Gépészeti tervezés alapjai Képletek:

Vm 1

1. $\sigma = \frac{F}{A}$; $\sigma = \frac{Mh}{K}$; $\tau = \frac{F_r}{A}$; $\tau = \frac{T}{K_p}$

2. $\sigma_{meg} = \frac{\sigma_{hat}}{n}$; $\sigma_{meg} = \frac{R_{eH}}{n}$; $\sigma_{meg} = \frac{R_m}{n}$; $\tau_{meg} = 0{,}65 \cdot \sigma_{meg}$

3. $tg\psi = \frac{P}{d_2 \cdot \pi}$

4. $T_{1,2} = F\left(\frac{d_2}{2} \cdot tg(\psi \pm \rho') + r_q \cdot \mu_0\right)$

5. $\sigma = \frac{F}{A} = \frac{4F}{d_3^2 \pi} \leq \sigma_{meg}$

6. $\sigma_{red} = \sigma = \frac{1{,}32F}{A} \leq \sigma_{meg}$

7. $T_{max} = \frac{4 \cdot F_{ny}}{d^2 \cdot \pi} \leq T_{meg}$ $T_{max} = 1{,}4 \cdot \frac{4 F_{ny}}{D^2 \cdot \pi} \leq T_{meg}$

8. $p = \frac{F}{z A} = \frac{F}{z\left(\frac{d^2\pi}{4} - \frac{D_1^2 \cdot \pi}{4}\right)} \leq p_{meg}$

9. $p = \frac{F}{l \cdot d} < p_{meg}$

10. $p = \frac{F}{2 d s} < p_{meg}$

11. $\tau_{ny} = \frac{4T}{d_t d^2 \pi} \leq \tau_{meg}$

12. $T = p_{meg} \cdot \frac{d}{2} \cdot l \cdot \frac{d_t}{2}$

13. $p = \frac{2T}{d_t \cdot l (h - t_1)} \leq p_{meg}$

14. $\tau = \frac{2T}{d_t \cdot l \cdot b} \leq \tau_{meg}$

15. $T = 0{,}75 \cdot \psi\left(\frac{D-d}{2} - 2f\right) l \cdot k \cdot z \cdot p_{meg}$

16. $\tau_{meg} = \frac{\sum F \cdot 4}{z \cdot k \cdot d^2 \cdot \pi}$

17. $F = \mu \cdot d \cdot \pi \cdot l \cdot p$

18. $t = \frac{\varepsilon + 0{,}004}{\alpha} + t_0$

19. $f_{min} = p_{szüks} \cdot d \cdot (k_1 + k_2)$

20. $A_v = a \cdot l_h = a \cdot (l - 2a)$

21. $F_h = F \cdot v = \sigma \cdot A_v \cdot v$

22. $l = s \cdot \frac{\sigma_{meg}}{\tau_{meg}}$

23. $\tau_v = \frac{F}{b \cdot l} \leq \tau_{vmeg}$

24. $\sigma = \frac{F}{A} \leq \sigma_{meg}$; $d \geq \sqrt{\frac{4F}{\sigma_{meg} \cdot \pi}}$

25. $\tau = \frac{F}{A} \leq \tau_{meg}$; $d = \sqrt{\frac{4F}{\tau_{meg} \cdot \pi}}$

26. $\sigma = \frac{Mh}{K} \leq \sigma_{meg}$; $K_{tömör} = \frac{d^3 \pi}{32}$; $K_{csö} = \frac{(D^4 - d^4)\pi}{32D}$

27. $\tau = \frac{T}{K_p} \leq \tau_{meg}$; $K_{tömör} = \frac{d^3 \pi}{16}$; $K_{pcsö} = \frac{\pi \cdot (D^4 - d^4)}{16D}$

28. $d \geq \sqrt[3]{\frac{M_r \cdot 32}{}}$

29. $\psi = \frac{\tau \cdot l}{}$

30. $S = \frac{dF}{} = tg\alpha$; $S = \frac{dT}{d\vartheta} = tg\alpha$; $c = \frac{1}{}$