

- 5.15  $\mu_{s1} = \frac{l}{4h} \cdot \frac{\sin 2\alpha}{\cos \varphi_{s2}} \cdot \frac{\sin(\alpha - \varphi_{s2})}{1 - \frac{l}{4h} \cdot \frac{\sin 2\alpha}{\cos \varphi_{s2}} \cdot \cos(\alpha - \varphi_{s2})}$ ,  $\mu_{s1} = 0,48$ ,  
 $F_A = F_C \cdot \frac{\sin(\alpha - \varphi_{s2})}{\sin \varphi_{s1}}$ ,  $F_A = 25,36 \text{ N}$ ,  $F_C = \frac{Q}{4} \cdot \frac{l}{h} \cdot \frac{\sin 2\alpha}{\cos \varphi_{s2}}$ ,  $F_C = 38,73 \text{ N}$ .
- 5.16  $F = 6,32 \text{ kN}$ ,  $F_A = 8,74 \text{ kN}$ ,  $F_B = 4,546 \text{ kN}$ .
- 5.17  $\mu_{s2} = 0,347$ ,  $S_1 = Q_1 \cdot \mu_{s1} = 200 \cdot 0,4 = 80 \text{ N}$ .
- 5.18  $F = Q \cdot \frac{(\mu + 1) \cdot \sin 2\varphi}{1 + \sin 2\varphi \cdot (1 + \mu)}$ ,  $F = 158 \text{ N}$ .
- 5.19  $Q = F_g \cdot e^{-\mu_s \frac{\pi}{3}} \cdot e^{\frac{4\pi}{3}}$ ,  $Q = 312,2 \text{ N}$ .
- 5.20  $Q_B = Q_A \cdot \frac{\tan \alpha - \mu_s}{(\tan \alpha + \mu_s) \cdot e^{\mu_s \cdot \pi} + 2\mu_s}$ ,  $Q_B = 252,2 \text{ N}$ .
- 5.21  $F = \frac{Q}{2(a+b)} \cdot \left( \frac{b}{\mu_s} + e \right)$ ,  $F = 6,9 \text{ kN}$ ,  $F_{Ax} = 7,5 \text{ kN}$ ,  $F_{Ay} = -23,1 \text{ kN}$ ,  
 $F_{O_x} = -22,5 \text{ kN}$ ,  $F_{O_y} = 31,8 \text{ kN}$ ,  $F_{O_2y} = 15 \text{ kN}$ .
- 5.22  $F = Q \cdot \tan^2(\alpha + 2\varphi)$ ,  $F = 245,8 \text{ N}$ .
- 5.23  $M = 6,188 \text{ N}\cdot\text{m}$ ,  $F_{Ax} = -3,75 \text{ N}$ ,  $F_{Ay} = -37,5 \text{ N}$ ,  $F_{Bx} = -9,375 \text{ N}$ ,  $F_{By} = -28,125 \text{ N}$ .
- 5.24  $Q = 319,5 \text{ N}$ ,  $F_{Ax} = -50 \text{ N}$ ,  $F_{Ay} = -25 \text{ N}$ ,  $F_{Ox} = -50 \text{ N}$ ,  $F_{Oy} = 1264 \text{ N}$ .
- 5.25  $F = 28 \text{ N}$ ,  $p_{Ax} = p_B = 1,225 \text{ MPa}$ ,  $p_{Ay} = 4,68 \text{ MPa}$ ,  $F_B = 6 \text{ kN}$ ,  $F_{Ax} = 6 \text{ kN}$ ,  
 $F_{Ay} = 18 \text{ kN}$ .
- 5.26  $Q = 4,314 \text{ kN}$ ,  $F_A = 3,53 \text{ kN}$ ,  $F_B = 5,23 \text{ kN}$ .
- 5.27  $F = 394,7 \text{ N}$ ,  $S_{AB} = 499,3 \text{ N}$ ,  $S_{BC} = 176,5 \text{ N}$ ,  $F_A = 790 \text{ N}$ ,  $F_C = 173,2 \text{ N}$ ,  $\mu_{sA} = 0,204$ .
- 5.28  $Q = 2Q_1(\sin \alpha - \mu_s \cos \alpha)$ ,  $Q = 12,26 \text{ kN}$ .
- 5.29  $Q_3 = 18,95 \text{ kN}$ .
- 5.30  $Q_1 = 4,3 \text{ kN}$ .
- 5.31 a)  $\mu_s = \frac{1}{4 \tan \alpha} = \frac{1}{3}$ , b)  $\mu_s = \frac{1}{2 \tan \alpha} = \frac{2}{3}$ .
- 5.32  $Q_1 = 1,272 \text{ kN}$ .
- 5.33  $x = 89,13 \text{ mm}$ .
- 5.34  $M = 19,2 \text{ N}\cdot\text{m}$ .
- 5.35  $F = Q_1 \cdot \mu_1 + (Q_2 + Q_3) \cdot \mu_3$ ,  $F = 700 \text{ N}$ .
- 5.36  $\alpha = 37,8^\circ$ .
- 5.37  $\mu_s = 0,298$ .