| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Q= | 5000 | | | | | | | | |
| ΔH | 300 | | | | | | | | |
| | | | | | | | | | ??? |
| | | St5 | | | MM58 | St6 | | SWORZEŃ | C45 |
| krj= | | | 80 | | | | | | |
| kc | | | | | 52 | | | | |
| kd | | | | | 9 | | | | |
| kgj | | | | | | 115 | 135 | | |
| Pdop.ruch | | | | | | 38 | | | |
| Pdop.spocz | | | | | | 78 | | | |
| a | | | | | | | | | 360 |
| b | | | | | | | | | 1,6 |
| | | | | | | | | | 86 |

$$d_3 = 1{,}26\sqrt{\frac{Q}{w * k_{rj}}}$$

d3= 9,961175

$$H = \left[\frac{4Q}{\pi(d^2 - D_1^2)k_d}\right] \times P$$

H= 32,80856

H= 34

$$M_G = Q * l_2$$

Mg= 75000

$$W_x = \frac{2 * 2 * g * a^2}{6} \leq \frac{M_g}{k_{gj}}$$

$$a = \sqrt{\frac{6M_g}{4g_1 k_{gj}}}$$

a= 22,11629

a= 24

| | |
|---|---|
| d | 14 |
| d3 | 10,5 |
| D1 | 11 |
| d2 | 12,5 |
| P | 3 |
| D4 | 14,5 |
| l1 | 30 |
| l2 | 15 |
| l3 | 90 |
| g1 | 2 |
| x | 0,8 |
| l5 | 28 |
| u | 0,12 |
| a2 | 20 |
| l4 | 36 |
| g2 | 2 |
| a3 | 5 |
| g3 | 3 |
| l4+2*g4 | 40 |
| l5+2*g3 | 32 |
| l5-a3 | 23 |
| 2*(l4+2*g3 | 80 |
| u1 | 0,1 |
| g4 | 2 |
| nw | 2,5 |
| F | 200 |

$$P_{max} = P_Q + P_M = \frac{Q}{a' l_3} + \frac{M}{W} = \frac{Q}{a' l_3}\left[1 + \frac{6(l_2 + 0{,}5 l_3)}{l_3}\right]$$

Pmax= 14,46759

Wspornik

$$P_{max} * \frac{H_1^2 x l_3}{6} = M = Q l_1$$

$$H_1 = \sqrt{\frac{6 Q l_1}{P_{dop.ruch} x l_3}}$$

H1= 32,51662
H1= 36

$$M_g = Q(l_1 - 0{,}5 l_4) = W_x k_{gj} = \frac{2 g_2 H_1^2 k_{gj}}{6}$$

$$g_2 = \frac{6 M_g}{2 H_1^2 k_{gj}} = \frac{3 Q(l_1 - 0{,}5 l_4)}{H_1^2 k_{gj}}$$

g2= 1,207729
g2= 2

$$M = Q l_1 = \frac{2 N H_1}{3}$$

$$N = \frac{3 Q l_1}{2 H_1}$$

N= 6250

$$T = N * \mu$$

T= 750

$$Q_{max} = Q + 2T$$

Q= 6500

$$Q_{max} = 2(g_3 a_2) P_{dop} \qquad P_{dop} \leq P_{dop.spocz}$$

$$g_3 = \frac{Q_{max}}{2 a_2 P_{dop.spocz}}$$

g3= 2,083333
g3= 3

$$\sigma_r = \frac{Q_{max}}{A_r} = \frac{4 Q_{max}}{\pi * d_3^2} \qquad \tau = \frac{M_s}{W_O}$$

br= 75,10435

$$M_s = 0{,}5 Q_{max} d_2 tg(\gamma + \rho')$$

$$\gamma = arctg\left(\frac{P}{\pi d_2}\right) \qquad \rho' = arctg\left(\frac{\mu_1}{cos\frac{\alpha}{2}}\right)$$

0,261799
TANGENS 0,181396

y= 0,076285 p'= 0,10316
y= 4,370797 p'= 5,910639

Ms= 7369,217

t= 32,43723

$$\sigma_z = \sqrt{\sigma_r^2 + 3\tau^2}$$

bz= 56,18293

Poprawa nakrętki

$$H = \left[\frac{4Q}{\pi(d^2 - D_1^2) k_d}\right] \times P$$

H= 41,30113
H= 38

$$M_{gmax} = 0{,}5Q[(0{,}5a - g_1) - (0{,}5a - 2g_1 - 0{,}5g_2)] = \frac{Qa(2g_1 + g_2)}{4} \leq k_{gj}$$

$$\sigma = \frac{M_g}{W_x} = \frac{0{,}25Q(2g_1 + g_2)}{0{,}1 * d_{k1}^3} \leq k_{gj} \qquad d_{k1} = \sqrt[3]{\frac{2{,}5(2g_1 + g_2)Q}{k_{gj}}}$$

dk1= 8,220707
dk1= 10

$$P = \frac{0{,}5Q}{2 g_2 d_{k1}}$$

?????? - zależy od grubości blachy (to jest jak g1=g2)

P= 62,5

KORPUS:

| | |
|---|---|
| | 5 |
| a3= | 6 |
| g4= | 2 |
| l5 | 28 |
| l4 | 36 |

$$W_x = \frac{2J_x}{l_4 + 2g_3}$$

Wx= 3090,133

A= 244

$$\sigma_C = \frac{Q}{A}$$

bc= 20,4918

$$\sigma_g = \frac{M_g}{W_x} = \frac{Q l_1}{W_x}$$

bg= 48,54159

$$\sigma_w = \sigma_c + \sigma_g \leq k_w$$

bw= 69,0334

$$\lambda = \frac{l_w}{i_\eta}$$

$$i_\eta = \sqrt{\frac{J_\eta}{A}}$$

Jn= 43370,67

i= 13,33224

H3= 400

lw= 800

λ= 60,00492

$$k_w = \frac{R_w}{n_w}$$

$$R_w = R_o - R_1 \cdot \lambda$$

Rw= 263,9921

kw= 105,5969

| | | |
|---|---|---|
| Ms | 7369,217 | 7369,217 |
| d4= | 5,983486 | |
| d4= | 6 | |
| Lr= | 36,84609 | |
| Lr= | 40 | |
| dr= | 8,684546 | |