

PODACI O DIPLOMSKOM RADU

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Naslov : Drveni pješački most

Broj stranica : 26

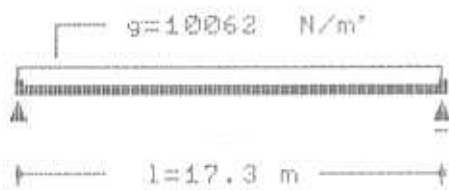
Ustanova i mjesto gdje je rad izrađen : Građevinski fakultet - Split

Znanstvena disciplina : Drvene konstrukcije

Uoditelj : Pred. Đuro Nižetić, dipl. ing. građevine

Matični broj : 820

2. STATICKA SCHEMA, REZNE SILE :



$$\max M = \frac{g \cdot l^2}{8} = \frac{10062 \cdot 17.3^2}{8} = 376432.0 \text{ Nm}$$

$$\max T = \frac{g \cdot l}{2} = \frac{10062 \cdot 17.3}{2} = 87036.0 \text{ N}$$

$$A = b \cdot h = 20 \cdot 120 = 2400.0 \text{ cm}^2$$

$$W_x = \frac{b \cdot h^2}{6} = \frac{20 \cdot 120^2}{6} = 48000.0 \text{ cm}^3$$

$$I_x = \frac{b \cdot h^3}{12} = \frac{20 \cdot 120^3}{12} = 2880000 \text{ cm}^4$$

$$\sigma_{\text{MD}}' = 1.15 \cdot \sigma_{\text{MD}} + k_H$$

$$k_H = \left(\frac{30}{h} \right)^{1/3} (1 + C_1 + C_2)$$

$$k_H = 0.8572 (1 + 0 + 0.02162)$$

$$k_H = 0.876$$

$$\sigma_{\text{MD}}' = 1.15 \cdot 1400 + 0.876$$

$$\sigma_{\text{MD}}' = 1410.0 \text{ N/cm}^2$$

$$\tau_{\text{M||D}} = 1.15 \cdot 120 = 138.0 \text{ N/cm}^2$$

3. DIMENZIONIRANJE :

$$-\sigma_M = \frac{\max M}{W_x} = \frac{37643200}{48000} = 784.0 \text{ N/cm}^2 < \sigma_{\text{MD}}' = 1410.0 \text{ N/cm}^2$$

$$-\tau_{\text{M||}} = 1.5 \cdot \frac{\max T}{A} = 1.5 \cdot \frac{87036}{2400} = 54.0 \text{ N/cm}^2 < \tau_{\text{M||D}} = 138.0 \text{ N/cm}^2$$

-progib :

= dugotrajno opterećenje:

$$f_M = \frac{5}{384} \cdot \frac{g \cdot l^4}{E \cdot I}$$

$$E \cdot I = \frac{E}{1 + \varphi}$$

$$G \cdot I = \frac{G}{1 + \varphi}$$