4 3) [455.0] 2250.3 / 1598.1 4) [910.0] 2250.3 / 1598.1 5) [1365.0] 2250.3 / 1598.1 6) [1820.0] 3894.6 / 3242.4 7) [2275.0] 2404.9 / 1752.8 8) [2730.0] 2404.9 / 1752.8 9) [3185.0] 2404.9 / 1752.8 10) [3526.3] 137.6 / 101.4 11) [3640.0] 1868.0 / 1868.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=3.6N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 9183.6(Q)}{32900.00(A)} = 0.42N/mm^2$ $f_s = 1.92N/mm^2$ 検定比 = $0.42 / 1.92 = 0.22 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=33.0N/mm^2$ , $K_d=1.60$ , $K_z=1.00$ , $K_s=1.00$ $\sigma = \frac{9913975.7(M)}{1288580.00(Z)} = 7.69N/mm^2$ $f_b = 17.60N/mm^2$ 検定比 = $7.69 / 17.60 = 0.44 \leq 1 \dots \text{OK}$	
[たわみ] $I=15140.9$ , $E=1200.0 kN/cm^2$ 許容たわみ量 = 1.21 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.7634 cm $0.7634 / 1.21 = 0.63 \leq 1 \dots \text{OK}$	



## 横架材の計算

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床ばり<2F-12><2> S-P-F 甲種2級	長期(常時) 2-210
Y3通り X1~X0	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [796.3] 211.6 / 139.1 4) [910.0] 2699.6 / 2699.6 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3545.8(Q)}{17860.00(A)} = 0.30N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.30 / 0.66 = 0.45 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2841649.8(M)}{699510.00(Z)} = 4.06N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $4.06 / 5.39 = 0.75 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.23 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.0994 cm $0.0994 / 0.23 = 0.44 \leq 1 \dots \text{OK}$ [平成12建告1459号] 許容たわみ量 = 0.36 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.1896 cm $0.1896 / 0.36 = 0.52 \leq 1 \dots \text{OK}$	

床ばり<2F-12><2> S-P-F 甲種2級	短期(積雪時) 2-210
Y3通り X1~X0	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [796.3] 211.6 / 139.1 4) [910.0] 3621.9 / 3621.9 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 4468.1(Q)}{17860.00(A)} = 0.38N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.38 / 0.96 = 0.39 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{3680989.3(M)}{699510.00(Z)} = 5.26N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $5.26 / 7.83 = 0.67 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.1288 cm $0.1288 / 0.30 = 0.42 \leq 1 \dots \text{OK}$	

床ばり<2F-12><1> S-P-F 甲種2級	長期(常時) 2-210
Y3通り X1~X5	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [910.0] 423.1 / 278.2 4) [1365.0] 423.1 / 278.2 5) [1820.0] 423.1 / 278.2 6) [2275.0] 423.1 / 278.2 7) [2730.0] 799.9 / 655.0 8) [3185.0] 423.1 / 278.2 9) [3526.3] 211.6 / 139.1 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1975.0(Q)}{17860.00(A)} = 0.17N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.17 / 0.66 = 0.25 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1735601.9(M)}{699510.00(Z)} = 2.48N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $2.48 / 5.39 = 0.46 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.91 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.3219 cm $0.3219 / 0.91 = 0.35 \leq 1 \dots \text{OK}$ [平成12建告1459号] 許容たわみ量 = 1.46 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.4478 cm $0.4478 / 1.46 = 0.31 \leq 1 \dots \text{OK}$	

床ばり<2F-12><1> S-P-F 甲種2級	短期(積雪時) 2-210
Y3通り X1~X5	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [910.0] 423.1 / 278.2 4) [1365.0] 423.1 / 278.2 5) [1820.0] 423.1 / 278.2 6) [2275.0] 423.1 / 278.2 7) [2730.0] 799.9 / 655.0 8) [3185.0] 423.1 / 278.2 9) [3526.3] 211.6 / 139.1 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1975.0(Q)}{17860.00(A)} = 0.17N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.17 / 0.96 = 0.17 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1735601.9(M)}{699510.00(Z)} = 2.48N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $2.48 / 7.83 = 0.32 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 1.21 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.3219 cm $0.3219 / 1.21 = 0.27 \leq 1 \dots \text{OK}$	

## 横架材の計算

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床ばり<2F-13><2> S-P-F 甲種2級	長期(常時) 2-210
Y1通り X1~X0	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [796.3] 211.6 / 139.1 4) [910.0] 2699.6 / 2699.6 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3545.8(Q)}{17860.00(A)} = 0.30N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.30 / 0.66 = 0.45 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{2841649.8(M)}{699510.00(Z)} = 4.06N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $4.06 / 5.39 = 0.75 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.23 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.0994 cm $0.0994 / 0.23 = 0.44 \leq 1 \dots \text{OK}$ [平成12建告1459号] 許容たわみ量 = 0.36 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.1896 cm $0.1896 / 0.36 = 0.52 \leq 1 \dots \text{OK}$	

床ばり<2F-13><2> S-P-F 甲種2級	短期(積雪時) 2-210
Y1通り X1~X0	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [796.3] 211.6 / 139.1 4) [910.0] 3621.9 / 3621.9 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 4468.1(Q)}{17860.00(A)} = 0.38N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.38 / 0.96 = 0.39 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{3680989.3(M)}{699510.00(Z)} = 5.26N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $5.26 / 7.83 = 0.67 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.1288 cm $0.1288 / 0.30 = 0.42 \leq 1 \dots \text{OK}$	

床ばり<2F-13><1> S-P-F 甲種2級	長期(常時) 2-210
Y1通り X1~X5	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [910.0] 423.1 / 278.2 4) [1365.0] 423.1 / 278.2 5) [1820.0] 423.1 / 278.2 6) [2275.0] 423.1 / 278.2 7) [2730.0] 423.1 / 278.2 8) [3185.0] 423.1 / 278.2 9) [3526.3] 211.6 / 139.1 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1692.4(Q)}{17860.00(A)} = 0.14N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.14 / 0.66 = 0.22 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1564164.4(M)}{699510.00(Z)} = 2.24N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $2.24 / 5.39 = 0.42 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 0.91 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.2862 cm $0.2862 / 0.91 = 0.31 \leq 1 \dots \text{OK}$ [平成12建告1459号] 許容たわみ量 = 1.46 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.3763 cm $0.3763 / 1.46 = 0.26 \leq 1 \dots \text{OK}$	

床ばり<2F-13><1> S-P-F 甲種2級	短期(積雪時) 2-210
Y1通り X1~X5	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [910.0] 423.1 / 278.2 4) [1365.0] 423.1 / 278.2 5) [1820.0] 423.1 / 278.2 6) [2275.0] 423.1 / 278.2 7) [2730.0] 423.1 / 278.2 8) [3185.0] 423.1 / 278.2 9) [3526.3] 211.6 / 139.1 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1692.4(Q)}{17860.00(A)} = 0.14N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.14 / 0.96 = 0.15 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1564164.4(M)}{699510.00(Z)} = 2.24N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $2.24 / 7.83 = 0.29 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 1.21 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.2862 cm $0.2862 / 1.21 = 0.24 \leq 1 \dots \text{OK}$	

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床ばり<2F-21><1>	長期(常時)
S-P-F 甲種2級	2-210
X:8.5通り Y0~Y:-1	
1) [0.0] 3506.6 / 3506.6 2) [113.8] 119.4 / 83.2 3) [455.0] 518.1 / 445.7 4) [796.3] 119.4 / 83.2 5) [910.0] 279.3 / 279.3 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1036.3(Q)}{17860.00(A)} = 0.09N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.09 / 0.66 = 0.13 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{598571.4(M)}{699510.00(Z)} = 0.86N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $0.86 / 5.39 = 0.16 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 0.23 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.0209 cm $0.0209 / 0.23 = 0.09 \leq 1 \dots \text{OK}$ [平成12建告1459号] 許容たわみ量 = 0.36 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.0373 cm $0.0373 / 0.36 = 0.10 \leq 1 \dots \text{OK}$	

床ばり<2F-21><1>	短期(積雪時)
S-P-F 甲種2級	2-210
X:8.5通り Y0~Y:-1	
1) [0.0] 5203.9 / 5203.9 2) [113.8] 119.4 / 83.2 3) [455.0] 518.1 / 445.7 4) [796.3] 119.4 / 83.2 5) [910.0] 279.3 / 279.3 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1036.3(Q)}{17860.00(A)} = 0.09N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.09 / 0.96 = 0.09 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{598571.4(M)}{699510.00(Z)} = 0.86N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $0.86 / 7.83 = 0.11 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 0.30 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.0209 cm $0.0209 / 0.30 = 0.07 \leq 1 \dots \text{OK}$	

床ばり<2F-21><2>	長期(常時)
S-P-F 甲種2級	2-210
X:8.5通り Y0~Y4	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [910.0] 423.1 / 278.2 4) [1365.0] 423.1 / 278.2 5) [1820.0] 423.1 / 278.2 6) [2275.0] 423.1 / 278.2 7) [2730.0] 423.1 / 278.2 8) [3185.0] 423.1 / 278.2 9) [3526.3] 211.6 / 139.1 10) [3640.0] 791.6 / 501.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1692.4(Q)}{17860.00(A)} = 0.14N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.14 / 0.66 = 0.22 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1564164.4(M)}{699510.00(Z)} = 2.24N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $2.24 / 5.39 = 0.42 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 0.91 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.2862 cm $0.2862 / 0.91 = 0.31 \leq 1 \dots \text{OK}$ [平成12建告1459号] 許容たわみ量 = 1.46 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.3763 cm $0.3763 / 1.46 = 0.26 \leq 1 \dots \text{OK}$	

床ばり<2F-21><2>	短期(積雪時)
S-P-F 甲種2級	2-210
X:8.5通り Y0~Y4	
1) [113.8] 211.6 / 139.1 2) [455.0] 423.1 / 278.2 3) [910.0] 423.1 / 278.2 4) [1365.0] 423.1 / 278.2 5) [1820.0] 423.1 / 278.2 6) [2275.0] 423.1 / 278.2 7) [2730.0] 423.1 / 278.2 8) [3185.0] 423.1 / 278.2 9) [3526.3] 211.6 / 139.1 10) [3640.0] 791.6 / 501.8 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1692.4(Q)}{17860.00(A)} = 0.14N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.14 / 0.96 = 0.15 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1564164.4(M)}{699510.00(Z)} = 2.24N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $2.24 / 7.83 = 0.29 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 1.21 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.2862 cm $0.2862 / 1.21 = 0.24 \leq 1 \dots \text{OK}$	

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床ばり<2F-24><>	長期(常時)
S-P-F 甲種2級	2-210
X4通り Y8~Y:5.25 	
1) [ 0.0 ] 1353.8 / 1353.8 2) [113.8] 27.3 / 27.3 3) [455.0] 333.9 / 333.9 4) [910.0] 333.9 / 333.9 5) [1365.0] 333.9 / 333.9 6) [1820.0] 333.9 / 333.9 7) [2275.0] 333.9 / 333.9 8) [2502.5] 349.1 / 349.1 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 911.8(Q)}{17860.00(A)} = 0.08N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.08 / 0.66 = 0.12 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{581450.4(M)}{699510.00(Z)} = 0.83N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $0.83 / 5.39 = 0.15 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.63 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.0517 cm $0.0517 / 0.63 = 0.08 \leq 1 \dots \text{OK}$	
[平成12建告1459号] 許容たわみ量 = 1.00 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.1033 cm $0.1033 / 1.00 = 0.10 \leq 1 \dots \text{OK}$	

床ばり<2F-24><>	短期(積雪時)
S-P-F 甲種2級	2-210
X4通り Y8~Y:5.25 	
1) [ 0.0 ] 1715.0 / 1715.0 2) [113.8] 27.3 / 27.3 3) [455.0] 333.9 / 333.9 4) [910.0] 333.9 / 333.9 5) [1365.0] 333.9 / 333.9 6) [1820.0] 333.9 / 333.9 7) [2275.0] 333.9 / 333.9 8) [2502.5] 349.1 / 349.1 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 911.8(Q)}{17860.00(A)} = 0.08N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.08 / 0.96 = 0.08 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{581450.4(M)}{699510.00(Z)} = 0.83N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $0.83 / 7.83 = 0.11 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.83 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.0517 cm $0.0517 / 0.83 = 0.06 \leq 1 \dots \text{OK}$	

床ばり<2F-25><2>	長期(常時)
S-P-F 甲種2級	2-210
Y:5.25通り X:5.25~X2 	
1) [227.5] 448.3 / 375.9 2) [682.5] 448.3 / 375.9 3) [1137.5] 1499.8 / 1427.3 4) [1592.5] 518.1 / 445.7 5) [2047.5] 518.1 / 445.7 6) [2502.5] 518.1 / 445.7 7) [2843.8] 119.4 / 83.2 8) [2957.5] 139.6 / 139.6 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2164.5(Q)}{17860.00(A)} = 0.18N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.18 / 0.66 = 0.28 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1850156.8(M)}{699510.00(Z)} = 2.64N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $2.64 / 5.39 = 0.49 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.74 cm (スパンの 1/ 400) かつ 1.00 cm以下 最大たわみ量 = 0.2140 cm $0.2140 / 0.74 = 0.29 \leq 1 \dots \text{OK}$	
[平成12建告1459号] 許容たわみ量 = 1.18 cm (スパンの 1/ 250) cm以下 最大たわみ量 = 0.3851 cm $0.3851 / 1.18 = 0.33 \leq 1 \dots \text{OK}$	

床ばり<2F-25><2>	短期(積雪時)
S-P-F 甲種2級	2-210
Y:5.25通り X:5.25~X2 	
1) [227.5] 448.3 / 375.9 2) [682.5] 448.3 / 375.9 3) [1137.5] 1499.8 / 1427.3 4) [1592.5] 518.1 / 445.7 5) [2047.5] 518.1 / 445.7 6) [2502.5] 518.1 / 445.7 7) [2843.8] 119.4 / 83.2 8) [2957.5] 139.6 / 139.6 番号 [位置]強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2164.5(Q)}{17860.00(A)} = 0.18N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.18 / 0.96 = 0.19 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1850156.8(M)}{699510.00(Z)} = 2.64N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $2.64 / 7.83 = 0.34 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0$ kN/cm <sup>2</sup> 許容たわみ量 = 0.99 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.2140 cm $0.2140 / 0.99 = 0.22 \leq 1 \dots \text{OK}$	



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床ばり<2F-26><> S-P-F 甲種2級	長期(常時) 2-210
X:5.25通り Y:5.25~Y4	
1) [227.5] 1613.9 / 1070.5 2) [682.5] 1613.9 / 1070.5 3) [1023.8] 119.4 / 83.2	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1948.7(\text{Q})}{17860.00(\text{A})} = 0.16\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.16 / 0.66 = 0.25 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{595625.7(\text{M})}{699510.00(\text{Z})} = 0.85\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.85 / 5.39 = 0.16 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.28 cm (スパンの 1/400) かつ 1.00 cm 以下 最大たわみ量 = 0.0116 cm $0.0116 / 0.28 = 0.04 \leq 1 \dots \text{OK}$ [平成12建告1459号] 許容たわみ量 = 0.46 cm (スパンの 1/250) cm 以下 最大たわみ量 = 0.0154 cm $0.0154 / 0.46 = 0.03 \leq 1 \dots \text{OK}$	

床ばり<2F-26><> S-P-F 甲種2級	短期(積雪時) 2-210
X:5.25通り Y:5.25~Y4	
1) [227.5] 1613.9 / 1070.5 2) [682.5] 1613.9 / 1070.5 3) [1023.8] 119.4 / 83.2	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1948.7(\text{Q})}{17860.00(\text{A})} = 0.16\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.16 / 0.96 = 0.17 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{595625.7(\text{M})}{699510.00(\text{Z})} = 0.85\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.85 / 7.83 = 0.11 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.38 cm (スパンの 1/300) かつ 2.00 cm 以下 最大たわみ量 = 0.0116 cm $0.0116 / 0.38 = 0.03 \leq 1 \dots \text{OK}$	

谷木<2F- 1><1> S-P-F 甲種2級	長期(常時) 2-210
X:10.5.Y4~X:11.16.Y:4.66	
1) [0.0] 897.2 / 897.2 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 151.9 / 151.9	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 259.9(\text{Q})}{17860.00(\text{A})} = 0.02\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.02 / 0.66 = 0.03 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{143581.6(\text{M})}{699510.00(\text{Z})} = 0.21\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.21 / 5.39 = 0.04 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.42 cm (スパンの 1/200) かつ 2.00 cm 以下 最大たわみ量 = 0.0044 cm $0.0044 / 0.42 = 0.01 \leq 1 \dots \text{OK}$	

谷木<2F- 1><1> S-P-F 甲種2級	短期(積雪時) 2-210
X:10.5.Y4~X:11.16.Y:4.66	
1) [0.0] 1536.6 / 1536.6 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 260.5 / 260.5	
番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 368.5(\text{Q})}{17860.00(\text{A})} = 0.03\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.03 / 0.96 = 0.03 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{213428.8(\text{M})}{699510.00(\text{Z})} = 0.31\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.31 / 7.83 = 0.04 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.57 cm (スパンの 1/150) かつ 3.00 cm 以下 最大たわみ量 = 0.0065 cm $0.0065 / 0.57 = 0.01 \leq 1 \dots \text{OK}$	

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谷木<2F- 1><2> S-P-F 甲種2級	長期(常時) 2-210
X:10.5, Y4~X:8.5, Y2	
1) [160.9] 40.9 / 40.9 2) [643.5] 767.2 / 767.2 3) [1286.9] 538.7 / 538.7 4) [1930.4] 335.1 / 335.1 5) [2413.0] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (0)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 969.5(\text{Q})}{17860.00(\text{A})} = 0.08\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.08 / 0.66 = 0.12 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{707873.1(\text{M})}{699510.00(\text{Z})} = 1.01\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $1.01 / 5.39 = 0.19 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.29 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0651 cm $0.0651 / 1.29 = 0.05 \leq 1 \dots \text{OK}$	

谷木<2F- 1><2> S-P-F 甲種2級	短期(積雪時) 2-210
X:10.5, Y4~X:8.5, Y2	
1) [160.9] 40.9 / 40.9 2) [643.5] 1256.9 / 1256.9 3) [1286.9] 865.3 / 865.3 4) [1930.4] 518.7 / 518.7 5) [2413.0] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (0)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1546.0(\text{Q})}{17860.00(\text{A})} = 0.13\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.13 / 0.96 = 0.14 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1134644.7(\text{M})}{699510.00(\text{Z})} = 1.62\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $1.62 / 7.83 = 0.21 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 1.72 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.1044 cm $0.1044 / 1.72 = 0.06 \leq 1 \dots \text{OK}$	

谷木<2F- 2><1> S-P-F 甲種2級	長期(常時) 2-210
X2, Y4~X:1.34, Y:4.66	
1) [ 0.0] 888.9 / 888.9 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 151.9 / 151.9 番号 [位置] 強度用 / たわみ用 (0)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 259.9(\text{Q})}{17860.00(\text{A})} = 0.02\text{N}/\text{mm}^2$ $f_s = 0.66\text{N}/\text{mm}^2$ 検定比 = $0.02 / 0.66 = 0.03 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{143546.7(\text{M})}{699510.00(\text{Z})} = 0.21\text{N}/\text{mm}^2$ $f_b = 5.39\text{N}/\text{mm}^2$ 検定比 = $0.21 / 5.39 = 0.04 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.42 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0044 cm $0.0044 / 0.42 = 0.01 \leq 1 \dots \text{OK}$	

谷木<2F- 2><1> S-P-F 甲種2級	短期(積雪時) 2-210
X2, Y4~X:1.34, Y:4.66	
1) [ 0.0] 1521.6 / 1521.6 2) [160.9] 41.0 / 41.0 3) [585.1] 67.0 / 67.0 4) [643.5] 260.4 / 260.4 番号 [位置] 強度用 / たわみ用 (0)	
[せん断] $F_s=1.8\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 368.4(\text{Q})}{17860.00(\text{A})} = 0.03\text{N}/\text{mm}^2$ $f_s = 0.96\text{N}/\text{mm}^2$ 検定比 = $0.03 / 0.96 = 0.03 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6\text{N}/\text{mm}^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{213365.1(\text{M})}{699510.00(\text{Z})} = 0.31\text{N}/\text{mm}^2$ $f_b = 7.83\text{N}/\text{mm}^2$ 検定比 = $0.31 / 7.83 = 0.04 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0\text{ kN}/\text{cm}^2$ 許容たわみ量 = 0.57 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.0065 cm $0.0065 / 0.57 = 0.01 \leq 1 \dots \text{OK}$	

## 横架材の計算

梓組太郎邸 新築工事

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谷木<2F- 2><2> S-P-F 甲種2級	長期(常時) 2-210
X2, Y4~X4, Y2	
1) [160.9] 40.9 / 40.9 2) [643.5] 767.2 / 767.2 3) [1286.9] 538.7 / 538.7 4) [1930.4] 335.1 / 335.1 5) [2413.0] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 969.5(Q)}{17860.00(A)} = 0.08N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.08 / 0.66 = 0.12 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{707873.1(M)}{699510.00(Z)} = 1.01N/mm^2$ $f_b = 5.39N/mm^2$ 検定比 = $1.01 / 5.39 = 0.19 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 1.29 cm (スパンの 1/ 200) かつ 2.00 cm以下 最大たわみ量 = 0.0651 cm $0.0651 / 1.29 = 0.05 \leq 1 \dots \text{OK}$	

谷木<2F- 2><2> S-P-F 甲種2級	短期(積雪時) 2-210
X2, Y4~X4, Y2	
1) [160.9] 40.9 / 40.9 2) [643.5] 1256.9 / 1256.9 3) [1286.9] 865.3 / 865.3 4) [1930.4] 518.7 / 518.7 5) [2413.0] 41.0 / 41.0 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1546.0(Q)}{17860.00(A)} = 0.13N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.13 / 0.96 = 0.14 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.00$ $\sigma = \frac{1134644.7(M)}{699510.00(Z)} = 1.62N/mm^2$ $f_b = 7.83N/mm^2$ 検定比 = $1.62 / 7.83 = 0.21 \leq 1 \dots \text{OK}$	
[たわみ] $I=8219.3$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 1.72 cm (スパンの 1/ 150) かつ 3.00 cm以下 最大たわみ量 = 0.1044 cm $0.1044 / 1.72 = 0.06 \leq 1 \dots \text{OK}$	

天井ばり<2F- 1><2> S-P-F 甲種2級	長期(常時) 3-210
X4通り Y4~Y0	
1) [ 0.0] 187.1 / 187.1 2) [113.8] 57.5 / 57.5 3) [455.0] 115.0 / 115.0 4) [910.0] 115.0 / 115.0 5) [1365.0] 115.0 / 115.0 6) [1820.0] 3145.8 / 3145.8 7) [2275.0] 115.0 / 115.0 8) [2730.0] 115.0 / 115.0 9) [3185.0] 115.0 / 115.0 10) [3526.3] 57.5 / 57.5 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 1975.5(Q)}{26790.00(A)} = 0.11N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.11 / 0.66 = 0.17 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.15$ $\sigma = \frac{3183270.0(M)}{1049270.00(Z)} = 3.03N/mm^2$ $f_b = 6.19N/mm^2$ 検定比 = $3.03 / 6.19 = 0.49 \leq 1 \dots \text{OK}$	
[たわみ] $I=12329.0$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 1.21 cm (スパンの 1/ 300) かつ 2.00 cm以下 最大たわみ量 = 0.3215 cm $0.3215 / 1.21 = 0.26 \leq 1 \dots \text{OK}$	

天井ばり<2F- 1><2> S-P-F 甲種2級	短期(積雪時) 3-210
X4通り Y4~Y0	
1) [ 0.0] 187.1 / 187.1 2) [113.8] 57.5 / 57.5 3) [455.0] 115.0 / 115.0 4) [910.0] 115.0 / 115.0 5) [1365.0] 115.0 / 115.0 6) [1820.0] 5004.6 / 5004.6 7) [2275.0] 115.0 / 115.0 8) [2730.0] 115.0 / 115.0 9) [3185.0] 115.0 / 115.0 10) [3526.3] 57.5 / 57.5 番号 [位置] 強度用 / たわみ用 (N)	
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2904.9(Q)}{26790.00(A)} = 0.16N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.16 / 0.96 = 0.17 \leq 1 \dots \text{OK}$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.15$ $\sigma = \frac{4874759.5(M)}{1049270.00(Z)} = 4.65N/mm^2$ $f_b = 9.01N/mm^2$ 検定比 = $4.65 / 9.01 = 0.52 \leq 1 \dots \text{OK}$	
[たわみ] $I=12329.0$ , $E=960.0 \text{ kN/cm}^2$ 許容たわみ量 = 1.62 cm (スパンの 1/ 225) かつ 3.00 cm以下 最大たわみ量 = 0.4869 cm $0.4869 / 1.62 = 0.30 \leq 1 \dots \text{OK}$	





# 横架材の計算

## 桝組太郎邸 新築工事

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天井ばり<2F- 6><>	長期(常時)
S-P-F 甲種2級	3-210
X:4.75通り Y8~Y4	
1) [113.8] 57.5 / 57.5 2) [455.0] 115.0 / 115.0 3) [910.0] 115.0 / 115.0 4) [1365.0] 115.0 / 115.0 5) [1820.0] 115.0 / 115.0 6) [2275.0] 115.0 / 115.0 7) [2502.5] 3007.4 / 3007.4 8) [2730.0] 115.0 / 115.0	9) [3185.0] 115.0 / 115.0 10) [3526.3] 57.5 / 57.5
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.10$ , $K_z=1.0$ $\tau = \frac{1.5 \times 2527.7(Q)}{26790.00(A)} = 0.14N/mm^2$ $f_s = 0.66N/mm^2$ 検定比 = $0.14 / 0.66 = 0.21 \leq 1 \dots \circ K$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.10$ , $K_z=0.68$ , $K_s=1.15$ $\sigma = \frac{2711663.4(M)}{1049270.00(Z)} = 2.58N/mm^2$ $f_b = 6.19N/mm^2$ 検定比 = $2.58 / 6.19 = 0.42 \leq 1 \dots \circ K$	
[たわみ] $I=12329.0$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 1.21 cm (スパンの 1/300) かつ 2.00 cm以下 最大たわみ量 = 0.2682 cm $0.2682 / 1.21 = 0.22 \leq 1 \dots \circ K$	

天井ばり<2F- 6><>	短期(積雪時)
S-P-F 甲種2級	3-210
X:4.75通り Y8~Y4	
1) [113.8] 57.5 / 57.5 2) [455.0] 115.0 / 115.0 3) [910.0] 115.0 / 115.0 4) [1365.0] 115.0 / 115.0 5) [1820.0] 115.0 / 115.0 6) [2275.0] 115.0 / 115.0 7) [2502.5] 4922.6 / 4922.6 8) [2730.0] 115.0 / 115.0	9) [3185.0] 115.0 / 115.0 10) [3526.3] 57.5 / 57.5
[せん断] $F_s=1.8N/mm^2$ , $K_d=1.60$ , $K_z=1.0$ $\tau = \frac{1.5 \times 3844.4(Q)}{26790.00(A)} = 0.22N/mm^2$ $f_s = 0.96N/mm^2$ 検定比 = $0.22 / 0.96 = 0.22 \leq 1 \dots \circ K$	
[曲げ] $F_b=21.6N/mm^2$ , $K_d=1.60$ , $K_z=0.68$ , $K_s=1.15$ $\sigma = \frac{4209451.0(M)}{1049270.00(Z)} = 4.01N/mm^2$ $f_b = 9.01N/mm^2$ 検定比 = $4.01 / 9.01 = 0.45 \leq 1 \dots \circ K$	
[たわみ] $I=12329.0$ , $E=960.0 kN/cm^2$ 許容たわみ量 = 1.62 cm (スパンの 1/225) かつ 3.00 cm以下 最大たわみ量 = 0.4072 cm $0.4072 / 1.62 = 0.25 \leq 1 \dots \circ K$	