

Zad.14 – Veri`ni prenosnici (sl.12.59)

Za veri`ga so cev`i wa i svr`zni oski (sl.12.66) poznati se sl`edni te podatoci :

$n \approx 4,2 [s^{-1}]$ - za`estenost na vrte`i te na pogonski ot veri`ni k,

$z_1 = 15$ - broj na zapci na pogonski ot veri`ni k { to odgovara na brzini na ve`ri`ni ot prenosni k do $v = 15 [m/s]$ i sredni optovaruvawa,

$z_2 = 27$ - broj na zapci na goneti ot veri`ni k i

$p = 25 [mm]$ - `ekor na veri`ni ot prenosni k.

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Spored **12.175** prenosni ot odnos na veri`ni ot prenosni ke

$$i = \frac{z_2}{z_1} = \frac{27}{15} = 1,8$$

a za`estenosta na vrte`i na goneti ot veri`ni k

$$n_2 = \frac{n_1}{i} = \frac{4,2}{1,8} = 2,3333333 \approx 2,33 [s^{-1}]$$

Spored **12.176** pre`nici te na pogonski ot i goneti ot veri`ni k se

$$d_1 = \frac{p}{\sin \frac{180^\circ}{z_1}} = \frac{25}{\sin \frac{180^\circ}{15}} = \frac{25}{\sin 12^\circ} = 120,24336 \approx 120,243 [mm]$$

$$d_2 = \frac{p}{\sin \frac{180^\circ}{z_2}} = \frac{25}{\sin \frac{180^\circ}{27}} = \frac{25}{\sin 6,6666667^\circ} = 215,34475 \approx 215,345 [mm]$$

Spored **12.184** pri bli`nata dol`i na na veri`gata treba da bi de

$$L_p \approx \frac{z_1 + z_2}{2} p + 2 a_0 \cos \beta + \frac{z_2 - z_1}{2 a_0 \pi^2} p^2 =$$

$$= \frac{15+27}{2} \cdot 25 + 2 \cdot 1000 \cdot \cos 2,7367134^\circ + \frac{27-15}{2 \cdot 1000 \cdot \pi^2} \cdot 25^2 = 525 + 1997,719 + 0,3799544 =$$

$$= 2523,099 \approx 2523,1 [mm]$$

pri { to spored **12.179** se zema

$a_0 = 40 p = 40 \cdot 25 = 1000 [mm]$, a spored **12.182** mo`e da se napi { e

$$\sin \beta^r = \frac{z_2 - z_1}{2 a \pi} p = \frac{27 - 15}{2 \cdot 1000 \pi} \cdot 25 = 0,0477465 \text{ t.e. } \beta = \arcsin 0,0477465 = 2,7367134^\circ$$

Spored **12.186** presmetkovni ot broj `lenovi na veri`gata i znesuva

$$X_0 \approx \frac{z_1 + z_2}{2} + \frac{2 a_0 \cos \beta}{p} + \frac{(z_2 - z_1)^2}{2 a_0 \pi^2} p = \frac{15+27}{2} + \frac{2 \cdot 1000 \cos 2,7367134^\circ}{25} + \frac{(27-15)^2}{2 \cdot 1000 \pi^2} \cdot 25 =$$

$$= 2025 + 79,908797 + 0,1823781 = 2825,9118 \approx 2826$$

Spored preporaki te se usvojuva $Z = 28$ `lenovi na veri`gata.