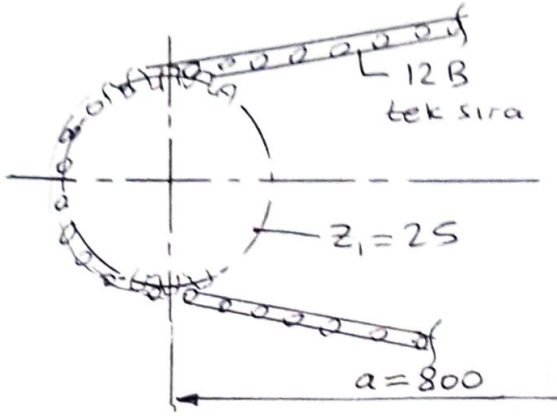


ZİNCİR PROBLEMİ (Kontrol)



$M_{b1} = 600 \text{ N.m}$; $S_{ang} = 6$
 $n_1 = 450 \text{ d/d}$; $n_2 = 150 \text{ d/d}$
 $L_h = 15.000 \text{ is. sa}$
 İşlet. şart. : $\left\{ \begin{array}{l} \text{tahrik : Elk. mot.} \\ \text{ilk har. : orta} \\ \text{yükleme : nadiren T.Y.} \\ \text{çalışma : 6 sa/gün} \end{array} \right.$

İstenen : Zincirin muk. kontr. yapınız.

Çözüm :

Muk. şartı : $S_{muv} = \frac{F_k}{K_{is} \cdot F_{top}} \geq S_{ang}$ olmalı

T.Diy. s.18 $\Rightarrow$ 12B tek sıra $\Rightarrow F_k = 29500 \text{ N}$; $q = 1,25 \text{ kg/m}$
 " s.8 $\Rightarrow$ verilen şart $\Rightarrow K_{is} \approx 1$; $p = 19,05 \text{ mm}$

$F_{top} = F_u + F_{mg} + F_q$; $d_{o1} = \frac{p}{\sin(180^\circ/Z_1)} = \frac{19,05}{\sin(180^\circ/25)} = 152 \text{ mm}$

$F_u = \frac{M_{b1}}{r_{o1}} = \frac{600 \cdot 10^3 \text{ N.m}}{152/2 \text{ mm}} = 7895 \text{ N}$

$F_{mg} = q \cdot v^2 = 1,25 \cdot (3,6)^2 \approx 16 \text{ N}$; $\left\{ \begin{array}{l} v = \pi \cdot d_{o1} \cdot n_1 / 60 \\ " = \pi \cdot 0,152 \cdot 450 / 60 = 3,6 \text{ m/s} \end{array} \right.$

$F_q = 6,25 \cdot q \cdot g \cdot a = 6,25 \cdot 1,25 \cdot 9,81 \cdot 0,8 = 61 \text{ N}$; $\left\{ \begin{array}{l} g = \text{yer çek.} \\ \text{ivmesi} \end{array} \right.$

$F_{top} = 7895 + 16 + 61 = 7972 \text{ N}$

$S'_{muv} = \frac{29500}{1 \cdot 7972} = 3,7 < 6 \Rightarrow$ zincir EMNİYETSİZ

Çift sıra 12B zinciri derzeyletme. $\left\{ \begin{array}{l} F_k = 59000 \text{ N} \\ q = 2,5 \text{ kg/m} \end{array} \right.$
 $\left\{ \begin{array}{l} F_{mg} = 2 \cdot 16 = 32 \text{ N} \\ F_q = 2 \cdot 61 = 122 \text{ N} \end{array} \right. \Rightarrow F_{top} = 8049 \text{ N}$

$S'_{ma} = \frac{59000}{1 \cdot 8049} = 7,3 > 6 \checkmark \Rightarrow$ EMNİYETLİ