

# SPRĘŻYNY NACIĄGOWE

Wszystkie wymienione w katalogu rozmiary sprężyn są standaryzowane.  
Takie są też wymienione tutaj potrzebne dane techniczne.

Każda sprężyna ma swój własny numer katalogowy. Przy zamówieniu proszę podać tylko ten numer i zamawianą ilość .

## Material

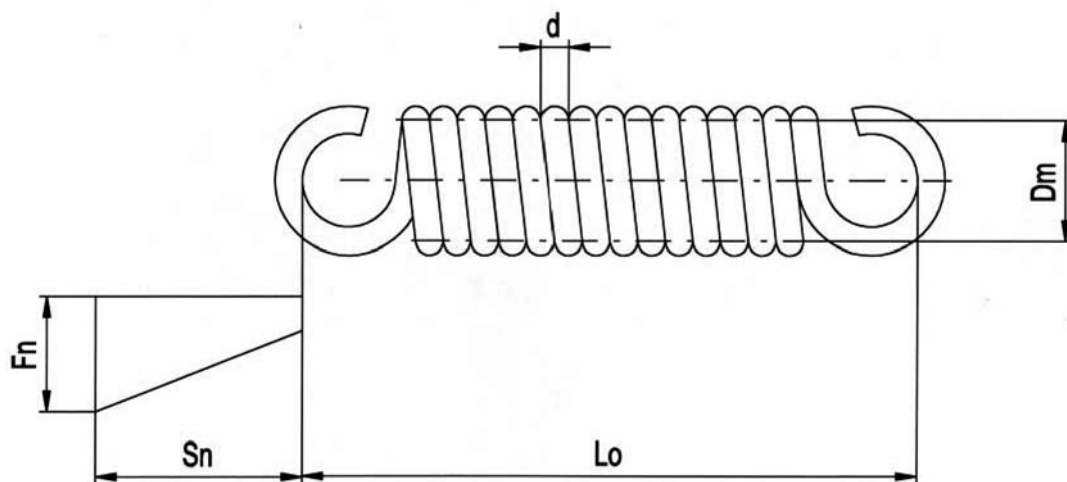
Stal sprężynowa, zgodnie z PN-71/M-80057 ( EN 10270:1-SH oraz DIN 17223, C; nr mat. 1.1200)

Stal nierdzewna, zgodnie z PN-71/M-80057 ( EN 10270:3-NS oraz DIN 17224, nr mat. 1.4310)

Tolerancja zgodna z DIN 2097-2

Zaczepty standardowe typ (niemiecki)

Konserwacja powierzchniowa olejem.



## Legenda

- d = grubość drutu
- Dm = średnica podziałowa sprężyny
- Lo = długość sprężyny w stanie swobodnym
- Sn = deformacja przy maksymalnym obciążeniu sprężyny
- Fn = siła wytworzona przez sprężynę(N)
- c = sztywność sprężyny(N/mm)

F stal nierdzewna = 0,833 x stal sprężynowa

Sprężyny naciągowe  
T = Stal sprężynowa  
TR = Stal nierdzewna

| d    | Dm    | Lo     | Sn     | Fn (N) | c (N/mm) | numer | grupa cenowa | Fn (N) | c (N/mm) | numer | grupa cenowa |       |   |
|------|-------|--------|--------|--------|----------|-------|--------------|--------|----------|-------|--------------|-------|---|
| 0,5  | 2,0   | 7,9    | 1,71   | 16,1   | 7,98     | T100  | B            | 13,4   | 6,65     | TR100 | E            |       |   |
|      |       | 10,9   | 2,74   |        | 4,98     | T110  | B            |        | 4,15     | TR110 | E            |       |   |
|      |       | 15,4   | 4,28   |        | 3,19     | T120  | B            |        | 2,66     | TR120 | E            |       |   |
|      | 3,0   | 9,5    | 4,32   | 12,0   | 2,35     | T130  | B            | 10,0   | 1,96     | TR130 | E            |       |   |
|      |       | 12,5   | 6,91   |        | 1,47     | T140  | B            |        | 1,22     | TR140 | E            |       |   |
|      |       | 17,0   | 10,80  |        | 0,94     | T150  | B            |        | 0,78     | TR150 | E            |       |   |
|      |       | 24,5   | 17,30  |        | 0,59     | T160  | B            |        | 0,49     | TR160 | E            |       |   |
|      |       | 290,0  | 210,00 |        | 0,05     | T170  | D            |        | 0,04     | TR170 | H            |       |   |
|      |       | 12,7   | 13,10  |        | 7,8      | 0,51  | T180         |        | B        | 6,5   | 0,42         | TR180 | E |
|      | 15,7  | 20,90  | 0,31   | T190   |          | B     | 0,26         | TR190  | E        |       |              |       |   |
|      | 20,2  | 32,70  | 0,21   | T200   |          | B     | 0,17         | TR200  | E        |       |              |       |   |
|      | 27,7  | 52,30  | 0,13   | T210   |          | B     | 0,11         | TR210  | E        |       |              |       |   |
| 37,7 | 78,40 | 0,09   | T220   | B      |          | 0,07  | TR220        | E      |          |       |              |       |   |
| 0,55 | 2,25  | 8,8    | 1,98   | 19,0   |          | 8,18  | T230         | B      | 15,8     |       | 6,81         | TR230 | F |
| 12,1 |       | 3,17   | 5,11   |        | T240     | B     | 4,26         | TR240  |          | F     |              |       |   |
| 17,0 |       | 4,96   | 3,27   |        | T250     | B     | 2,72         | TR250  |          | F     |              |       |   |
| 0,55 | 2,95  | 9,9    | 3,68   | 15,7   | 3,63     | T260  | B            | 13,1   | 3,02     | TR260 | F            |       |   |
|      |       | 13,2   | 5,89   |        | 2,27     | T270  | B            |        | 1,89     | TR270 | F            |       |   |
|      |       | 18,1   | 9,20   |        | 1,45     | T280  | B            |        | 1,21     | TR280 | F            |       |   |
|      | 26,4  | 14,70  | 0,90   |        | T290     | B     | 0,75         |        | TR290    | F     |              |       |   |
|      | 5,45  | 13,9   | 14,10  |        | 9,5      | 0,58  | T300         |        | B        | 7,9   | 0,48         | TR300 | F |
|      |       | 17,2   | 22,50  |        |          | 0,36  | T310         |        | B        |       | 0,30         | TR310 | F |
| 22,1 |       | 35,10  | 0,23   | T320   |          | B     | 0,19         | TR320  | F        |       |              |       |   |
| 30,4 |       | 56,20  | 0,15   | T330   |          | B     | 0,12         | TR330  | F        |       |              |       |   |
| 41,4 | 84,30 | 0,10   | T340   | B      | 0,08     | TR340 | F            |        |          |       |              |       |   |
| 0,63 | 2,37  | 9,7    | 1,85   | 26,2   | 12,10    | T350  | C            | 21,8   | 10,08    | TR350 | F            |       |   |
|      |       | 13,5   | 2,96   |        | 7,51     | T360  | C            |        | 6,26     | TR360 | F            |       |   |
|      |       | 19,2   | 4,62   |        | 4,81     | T370  | C            |        | 4,01     | TR370 | F            |       |   |
|      | 3,87  | 12,1   | 5,65   | 18,3   | 2,77     | T380  | C            | 15,2   | 2,31     | TR380 | F            |       |   |
|      |       | 15,9   | 9,04   |        | 1,73     | T390  | C            |        | 1,44     | TR390 | F            |       |   |
|      |       | 21,6   | 14,10  |        | 1,11     | T400  | C            |        | 0,92     | TR400 | F            |       |   |
|      |       | 31,0   | 22,60  |        | 0,70     | T410  | C            |        | 0,58     | TR410 | F            |       |   |
|      | 6,37  | 16,1   | 16,60  | 12,2   | 0,62     | T420  | C            | 10,2   | 0,52     | TR420 | F            |       |   |
|      |       | 19,9   | 26,60  |        | 0,39     | T430  | C            |        | 0,32     | TR430 | F            |       |   |
|      |       | 25,6   | 41,60  |        | 0,25     | T440  | C            |        | 0,21     | TR440 | F            |       |   |
|      |       | 35,0   | 66,50  |        | 0,16     | T450  | C            |        | 0,13     | TR450 | F            |       |   |
|      |       | 47,6   | 99,70  |        | 0,11     | T460  | C            |        | 0,09     | TR460 | F            |       |   |
| 0,7  | 2,8   | 11,1   | 2,36   | 30,7   | 11,10    | T470  | C            | 25,6   | 9,25     | TR470 | F            |       |   |
|      |       | 15,3   | 3,78   |        | 6,95     | T480  | C            |        | 5,79     | TR480 | F            |       |   |
|      |       | 21,6   | 5,90   |        | 4,44     | T490  | C            |        | 3,70     | TR490 | F            |       |   |
|      | 4,3   | 13,5   | 6,25   | 22,6   | 3,07     | T500  | C            | 18,8   | 2,56     | TR500 | F            |       |   |
|      |       | 17,7   | 10,00  |        | 1,92     | T510  | C            |        | 1,60     | TR510 | F            |       |   |
|      |       | 24,0   | 15,60  |        | 1,23     | T520  | C            |        | 1,02     | TR520 | F            |       |   |
|      |       | 34,5   | 25,00  |        | 0,77     | T530  | C            |        | 0,64     | TR530 | F            |       |   |
|      | 6,8   | 17,5   | 16,90  | 15,4   | 0,78     | T540  | C            | 12,8   | 0,65     | TR540 | F            |       |   |
|      |       | 21,7   | 27,00  |        | 0,49     | T550  | C            |        | 0,41     | TR550 | F            |       |   |
|      |       | 28,0   | 42,20  |        | 0,31     | T560  | C            |        | 0,26     | TR560 | F            |       |   |
|      |       | 38,5   | 67,50  |        | 0,20     | T570  | C            |        | 0,17     | TR570 | F            |       |   |
|      |       | 52,5   | 101,00 |        | 0,13     | T580  | C            |        | 0,11     | TR580 | F            |       |   |
| 0,8  | 3,2   | 12,6   | 2,66   | 39,9   | 12,70    | T590  | C            | 33,2   | 10,58    | TR590 | F            |       |   |
|      |       | 17,4   | 4,26   |        | 8,00     | T600  | C            |        | 6,66     | TR600 | F            |       |   |
|      |       | 24,6   | 6,66   |        | 5,10     | T610  | C            |        | 4,25     | TR610 | F            |       |   |
|      | 4,7   | 15,0   | 6,40   | 30,2   | 4,00     | T620  | C            | 25,2   | 3,33     | TR620 | F            |       |   |
|      |       | 19,8   | 10,20  |        | 2,50     | T630  | C            |        | 2,08     | TR630 | F            |       |   |
|      |       | 27,0   | 16,00  |        | 1,60     | T640  | C            |        | 1,33     | TR640 | F            |       |   |
|      |       | 39,0   | 25,60  |        | 1,00     | T650  | C            |        | 0,83     | TR650 | F            |       |   |
|      |       | 290,0  | 225,00 |        | 0,11     | T660  | F            |        | 0,09     | TR660 | L            |       |   |
|      | 8,2   | 20,6   | 21,40  | 19,0   | 0,76     | T670  | C            | 15,8   | 0,63     | TR670 | F            |       |   |
|      |       | 25,4   | 34,30  |        | 0,47     | T680  | C            |        | 0,39     | TR680 | F            |       |   |
|      |       | 32,6   | 53,50  |        | 0,30     | T690  | C            |        | 0,25     | TR690 | F            |       |   |
|      |       | 44,6   | 85,60  |        | 0,19     | T700  | C            |        | 0,16     | TR700 | F            |       |   |
| 60,6 |       | 128,00 | 0,13   |        | T710     | C     | 0,11         |        | TR710    | F     |              |       |   |
| 0,9  | 3,6   | 14,2   | 2,95   | 49,7   | 14,30    | T720  | D            | 41,4   | 11,91    | TR720 | F            |       |   |
|      |       | 19,6   | 4,72   |        | 8,96     | T730  | D            |        | 7,46     | TR730 | F            |       |   |
|      |       | 27,7   | 7,38   |        | 5,73     | T740  | D            |        | 4,77     | TR740 | F            |       |   |
|      | 5,4   | 17,1   | 7,43   | 37,1   | 4,23     | T750  | D            | 30,9   | 3,52     | TR750 | F            |       |   |

Sprężyny naciągowe  
T = Stal sprężynowa  
TR = Stal nierdzewna

| d    | Dm   | Lo    | Ln     | Fn (N) | c (N/mm) | numer | grupa cenowa | Fn (N) | c (N/mm) | numer  | grupa cenowa |
|------|------|-------|--------|--------|----------|-------|--------------|--------|----------|--------|--------------|
| 0,9  | 5,4  | 22,5  | 11,90  | 37,1   | 2,65     | T760  | D            | 30,9   | 2,21     | TR760  | F            |
|      |      | 30,6  | 18,60  |        | 1,70     | T770  | D            |        | 1,42     | TR770  | F            |
|      |      | 44,1  | 29,70  |        | 1,06     | T780  | D            |        | 0,88     | TR780  | F            |
|      | 9,1  | 23,0  | 23,10  | 24,0   | 0,88     | T790  | D            | 20,0   | 0,73     | TR790  | F            |
|      |      | 28,4  | 36,90  |        | 0,55     | T800  | D            |        | 0,46     | TR800  | F            |
|      |      | 36,5  | 57,60  |        | 0,35     | T810  | D            |        | 0,29     | TR810  | F            |
| 1,0  | 4,0  | 15,8  | 3,25   | 60,8   | 15,90    | T840  | D            | 50,6   | 13,24    | TR840  | F            |
|      |      | 21,8  | 5,20   |        | 9,90     | T850  | D            |        | 8,25     | TR850  | F            |
|      |      | 30,8  | 8,12   |        | 6,37     | T860  | D            |        | 5,31     | TR860  | F            |
|      | 6,0  | 19,0  | 8,17   | 45,3   | 4,71     | T870  | D            | 37,7   | 3,92     | TR870  | F            |
|      |      | 25,0  | 13,10  |        | 2,94     | T880  | D            |        | 2,45     | TR880  | F            |
|      |      | 34,0  | 20,40  |        | 1,83     | T890  | D            |        | 1,52     | TR890  | F            |
| 1,1  | 4,4  | 17,4  | 3,54   | 72,8   | 17,50    | T970  | D            | 60,6   | 14,58    | TR970  | G            |
|      |      | 24,0  | 5,66   |        | 11,00    | T980  | D            |        | 9,16     | TR980  | G            |
|      |      | 33,9  | 8,84   |        | 7,00     | T990  | D            |        | 5,83     | TR990  | G            |
|      | 6,4  | 20,6  | 8,30   | 55,5   | 5,69     | T1000 | D            | 46,2   | 4,74     | TR1000 | G            |
|      |      | 27,2  | 13,30  |        | 3,55     | T1010 | D            |        | 2,96     | TR1010 | G            |
|      |      | 37,1  | 20,80  |        | 2,28     | T1020 | D            |        | 1,90     | TR1020 | G            |
| 1,2  | 10,9 | 27,8  | 26,40  | 35,8   | 1,15     | T1040 | D            | 29,8   | 0,96     | TR1040 | G            |
|      |      | 34,4  | 42,30  |        | 0,72     | T1050 | D            |        | 0,63     | TR1050 | G            |
|      |      | 44,3  | 66,10  |        | 0,46     | T1060 | D            |        | 0,38     | TR1060 | G            |
|      | 4,8  | 60,8  | 106,00 | 82,8   | 0,28     | T1070 | D            | 60,6   | 0,23     | TR1070 | G            |
|      |      | 82,8  | 159,00 |        | 0,20     | T1080 | D            |        | 0,17     | TR1080 | G            |
|      |      | 19,0  | 3,80   |        | 19,10    | T1090 | E            |        | 15,91    | TR1090 | G            |
| 1,4  | 7,3  | 26,2  | 6,08   | 85,3   | 12,00    | T1100 | E            | 71,1   | 10,00    | TR1100 | G            |
|      |      | 37,0  | 9,50   |        | 7,63     | T1110 | E            |        | 6,36     | TR1110 | G            |
|      |      | 23,0  | 9,85   |        | 5,43     | T1120 | E            |        | 4,52     | TR1120 | G            |
|      | 11,8 | 30,2  | 15,80  | 62,8   | 3,39     | T1130 | E            | 52,3   | 2,82     | TR1130 | G            |
|      |      | 41,0  | 24,60  |        | 2,17     | T1140 | E            |        | 1,81     | TR1140 | G            |
|      |      | 59,0  | 39,60  |        | 1,35     | T1150 | E            |        | 1,12     | TR1150 | G            |
| 1,6  | 5,6  | 290,0 | 225,00 | 114,0  | 0,24     | T1160 | H            | 95,0   | 0,20     | TR1160 | M            |
|      |      | 30,2  | 27,90  |        | 1,28     | T1170 | E            |        | 1,07     | TR1170 | G            |
|      |      | 37,4  | 44,70  |        | 0,80     | T1180 | E            |        | 0,67     | TR1180 | G            |
|      | 8,6  | 48,2  | 69,80  | 42,2   | 0,51     | T1190 | E            | 35,2   | 0,42     | TR1190 | G            |
|      |      | 66,2  | 112,00 |        | 0,32     | T1200 | E            |        | 0,27     | TR1200 | G            |
|      |      | 90,2  | 168,00 |        | 0,21     | T1210 | E            |        | 0,17     | TR1210 | G            |
| 1,2  | 4,8  | 19,0  | 3,80   | 85,3   | 19,10    | T1090 | E            | 71,1   | 15,91    | TR1090 | G            |
|      |      | 26,2  | 6,08   |        | 12,00    | T1100 | E            |        | 10,00    | TR1100 | G            |
|      |      | 37,0  | 9,50   |        | 7,63     | T1110 | E            |        | 6,36     | TR1110 | G            |
|      | 7,3  | 23,0  | 9,85   | 62,8   | 5,43     | T1120 | E            | 52,3   | 4,52     | TR1120 | G            |
|      |      | 30,2  | 15,80  |        | 3,39     | T1130 | E            |        | 2,82     | TR1130 | G            |
|      |      | 41,0  | 24,60  |        | 2,17     | T1140 | E            |        | 1,81     | TR1140 | G            |
| 1,4  | 10,9 | 59,0  | 39,60  | 82,8   | 1,35     | T1150 | E            | 60,6   | 1,12     | TR1150 | G            |
|      |      | 290,0 | 225,00 |        | 0,24     | T1160 | H            |        | 0,20     | TR1160 | M            |
|      |      | 30,2  | 27,90  |        | 1,28     | T1170 | E            |        | 1,07     | TR1170 | G            |
|      | 5,6  | 37,4  | 44,70  | 42,2   | 0,80     | T1180 | E            | 35,2   | 0,67     | TR1180 | G            |
|      |      | 48,2  | 69,80  |        | 0,51     | T1190 | E            |        | 0,42     | TR1190 | G            |
|      |      | 66,2  | 112,00 |        | 0,32     | T1200 | E            |        | 0,27     | TR1200 | G            |
| 1,6  | 8,6  | 90,2  | 168,00 | 114,0  | 0,21     | T1210 | E            | 95,0   | 0,17     | TR1210 | G            |
|      |      | 22,1  | 4,36   |        | 22,30    | T1220 | E            |        | 18,58    | TR1220 | H            |
|      |      | 30,5  | 6,98   |        | 13,90    | T1230 | E            |        | 11,58    | TR1230 | H            |
|      | 13,6 | 43,1  | 10,90  | 83,6   | 8,91     | T1240 | E            | 69,6   | 7,42     | TR1240 | H            |
|      |      | 26,9  | 11,60  |        | 6,14     | T1250 | E            |        | 5,11     | TR1250 | H            |
|      |      | 35,3  | 18,50  |        | 3,83     | T1260 | E            |        | 3,19     | TR1260 | H            |
| 1,4  | 8,6  | 47,9  | 28,90  | 57,1   | 2,46     | T1270 | E            | 47,6   | 2,05     | TR1270 | H            |
|      |      | 68,9  | 46,20  |        | 1,54     | T1280 | E            |        | 1,28     | TR1280 | H            |
|      |      | 290,0 | 220,00 |        | 0,32     | T1290 | J            |        | 0,27     | TR1290 | N            |
|      | 15,4 | 34,9  | 31,20  | 74,0   | 1,55     | T1300 | E            | 62,0   | 1,29     | TR1300 | H            |
|      |      | 43,3  | 50,00  |        | 0,97     | T1310 | E            |        | 0,81     | TR1310 | H            |
|      |      | 55,9  | 78,10  |        | 0,62     | T1320 | E            |        | 0,52     | TR1320 | H            |
| 1,6  | 6,4  | 76,9  | 125,00 | 111,0  | 0,39     | T1330 | E            | 92,0   | 0,32     | TR1330 | H            |
|      |      | 105,0 | 187,00 |        | 0,26     | T1340 | E            |        | 0,22     | TR1340 | J            |
|      |      | 25,3  | 4,88   |        | 25,40    | T1350 | E            |        | 21,16    | TR1350 | H            |
|      | 9,4  | 34,9  | 7,81   | 146,0  | 15,90    | T1360 | E            | 122,0  | 13,24    | TR1360 | H            |
|      |      | 49,3  | 12,20  |        | 10,20    | T1370 | E            |        | 8,50     | TR1370 | H            |
|      |      | 30,1  | 11,70  |        | 8,04     | T1380 | E            |        | 6,70     | TR1380 | H            |
| 15,4 | 39,7 | 18,70 | 111,0  | 5,02   | T1390    | E     | 92,0         | 4,18   | TR1390   | H      |              |
|      | 54,1 | 29,30 |        | 3,22   | T1400    | E     |              | 2,68   | TR1400   | H      |              |
|      | 78,1 | 46,80 |        | 2,01   | T1410    | E     |              | 1,67   | TR1410   | H      |              |
| 15,4 | 39,7 | 34,30 | 74,0   | 1,82   | T1420    | E     | 62,0         | 1,52   | TR1420   | H      |              |

Sprężyny naciągowe  
T = Stal sprężynowa  
TR = Stal nierdzewna

| d     | Dm    | Lo     | Ln     | Fn (N) | c (N/mm) | numer | grupa cenowa | Fn (N) | c (N/mm) | numer  | grupa cenowa |
|-------|-------|--------|--------|--------|----------|-------|--------------|--------|----------|--------|--------------|
| 1,6   | 15,4  | 49,3   | 54,80  | 74,0   | 1,14     | T1430 | E            | 62,0   | 0,95     | TR1430 | H            |
|       |       | 63,7   | 85,60  |        | 0,73     | T1440 | E            |        | 0,61     | TR1440 | H            |
|       |       | 87,7   | 137,00 |        | 0,46     | T1450 | E            |        | 0,38     | TR1450 | J            |
|       |       | 120,0  | 205,00 |        | 0,30     | T1460 | E            |        | 0,25     | TR1460 | K            |
| 1,8   | 7,2   | 28,4   | 5,37   | 180,0  | 28,60    | T1470 | F            | 150,0  | 23,82    | TR1470 | H            |
|       |       | 39,2   | 8,59   |        | 17,80    | T1480 | F            |        | 14,83    | TR1480 | H            |
|       |       | 55,4   | 13,40  |        | 11,50    | T1490 | F            |        | 9,58     | TR1490 | H            |
|       | 10,2  | 33,2   | 11,90  | 141,0  | 10,10    | T1500 | F            | 117,0  | 8,41     | TR1500 | H            |
|       |       | 44,0   | 19,00  |        | 6,28     | T1510 | F            |        | 5,23     | TR1510 | H            |
|       |       | 60,2   | 29,70  |        | 4,02     | T1520 | F            |        | 3,35     | TR1520 | H            |
|       |       | 87,2   | 47,60  |        | 2,52     | T1530 | F            |        | 2,10     | TR1530 | H            |
|       |       | 290,0  | 175,00 |        | 0,68     | T1540 | J            |        | 0,57     | TR1540 | N            |
|       | 18,2  | 46,0   | 41,90  | 87,0   | 1,78     | T1550 | F            | 72,0   | 1,48     | TR1550 | H            |
|       |       | 56,8   | 67,00  |        | 1,11     | T1560 | F            |        | 0,92     | TR1560 | H            |
|       |       | 73,0   | 105,00 |        | 0,71     | T1570 | F            |        | 0,59     | TR1570 | L            |
|       |       | 100,0  | 167,00 |        | 0,44     | T1580 | F            |        | 0,37     | TR1580 | M            |
| 136,0 |       | 251,00 | 0,29   |        | T1590    | F     | 0,24         |        | TR1590   | M      |              |
| 31,6  |       | 5,86   | 220,0  |        | 31,80    | T1600 | K            |        | 183,0    | 26,49  | TR1600       |
| 43,6  | 9,38  | 19,90  |        | T1610  | K        | 16,58 | TR1610       | N      |          |        |              |
| 61,6  | 14,70 | 12,80  |        | T1620  | K        | 10,66 | TR1620       | N      |          |        |              |
| 2,0   | 12,0  | 38,0   | 14,70  | 164,0  | 9,42     | T1630 | K            | 137,0  | 7,85     | TR1630 | N            |
|       |       | 50,0   | 23,60  |        | 5,88     | T1640 | K            |        | 4,90     | TR1640 | N            |
|       |       | 68,0   | 36,90  |        | 3,77     | T1650 | K            |        | 3,14     | TR1650 | N            |
|       |       | 98,0   | 59,00  |        | 2,35     | T1660 | K            |        | 1,96     | TR1660 | N            |
|       | 20,0  | 50,8   | 44,70  | 107,0  | 2,03     | T1670 | K            | 89,0   | 1,69     | TR1670 | N            |
|       |       | 62,8   | 71,50  |        | 1,27     | T1680 | K            |        | 1,06     | TR1680 | N            |
|       |       | 80,8   | 112,00 |        | 0,81     | T1690 | K            |        | 0,67     | TR1690 | N            |
|       |       | 111,0  | 179,00 |        | 0,51     | T1700 | K            |        | 0,42     | TR1700 | N            |
|       |       | 151,0  | 268,00 |        | 0,34     | T1710 | K            |        | 0,28     | TR1710 | O            |
| 2,2   | 8,8   | 34,8   | 6,30   | 259,0  | 35,00    | T1720 | K            | 216,0  | 29,16    | TR1720 | O            |
|       |       | 48,0   | 10,10  |        | 21,90    | T1730 | K            |        | 18,24    | TR1730 | O            |
|       |       | 67,8   | 15,80  |        | 14,00    | T1740 | K            |        | 11,66    | TR1740 | O            |
|       | 12,8  | 41,2   | 14,80  | 198,0  | 11,40    | T1750 | K            | 165,0  | 9,50     | TR1750 | O            |
|       |       | 54,4   | 23,70  |        | 7,10     | T1760 | K            |        | 5,91     | TR1760 | O            |
|       |       | 74,2   | 37,00  |        | 4,55     | T1770 | K            |        | 3,79     | TR1770 | O            |
|       |       | 107,0  | 59,20  |        | 2,84     | T1780 | K            |        | 2,37     | TR1780 | O            |
|       |       | 55,6   | 47,10  |        | 127,0    | 2,31  | T1790        |        | K        | 106,0  | 1,92         |
|       | 68,8  | 75,30  | 1,44   | T1800  |          | K     | 1,20         | TR1800 | O        |        |              |
|       | 88,6  | 118,00 | 0,92   | T1810  |          | K     | 0,77         | TR1810 | O        |        |              |
|       | 122,0 | 188,00 | 0,58   | T1820  |          | K     | 0,48         | TR1820 | O        |        |              |
|       | 166,0 | 282,00 | 0,38   | T1830  |          | K     | 0,32         | TR1830 | P        |        |              |
| 2,5   | 10,5  | 40,3   | 7,84   | 317,0  | 34,30    | T1840 | L            | 264,0  | 28,57    | TR1840 | O            |
|       |       | 55,3   | 12,50  |        | 21,50    | T1850 | L            |        | 17,91    | TR1850 | O            |
|       |       | 77,8   | 19,60  |        | 13,70    | T1860 | L            |        | 11,41    | TR1860 | O            |
|       | 15,5  | 48,3   | 18,90  | 237,0  | 10,70    | T1870 | L            | 197,0  | 8,91     | TR1870 | O            |
|       |       | 63,3   | 30,30  |        | 6,67     | T1880 | L            |        | 5,56     | TR1880 | O            |
|       |       | 85,8   | 47,30  |        | 4,27     | T1890 | L            |        | 3,56     | TR1890 | O            |
|       |       | 123,0  | 75,70  |        | 2,67     | T1900 | L            |        | 2,22     | TR1900 | O            |
|       | 25,5  | 64,3   | 55,60  | 157,0  | 2,39     | T1910 | L            | 131,0  | 1,99     | TR1910 | O            |
|       |       | 79,3   | 88,90  |        | 1,50     | T1920 | L            |        | 1,25     | TR1920 | O            |
|       |       | 102,0  | 139,00 |        | 0,96     | T1930 | L            |        | 0,80     | TR1930 | O            |
|       |       | 139,0  | 222,00 |        | 0,60     | T1940 | L            |        | 0,50     | TR1940 | P            |
|       |       | 189,0  | 333,00 |        | 0,40     | T1950 | L            |        | 0,33     | TR1950 | R            |
| 2,8   | 11,2  | 44,2   | 7,65   | 400,0  | 44,60    | T1960 | L            | 333,0  | 37,15    | TR1960 | P            |
|       |       | 61,0   | 12,20  |        | 27,90    | T1970 | L            |        | 23,24    | TR1970 | P            |
|       |       | 86,2   | 19,10  |        | 17,90    | T1980 | L            |        | 14,91    | TR1980 | P            |
|       | 17,2  | 53,8   | 20,30  | 293,0  | 12,30    | T1990 | L            | 244,0  | 10,25    | TR1990 | P            |
|       |       | 70,6   | 32,40  |        | 7,68     | T2000 | L            |        | 6,40     | TR2000 | P            |
|       |       | 95,8   | 50,60  |        | 4,91     | T2010 | L            |        | 4,09     | TR2010 | P            |
|       |       | 138,0  | 81,00  |        | 3,07     | T2020 | L            |        | 2,56     | TR2020 | P            |
|       | 27,2  | 69,8   | 54,70  | 200,0  | 3,11     | T2030 | L            | 167,0  | 2,59     | TR2030 | P            |
|       |       | 86,6   | 87,60  |        | 1,94     | T2040 | L            |        | 1,62     | TR2040 | P            |
|       |       | 112,0  | 137,00 |        | 1,25     | T2050 | L            |        | 1,04     | TR2050 | P            |
|       |       | 154,0  | 219,00 |        | 0,78     | T2060 | L            |        | 0,65     | TR2060 | R            |
|       |       | 210,0  | 328,00 |        | 0,52     | T2070 | M            |        | 0,43     | TR2070 | T            |
| 3,2   | 12,8  | 50,6   | 8,52   | 510,0  | 50,90    | T2080 | M            | 425,0  | 42,40    | TR2080 | P            |
|       |       | 69,8   | 13,60  |        | 31,80    | T2090 | M            |        | 26,49    | TR2090 | P            |

Sprężyny naciągowe  
T = Stal sprężynowa  
TR = Stal nierdzewna

| d     | Dm     | Lo     | Ln     | Fn (N) | c (N/mm) | numer | grupa cenowa | Fn (N) | c (N/mm) | numer  | grupa cenowa |        |
|-------|--------|--------|--------|--------|----------|-------|--------------|--------|----------|--------|--------------|--------|
| 3,2   | 12,8   | 98,6   | 21,30  | 510,0  | 20,40    | T2100 | M            | 425,0  | 16,99    | TR2100 | P            |        |
|       |        | 60,2   | 20,50  |        |          | T2110 | M            |        |          | TR2110 | Q            |        |
|       |        | 79,4   | 32,70  |        |          | T2120 | M            |        |          | TR2120 | Q            |        |
|       |        | 108,0  | 51,10  |        |          | T2130 | M            |        |          | TR2130 | Q            |        |
|       |        | 156,0  | 81,80  |        |          | T2140 | M            |        |          | TR2140 | R            |        |
|       | 18,8   | 82,6   | 68,40  | 243,0  | 3,02     | T2150 | M            | 202,0  | 2,52     | TR2150 | Q            |        |
|       |        | 102,0  | 109,00 |        |          | T2160 | M            |        |          | TR2160 | Q            |        |
|       |        | 131,0  | 171,00 |        |          | T2170 | M            |        |          | TR2170 | S            |        |
|       |        | 179,0  | 274,00 |        |          | T2180 | M            |        |          | TR2180 | T            |        |
|       |        | 243,0  | 410,00 |        |          | T2190 | N            |        |          | TR2190 | V            |        |
| 3,6   | 14,4   | 56,9   | 9,35   | 630,0  | 57,20    | T2200 | M            | 524,79 | 47,65    | TR2200 | P            |        |
|       |        | 78,5   | 15,00  |        |          | T2210 | M            |        |          | TR2210 | P            |        |
|       |        | 111,0  | 23,40  |        |          | T2220 | M            |        |          | TR2220 | P            |        |
|       | 21,4   | 68,1   | 23,00  | 473,0  | 17,50    | T2230 | M            | 394,01 | 14,58    | TR2230 | P            |        |
|       |        | 89,7   | 36,80  |        |          | T2240 | M            |        |          | TR2240 | P            |        |
|       |        | 122,0  | 57,60  |        |          | T2250 | M            |        |          | TR2250 | P            |        |
|       |        | 176,0  | 92,10  |        |          | T2260 | N            |        |          | TR2260 | Q            |        |
|       |        | 92,1   | 72,90  |        |          | 304,0 | 3,54         |        |          | T2270  | M            | 253,23 |
|       | 114,0  | 117,00 | T2280  | M      | TR2280   |       |              | P      |          |        |              |        |
|       | 146,0  | 182,00 | T2290  | N      | TR2290   |       |              | Q      |          |        |              |        |
|       | 200,0  | 292,00 | T2300  | N      | TR2300   |       |              | R      |          |        |              |        |
|       | 272,0  | 437,00 | T2310  | O      | TR2310   |       |              | U      |          |        |              |        |
|       | 4,0    | 16,0   | 63,2   | 10,10  | 757,0    | 63,60 | T2320        | M      | 630,58   | 52,98  | TR2320       | P      |
|       |        |        | 87,2   | 16,20  |          |       | T2330        | M      |          |        | TR2330       | P      |
|       |        |        | 123,0  | 25,30  |          |       | T2340        | M      |          |        | TR2340       | P      |
| 24,0  |        | 76,0   | 25,40  | 564,0  | 18,80    | T2350 | M            | 469,81 | 15,66    | TR2350 | P            |        |
|       |        | 100,0  | 40,70  |        |          | T2360 | M            |        |          | TR2360 | P            |        |
|       |        | 136,0  | 63,60  |        |          | T2370 | M            |        |          | TR2370 | P            |        |
|       |        | 196,0  | 102,00 |        |          | T2380 | N            |        |          | TR2380 | S            |        |
|       |        | 103,0  | 81,20  |        |          | 361,0 | 3,78         |        |          | T2390  | M            | 300,71 |
| 127,0 |        | 130,00 | T2400  | M      | TR2400   |       |              | Q      |          |        |              |        |
| 163,0 |        | 203,00 | T2410  | N      | TR2410   |       |              | S      |          |        |              |        |
| 223,0 | 325,00 | T2420  | O      | TR2420 | U        |       |              |        |          |        |              |        |
| 303,0 | 487,00 | T2430  | P      | TR2430 | W        |       |              |        |          |        |              |        |
| 4,5   | 17,5   | 70,3   | 10,40  | 951,0  | 77,90    | T2440 | M            | 792,18 | 64,89    | TR2440 | P            |        |
|       |        | 97,3   | 16,60  |        |          | T2450 | M            |        |          | TR2450 | Q            |        |
|       |        | 138,0  | 25,90  |        |          | T2460 | M            |        |          | TR2460 | Q            |        |
|       | 27,5   | 86,3   | 29,00  | 685,0  | 20,10    | T2470 | M            | 570,61 | 16,74    | TR2470 | Q            |        |
|       |        | 113,0  | 46,40  |        |          | T2480 | M            |        |          | TR2480 | Q            |        |
|       |        | 154,0  | 72,60  |        |          | T2490 | N            |        |          | TR2490 | R            |        |
|       |        | 221,0  | 116,00 |        |          | T2500 | O            |        |          | TR2500 | U            |        |
|       |        | 115,0  | 86,40  |        |          | 451,0 | 4,43         |        |          | T2510  | M            | 375,68 |
|       | 142,0  | 138,00 | T2520  | N      | TR2520   |       |              | S      |          |        |              |        |
|       | 183,0  | 216,00 | T2530  | O      | TR2530   |       |              | U      |          |        |              |        |
| 250,0 | 346,00 | T2540  | P      | TR2540 | W        |       |              |        |          |        |              |        |
| 340,0 | 518,00 | T2550  | Q      | TR2550 | AW       |       |              |        |          |        |              |        |
| 5,0   | 20,0   | 79,0   | 11,90  | 1110,0 | 79,50    | T2560 | M            | 924,63 | 66,22    | TR2560 | Q            |        |
|       |        | 109,0  | 19,00  |        |          | T2570 | M            |        |          | TR2570 | Q            |        |
|       |        | 154,0  | 29,70  |        |          | T2580 | N            |        |          | TR2580 | R            |        |
|       | 31,0   | 96,6   | 32,20  | 808,0  | 21,40    | T2590 | M            | 673,06 | 17,83    | TR2590 | Q            |        |
|       |        | 127,0  | 51,50  |        |          | T2600 | N            |        |          | TR2600 | R            |        |
|       |        | 172,0  | 80,40  |        |          | T2610 | N            |        |          | TR2610 | AS           |        |
|       |        | 247,0  | 129,00 |        |          | T2620 | P            |        |          | TR2620 | AU           |        |
|       |        | 127,0  | 90,60  |        |          | 543,0 | 5,09         |        |          | T2630  | N            | 452,32 |
|       | 157,0  | 145,00 | T2640  | O      | TR2640   |       |              | AV     |          |        |              |        |
|       | 202,0  | 226,00 | T2650  | P      | TR2650   |       |              | AW     |          |        |              |        |
| 277,0 | 362,00 | T2660  | Q      | TR2660 | AX       |       |              |        |          |        |              |        |
| 377,0 | 544,00 | T2670  | R      | TR2670 | AZ       |       |              |        |          |        |              |        |