



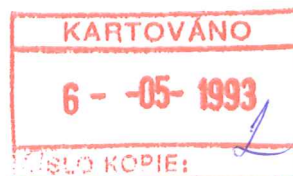
## MINIMALNI TLOUSTKY STEN TRUBEK PODLE N16.29

MATERIAL: 1.4466  
 VYPOCTOVA TEPLOTA:  $t = 200$  °C  
 VYPOCTOVY PRETLAK:  $p = 32.5$  MPa  
 BEZPECNOST:  $x = 1.5$   
 DOVOLENE NAMAHAANI:  $\text{sigD} = 150$  MPa

$s = K \cdot D$   
 $K = p / (2 \cdot \text{sigD} + p)$

$K = 0.0977$

| DN  | D<br>[mm] | sprov.<br>[mm] | smin.<br>[mm] |
|-----|-----------|----------------|---------------|
| 6   | 14        | 4              | 1.37          |
| 10  | 24        | 7              | 2.35          |
| 16  | 35        | 9              | 3.42          |
| 24  | 45        | 10             | 4.4           |
| 24  | 42.25     | 9              | 4.13          |
| 30  | 51        | 10             | 4.98          |
| 30  | 48.25     | 9              | 4.72          |
| 45  | 70        | 12             | 6.84          |
| 58  | 83        | 14             | 8.11          |
| 70  | 102       | 16             | 9.97          |
| 90  | 127       | 19             | 12.41         |
| 120 | 171       | 26             | 16.71         |
| 160 | 229       | 34             | 22.38         |
| 200 | 292       | 44             | 28.54         |



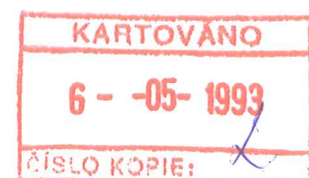
## MINIMALNI TLOUSTKY STEN ZAVITOVYCH KONCU PODLE N16

MATERIAL: 1.4466  
 VYPOCTOVA TEPLOTA:  $t = 200$  °C  $t_{z\text{teor.}} = (D_z - D_1) / 2$   
 VYPOCTOVY PRETLAK:  $p = 32.5$  MPa  $D_1 = K * D_s$   
 BEZPECNOST:  $x = 1.5$   $D_s = (D_o + d_1) / 2$   
 DOVOLENE NAMAHAANI:  $\sigma_D = 150$  MPa

$$K = (\sigma_D / p - 0.45) / (\sigma_D / p + 0.55)$$

$$K = 0.8064$$

| DN  | ZAVIT      | Dz<br>[mm] | d1<br>[mm] | Do<br>[mm] | Ds<br>[mm] | D1<br>[mm] | tzteor.<br>[mm] |
|-----|------------|------------|------------|------------|------------|------------|-----------------|
| 6   | IG 1/4"    | 13.06      | 11.44      | 12.3       | 11.87      | 9.572      | 1.74            |
|     | IG 3/8"    | 16.57      | 14.951     | 15.807     | 15.379     | 12.402     | 2.08            |
| 10  | IG 5/8"    | 22.78      | 20.58      | 21.75      | 21.165     | 17.067     | 2.86            |
|     | IG 3/4"    | 26.31      | 24.119     | 25.281     | 24.7       | 19.918     | 3.2             |
| 16  | IG 1"      | 33.08      | 30.293     | 31.771     | 31.032     | 25.024     | 4.03            |
| 24  | IG 1 1/4"  | 41.75      | 38.954     | 40.433     | 39.6935    | 32.009     | 4.87            |
| 30  | IG 1 1/2"  | 47.64      | 44.847     | 46.326     | 45.5865    | 36.761     | 5.44            |
| 45  | IG 2 1/4"  | 65.55      | 62.755     | 64.234     | 63.4945    | 51.202     | 7.17            |
| 58  | IG 81*1/8" | 80.77      | 76.934     | 78.967     | 77.9505    | 62.859     | 8.96            |
|     | IG 89*1/8" | 88.77      | 84.934     | 86.967     | 85.9505    | 69.31      | 9.73            |
| 70  | IG101*1/8" | 100.77     | 96.934     | 98.967     | 97.9505    | 78.987     | 10.89           |
| 90  | IG125*1/6" | 124.69     | 119.578    | 122.289    | 120.934    | 97.521     | 13.58           |
| 120 | IG169*1/6" | 168.69     | 163.58     | 166.29     | 164.935    | 133.004    | 17.84           |
| 160 | IG225*2/9" | 224.59     | 217.772    | 221.386    | 219.579    | 177.069    | 23.76           |
| 200 | IG284*1/4" | 283.53     | 275.868    | 279.934    | 277.901    | 224.099    | 29.72           |



## MINIMALNI TLOUSTKY STEN KOLEN PODLE N16.50

MATERIAL: 1.4466  
 VYPOCTOVA TEPLOTA:  $t = 200$  °C  
 VYPOCTOVY PRETLAK:  $p = 32.5$  MPa  
 BEZPECNOST:  $x = 1.5$   
 DOVOLENE NAMAĀANI:  $\text{sigD} = 150$  MPa

$$t_1 = A(D_2+R) - (A^2*(D_2+R)^2 - BD^2(4R+3D_2))^{1/2}$$

$$t_2 = -AR + (A^2*R^2 + BD^2(4R+D_2))^{1/2}$$

kde  $A = (2p+4\text{sigD})/(p+4\text{sigD})$   
 $B = p/(p+4\text{sigD})$

$A = 1.05$   
 $B = 0.05$

| DN  | D2<br>[mm] | R<br>[mm] | t1min<br>[mm] | t2min<br>[mm] |
|-----|------------|-----------|---------------|---------------|
| 6   | 19         | 22        | 1.63          | 2.1           |
| 10  | 32         | 40        | 2.76          | 3.51          |
| 16  | 39         | 40        | 3.32          | 4.39          |
| 24  | 50         | 45        | 4.22          | 5.74          |
| 30  | 57         | 50        | 4.91          | 6.57          |
| 45  | 77         | 55        | 6.41          | 9.17          |
| 58  | 97         | 60        | 8.01          | 11.86         |
| 70  | 112        | 78        | 9.31          | 13.4          |
| 90  | 136        | 90        | 11.27         | 16.42         |
| 120 | 186        | 111.5     | 15.32         | 22.87         |
| 160 | 240        | 230       | 20.36         | 27.28         |
| 200 | 300        | 300       | 25.52         | 33.89         |





## MINIMALNI TLOUSTKY STEN TVAROVEK N16.17

(ROHOVE KUSY N16.60, T-KUSY N16.70)

MATERIAL: 1.4466  
 VYPOCTOVA TEPLOTA:  $t = 200$  °C  
 VYPOCTOVY PRETLAK:  $p = 32.5$  MPa  
 BEZPECNOST:  $x = 1.5$   
 DOVOLENE NAMAHAHI:  $\text{sigD} = 150$  MPa

$$T_{\text{min}} = t_{\text{z teor.}} + (d - D_z) / 2$$

$$b_1 = L - i / 2 - l_1$$

$$T_{\text{tmin}} = t_{\text{z teor.}} + (i - D_z) / 2$$

$$b_2 = (i * T_t)^{1/2} - b_1$$

$$\dots b_1 > (i * T_t)^{1/2} \Rightarrow b_1 = (i * T_t)^{1/2}$$

$$b_2 = 0$$

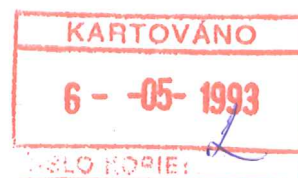
$$A = 2b_1 * T_t + 2b_2 * T_o + T_t^2$$

$$E = 2 * (i / 2 - T_t) * (i * T_t)^{1/2} + i^2 / 4 - T_t^2$$

$$\text{podminka pevnosti: } E/A \leq \text{sigD} / p - 0.5$$

$$K = \text{sigD} / p - 0.5 = 4.115$$

| DN     | ZAVIT       | Dz     | d    | i    | L    | l1   | l2   |
|--------|-------------|--------|------|------|------|------|------|
|        |             | [mm]   | [mm] | [mm] | [mm] | [mm] | [mm] |
| 6      | IG 3/8"     | 16.57  | 18   | 20   | 60   | 42   | 30   |
| 10     | IG 3/4"     | 26.31  | 28   | 30   | 85   | 60   | 33   |
| 16     | IG 1"       | 33.08  | 35   | 40   | 95   | 65   | 35   |
| 24     | IG 1 1/4"   | 41.75  | 45   | 50   | 110  | 75   | 37   |
| 30     | IG 1 1/2"   | 47.64  | 50   | 55   | 120  | 82   | 40   |
| 45     | IG 2 1/4"   | 65.55  | 70   | 80   | 150  | 95   | 50   |
| 58     | IG 89*1/8"  | 88.77  | 95   | 100  | 170  | 95   | 60   |
| 70     | IG101*1/8"  | 100.77 | 105  | 115  | 200  | 105  | 70   |
| 90     | IG125*1/6"  | 124.69 | 130  | 140  | 235  | 115  | 78   |
| 120    | IW 169*1/6" | 168.69 | 175  | 185  | 290  | 140  | 105  |
| *) 160 | IG225*2/9"  | 224.59 | 230  | 240  | 360  | 175  | 140  |
| *) 200 | IW 284*1/4" | 283.53 | 288  | 300  | 435  | 220  | 165  |



| DN   | b1   | t <sub>z teor</sub> | T <sub>t</sub> | T <sub>o</sub> | /i*T <sub>t</sub> | b2     | E     | A     | E/A   |
|------|------|---------------------|----------------|----------------|-------------------|--------|-------|-------|-------|
| [mm] | [mm] | [mm]                | [mm]           | [mm]           | [mm]              | [mm]   | [mm]  | [mm]  | [mm]  |
| 6    | 8    | 2.08                | 3.795          | 2.795          | 8.712             | 0.712  | 193.7 | 79.1  | 2.449 |
| 10   | 10   | 3.2                 | 5.045          | 4.045          | 12.302            | 2.302  | 444.5 | 145   | 3.066 |
| 16   | 10   | 4.03                | 7.49           | 4.99           | 17.309            | 7.309  | 777   | 278.8 | 2.787 |
| 24   | 10   | 4.87                | 8.995          | 6.495          | 21.207            | 11.207 | 1223  | 406.4 | 3.009 |
| 30   | 10.5 | 5.44                | 9.12           | 6.62           | 22.396            | 11.896 | 1496  | 432.2 | 3.462 |
| 45   | 15   | 7.17                | 14.395         | 9.395          | 33.935            | 18.935 | 3131  | 994.9 | 3.147 |
| 58   | 25   | 9.73                | 15.345         | 12.85          | 39.173            | 14.173 | 4980  | 1367  | 3.643 |
| 70   | 37.5 | 10.89               | 18.005         | 13.01          | 45.504            | 8.004  | 6576  | 1883  | 3.493 |
| 90   | 50   | 13.58               | 21.235         | 16.24          | 54.524            | 4.524  | 9767  | 2721  | 3.589 |
| 120  | 57.5 | 17.84               | 25.995         | 21             | 69.347            | 11.847 | 17104 | 4163  | 4.109 |
| 160  | 65   | 26.15 <sup>*)</sup> | 33.855         | 28.86          | 90.14             | 25.14  | 28784 | 6998  | 4.113 |
| 200  | 65   | 34.52 <sup>*)</sup> | 42.755         | 36.76          | 113.25            | 48.254 | 44964 | 10933 | 4.113 |

\*) MIN. TLOUŠŤKA ZÁVITOVÉHO KONCE T-KUSU  $t_z$  MUSÍ BÝT VYŠŠÍ  
NEŽ  $t_{z theor}$  DLE LISTU 88,



## MINIMALNI TLOUSTKY STEN TELES VENTILU

MATERIAL: 1.4466  
 VYPOCTOVA TEPLOTA: t = 200 °C  
 VYPOCTOVY PRETLAK: p = 32.5 MPa  
 BEZPECNOST: x = 1.5  
 DOVOLENE NAMAHANI: sigD = 150 MPa

Dle listu 19 vypoctu V2287V:

$$t_{\min} = 0.5 \cdot D_z \cdot (1 - (1 - 1.99 \cdot p / \text{sigD})^{1/2}) = K \cdot D_z$$

$$K = 0.1229$$

| DN  | Dz<br>[mm] | t <sub>min</sub><br>[mm] |
|-----|------------|--------------------------|
| 6   | 45         | 5.53                     |
|     | 56         | 6.88                     |
|     | 65         | 7.99                     |
| 10  | 67         | 8.48                     |
|     | 75         | 9.22                     |
| 16  | 65         | 7.99                     |
|     | 75         | 9.22                     |
|     | 85         | 10.45                    |
| 24  | 80         | 9.83                     |
|     | 92         | 11.31                    |
| 30  | 80         | 9.83                     |
|     | 90         | 11.06                    |
|     | 100        | 12.29                    |
|     | 112        | 13.76                    |
| 45  | 110        | 13.52                    |
|     | 120        | 14.75                    |
|     | 135        | 16.59                    |
| 58  | 150        | 18.44                    |
|     | 165        | 20.28                    |
| 70  | 150        | 18.44                    |
|     | 175        | 21.51                    |
|     | 185        | 22.74                    |
|     | 205        | 25.19                    |
| 90  | 175        | 21.51                    |
|     | 206        | 25.33                    |
|     | 230        | 27.04                    |
|     | 230        | 28.77                    |
| 130 | 235        | 28.98                    |
|     | 255        | 31.34                    |
|     | 295        | 36.26                    |

