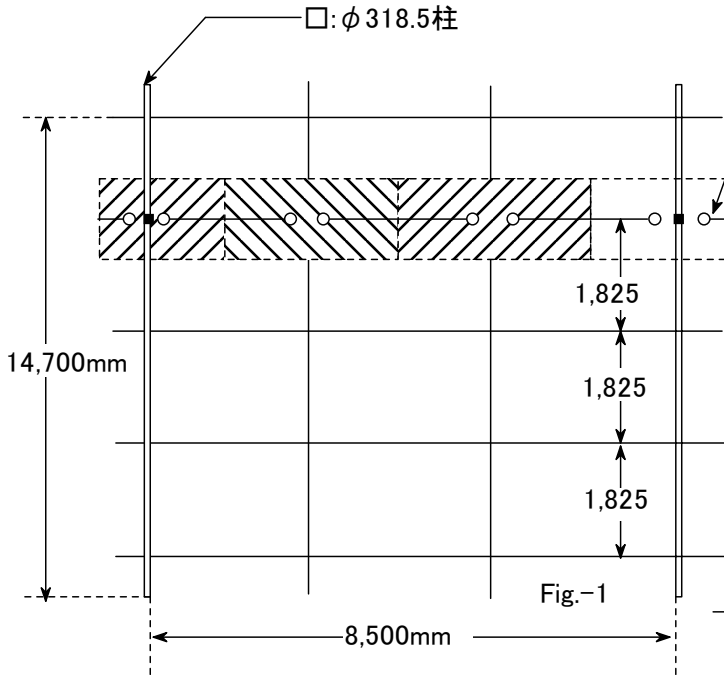


# 地区開発J街区

1.仕様

$$P_{\max} = 184 \text{ kg/m}^2$$

(座屈防止吊りボルト)



イ:FB チェック (Fig-2でチェック)

$$P' = 184 \text{ [ kg/m}^2 \text{]} \quad L = 850 \text{ [ cm]}$$

$$S' = \frac{L}{3} \times 1825 \text{ [ mm]}$$

$$= \frac{850 \text{ [ cm]}}{3} \times 1825 \text{ [ mm]} = 5.1708 \text{ [ m}^2 \text{]}$$

$$P = P' \times S' = 184 \text{ [ kg/m}^2 \text{]} \times 5.1708 \text{ [ m}^2 \text{]} = 951.4 \text{ [ kg]}$$

$$b = 40 \text{ [ mm]} \quad h = 230 \text{ [ mm]}$$

$$I_x = \frac{bh^3}{12} = \frac{40 \text{ [ mm]} \times (230 \text{ [ mm]})^3}{12} = 4056 \text{ [ cm}^4 \text{]}$$

$$Z_x = \frac{I_x}{\frac{h}{2}} = \frac{4056 \text{ [ cm}^4 \text{]}}{\frac{230 \text{ [ mm]}}{2}} = 352.7 \text{ [ cm}^3 \text{]}$$

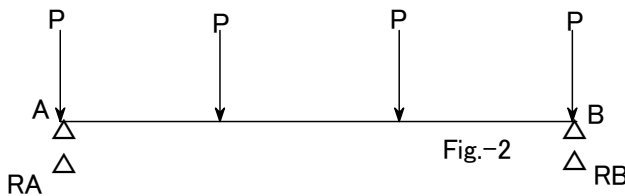
$$I_y = 122.7 \text{ [ cm}^4 \text{]} \quad Z_y = 61.3 \text{ [ cm}^3 \text{]}$$

$$A = bh = 40 \text{ [ mm]} \times 230 \text{ [ mm]} = 92 \text{ [ cm}^2 \text{]}$$

$$i = \sqrt{\frac{I_y}{A}} = \sqrt{\frac{122.7 \text{ [ cm}^4 \text{]}}{92 \text{ [ cm}^2 \text{]}}} = 1.155 \text{ [ cm]}$$

$$R_A = R_B = 2P$$

$$M_{\max} = \frac{PL}{3} = \frac{951.4 \text{ [ kg]} \times 850 \text{ [ cm]}}{3} = 269563 \text{ [ kg} \cdot \text{cm]}$$



$$Q = P \quad \tau_c = \frac{Q}{A} = \frac{951.4 \text{ [ kg]}}{92 \text{ [ cm}^2 \text{]}} = 10.34 \text{ [ kg/cm}^2 \text{]}$$

$$\sigma_{\max} = \sigma_c = \frac{P \times \frac{L}{3}}{Z_x} = \frac{951.4 \text{ [ kg]} \times \frac{850 \text{ [ cm]}}{3}}{352.7 \text{ [ cm}^3 \text{]}} = 764.3 \text{ [ kg/cm}^2 \text{]}$$

$$\text{複合} \quad \sigma = \sqrt{\sigma_{\max}^2 + 3 \tau_c^2} = \sqrt{(764.3 \text{ [ kg/cm}^2 \text{]})^2 + 3 \times (10.34 \text{ [ kg/cm}^2 \text{]})^2} = 764.5 \text{ [ kg/cm}^2 \text{]}$$

$$f = 2400 \text{ [ kg/cm}^2 \text{]}$$

$$\sigma / f = 764.5 \text{ [ kg/cm}^2 \text{]} / 2400 \text{ [ kg/cm}^2 \text{]} = 0.319 < 1 \quad \therefore \text{OK}$$