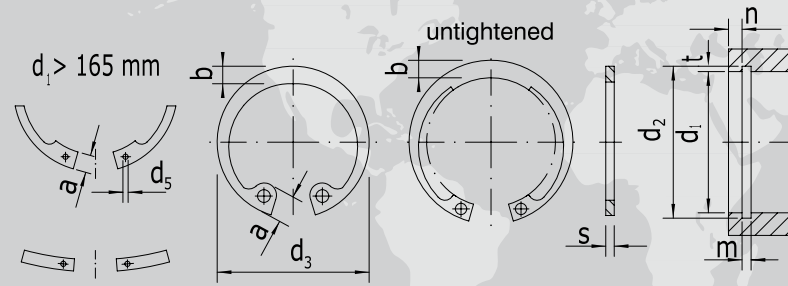


## Circlips for bores



at the manufacturer's discretion



DIN 472 J

ring dimensions in mm

| $d_1$ | s    | $d_3$ | a max. | b    | $d_5$ min. | PU    | kg/1000 |
|-------|------|-------|--------|------|------------|-------|---------|
| 8     | 0,80 | 8,70  | 2,40   | 1,20 | 1,00       | 2.500 | 0,128   |
| 9     | 0,80 | 9,80  | 2,50   | 1,30 | 1,00       | 2.000 | 0,139   |
| 10    | 1,00 | 10,80 | 3,20   | 1,40 | 1,20       | 2.000 | 0,280   |
| 11    | 1,00 | 11,80 | 3,30   | 1,50 | 1,20       | 2.000 | 0,310   |
| 12    | 1,00 | 13,00 | 3,40   | 1,70 | 1,50       | 1.000 | 0,340   |
| 13    | 1,00 | 14,10 | 3,60   | 1,80 | 1,50       | 1.000 | 0,360   |
| 14    | 1,00 | 15,10 | 3,70   | 1,90 | 1,70       | 1.000 | 0,450   |
| 15    | 1,00 | 16,20 | 3,70   | 2,00 | 1,70       | 1.000 | 0,481   |
| 16    | 1,00 | 17,30 | 3,80   | 2,00 | 1,70       | 1.000 | 0,521   |
| 17    | 1,00 | 18,30 | 3,90   | 2,10 | 1,70       | 1.000 | 0,600   |
| 18    | 1,00 | 19,50 | 4,10   | 2,20 | 2,00       | 1.000 | 0,670   |
| 19    | 1,00 | 20,50 | 4,10   | 2,20 | 2,00       | 1.000 | 0,710   |
| 20    | 1,00 | 21,50 | 4,20   | 2,30 | 2,00       | 1.000 | 0,760   |
| 21    | 1,00 | 22,50 | 4,20   | 2,40 | 2,00       | 1.000 | 0,860   |
| 22    | 1,00 | 23,50 | 4,20   | 2,50 | 2,00       | 1.000 | 0,940   |
| 23    | 1,20 | 24,60 | 4,20   | 2,50 | 2,00       | 1.000 | 1,200   |
| 24    | 1,20 | 25,90 | 4,40   | 2,60 | 2,00       | 500   | 1,320   |
| 25    | 1,20 | 26,90 | 4,50   | 2,70 | 2,00       | 500   | 1,360   |
| 26    | 1,20 | 27,90 | 4,70   | 2,80 | 2,00       | 500   | 1,470   |
| 27    | 1,20 | 29,10 | 4,70   | 2,90 | 2,00       | 500   | 1,570   |
| 28    | 1,20 | 30,10 | 4,80   | 2,90 | 2,00       | 500   | 1,620   |
| 29    | 1,20 | 31,10 | 4,80   | 3,00 | 2,00       | 500   | 1,670   |
| 30    | 1,20 | 32,10 | 4,80   | 3,00 | 2,00       | 100   | 1,850   |
| 31    | 1,20 | 33,40 | 5,20   | 3,20 | 2,50       | 100   | 1,950   |
| 32    | 1,20 | 34,40 | 5,40   | 3,20 | 2,50       | 100   | 2,100   |
| 33    | 1,20 | 35,50 | 5,40   | 3,30 | 2,50       | 100   | 2,200   |
| 34    | 1,50 | 36,50 | 5,40   | 3,30 | 2,50       | 100   | 2,910   |
| 35    | 1,50 | 37,80 | 5,40   | 3,40 | 2,50       | 100   | 3,020   |
| 36    | 1,50 | 38,80 | 5,40   | 3,50 | 2,50       | 100   | 3,100   |
| 37    | 1,50 | 39,80 | 5,50   | 3,60 | 2,50       | 100   | 3,340   |
| 38    | 1,50 | 40,80 | 5,50   | 3,70 | 2,50       | 100   | 3,500   |
| 39    | 1,50 | 42,50 | 5,60   | 3,80 | 2,50       | 100   | 3,900   |
| 40    | 1,75 | 43,50 | 5,80   | 3,90 | 2,50       | 100   | 4,700   |
| 41    | 1,75 | 44,50 | 5,90   | 4,00 | 2,50       | 100   | 5,150   |
| 42    | 1,75 | 45,50 | 5,90   | 4,10 | 2,50       | 100   | 5,400   |
| 43    | 1,75 | 46,50 | 5,90   | 4,20 | 2,50       | 100   | 5,600   |
| 44    | 1,75 | 47,50 | 6,00   | 4,20 | 2,50       | 100   | 5,800   |
| 45    | 1,75 | 48,50 | 6,20   | 4,30 | 2,50       | 100   | 6,000   |
| 46    | 1,75 | 49,50 | 6,30   | 4,40 | 2,50       | 100   | 6,100   |

### material:

spring steel:

C75-DIN 17222 – UNI 7064

C60-DIN 17222 – UNI 7064

high-grade steel:

material: 1.4122 up to 100 mm

material: 1.4310 from 105 mm

### hardness:

HRC: 47-54

HRC: 44-51

HRC: 40-47

HRC: 38-43

HV: 470-580

HV: 435-530

HV: 390-470

HV: 370-415

### $d_1$ :

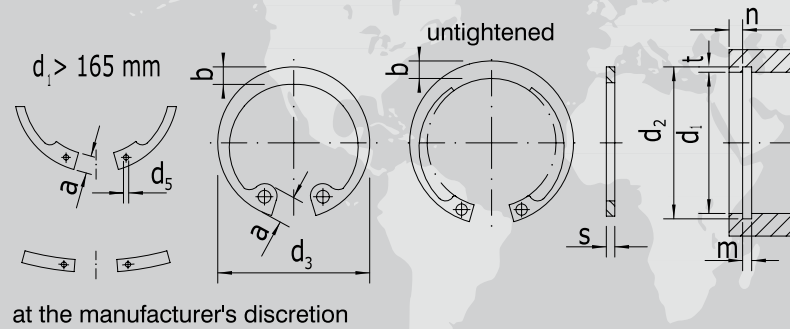
3- 48

50- 200

202- 300

305- 1000

## Circlips for bores



ring dimensions in mm

| $d_1$ | s    | $d_3$  | a max. | b    | $d_5$ min. | PU  | kg/1000 |
|-------|------|--------|--------|------|------------|-----|---------|
| 47    | 1,75 | 50,50  | 6,40   | 4,40 | 2,50       | 100 | 6,200   |
| 48    | 1,75 | 51,20  | 6,40   | 4,50 | 2,50       | 100 | 6,700   |
| 49    | 2,00 | 52,50  | 6,50   | 4,50 | 2,50       | 100 | 6,900   |
| 50    | 2,00 | 52,20  | 6,50   | 4,60 | 2,50       | 100 | 7,800   |
| 51    | 2,00 | 54,20  | 6,60   | 4,70 | 2,50       | 100 | 8,050   |
| 52    | 2,00 | 55,20  | 6,70   | 4,70 | 2,50       | 100 | 8,400   |
| 53    | 2,00 | 56,20  | 6,70   | 4,90 | 2,50       | 100 | 8,600   |
| 54    | 2,00 | 58,20  | 6,70   | 5,00 | 2,50       | 100 | 8,750   |
| 55    | 2,00 | 59,20  | 6,80   | 5,00 | 2,50       | 100 | 9,100   |
| 56    | 2,00 | 60,20  | 6,80   | 5,10 | 2,50       | 100 | 9,650   |
| 57    | 2,00 | 61,20  | 6,80   | 5,10 | 2,50       | 100 | 10,200  |
| 58    | 2,00 | 62,20  | 6,90   | 5,20 | 2,50       | 100 | 10,500  |
| 60    | 2,00 | 64,20  | 7,30   | 5,40 | 2,50       | 100 | 11,100  |
| 62    | 2,00 | 66,20  | 7,30   | 5,50 | 2,50       | 100 | 11,250  |
| 63    | 2,00 | 67,20  | 7,30   | 5,60 | 2,50       | 100 | 11,700  |
| 64    | 2,00 | 68,20  | 7,40   | 5,70 | 2,50       | 100 | 12,450  |
| 65    | 2,50 | 69,20  | 7,60   | 5,80 | 3,00       | 50  | 14,300  |
| 67    | 2,50 | 71,50  | 7,70   | 6,00 | 3,00       | 50  | 15,350  |
| 68    | 2,50 | 72,50  | 7,80   | 6,10 | 3,00       | 50  | 16,000  |
| 70    | 2,50 | 74,50  | 7,80   | 6,20 | 3,00       | 50  | 16,600  |
| 72    | 2,50 | 76,50  | 7,80   | 6,40 | 3,00       | 50  | 18,100  |
| 75    | 2,50 | 79,50  | 7,80   | 6,60 | 3,00       | 50  | 18,800  |
| 77    | 2,50 | 82,50  | 7,90   | 6,70 | 3,00       | 50  | 19,600  |
| 78    | 2,50 | 82,50  | 8,50   | 6,80 | 3,00       | 50  | 20,400  |
| 80    | 2,50 | 85,50  | 8,50   | 7,00 | 3,00       | 50  | 22,000  |
| 82    | 2,50 | 87,50  | 8,50   | 7,00 | 3,00       | 50  | 24,000  |
| 85    | 3,00 | 90,50  | 8,60   | 7,20 | 3,50       | 50  | 25,300  |
| 87    | 3,00 | 93,50  | 8,60   | 7,30 | 3,50       | 50  | 27,100  |
| 88    | 3,00 | 93,50  | 8,60   | 7,40 | 3,50       | 50  | 28,000  |
| 90    | 3,00 | 95,50  | 8,60   | 7,60 | 3,50       | 50  | 31,000  |
| 92    | 3,00 | 97,50  | 8,70   | 7,80 | 3,50       | 50  | 32,000  |
| 95    | 3,00 | 100,50 | 8,80   | 8,10 | 3,50       | 50  | 35,000  |
| 97    | 3,00 | 103,50 | 8,80   | 8,20 | 3,50       | 50  | 36,000  |
| 98    | 3,00 | 103,50 | 9,00   | 8,30 | 3,50       | 50  | 37,000  |
| 100   | 3,00 | 105,50 | 9,20   | 8,40 | 3,50       | 50  | 38,000  |
| 102   | 4,00 | 108,00 | 9,50   | 8,50 | 3,50       | 50  | 55,000  |
| 105   | 4,00 | 112,00 | 9,50   | 8,70 | 3,50       | 25  | 56,000  |
| 107   | 4,00 | 115,00 | 9,50   | 8,80 | 3,50       | 25  | 58,500  |
| 108   | 4,00 | 115,00 | 9,50   | 8,90 | 3,50       | 25  | 60,000  |

### material:

spring steel:

C75-DIN 17222 – UNI 7064

C60-DIN 17222 – UNI 7064

high-grade steel:

material: 1.4122 up to 100 mm

material: 1.4310 from 105 mm

### hardness:

HRC: 47-54

HRC: 44-51

HRC: 40-47

HRC: 38-43

HV: 470-580

HV: 435-530

HV: 390-470

HV: 370-415

### $d_1$ :

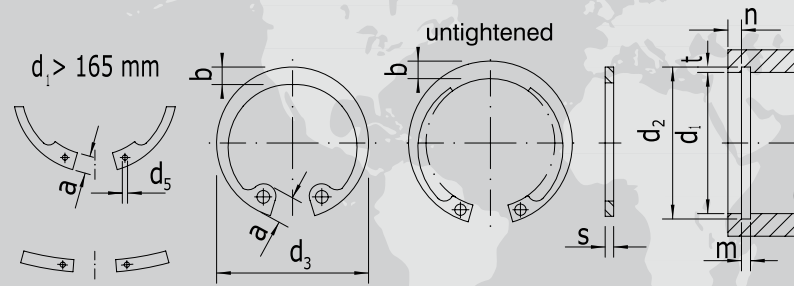
3- 48

50- 200

202- 300

305- 1000

## Circlips for bores



DIN 472 J

ring dimensions in mm

| $d_1$ | s    | $d_3$  | a max. | b     | $d_5$ min. | PU | kg/1000 |
|-------|------|--------|--------|-------|------------|----|---------|
| 110   | 4,00 | 117,00 | 10,40  | 9,00  | 3,50       | 25 | 64,500  |
| 112   | 4,00 | 119,00 | 10,50  | 9,10  | 3,50       | 25 | 72,000  |
| 115   | 4,00 | 122,00 | 10,50  | 9,30  | 3,50       | 25 | 74,500  |
| 117   | 4,00 | 125,00 | 10,60  | 9,50  | 3,50       | 25 | 76,000  |
| 118   | 4,00 | 125,00 | 10,70  | 9,60  | 3,50       | 25 | 76,500  |
| 120   | 4,00 | 127,00 | 11,00  | 9,70  | 3,50       | 25 | 77,500  |
| 122   | 4,00 | 129,00 | 11,00  | 9,80  | 4,00       | 25 | 78,500  |
| 125   | 4,00 | 132,00 | 11,00  | 10,00 | 4,00       | 25 | 79,500  |
| 127   | 4,00 | 135,00 | 11,00  | 10,10 | 4,00       | 25 | 80,500  |
| 128   | 4,00 | 135,00 | 11,00  | 10,20 | 4,00       | 25 | 81,000  |
| 130   | 4,00 | 137,00 | 11,00  | 10,20 | 4,00       | 25 | 82,000  |
| 132   | 4,00 | 139,00 | 11,00  | 10,30 | 4,00       | 25 | 83,000  |
| 135   | 4,00 | 142,00 | 11,20  | 10,50 | 4,00       | 25 | 84,000  |
| 137   | 4,00 | 145,00 | 11,20  | 10,60 | 4,00       | 25 | 85,500  |
| 138   | 4,00 | 145,00 | 11,20  | 10,60 | 4,00       | 25 | 86,000  |
| 140   | 4,00 | 147,00 | 11,20  | 10,70 | 4,00       | 25 | 87,500  |
| 142   | 4,00 | 149,00 | 11,30  | 10,80 | 4,00       | 25 | 91,000  |
| 145   | 4,00 | 152,00 | 11,40  | 10,90 | 4,00       | 25 | 93,000  |
| 147   | 4,00 | 155,00 | 11,60  | 11,00 | 4,00       | 25 | 96,000  |
| 148   | 4,00 | 155,00 | 11,80  | 11,10 | 4,00       | 25 | 97,000  |
| 150   | 4,00 | 158,00 | 12,00  | 11,20 | 4,00       | 25 | 99,000  |
| 155   | 4,00 | 164,00 | 12,00  | 11,40 | 4,00       | 25 | 105,000 |
| 160   | 4,00 | 169,00 | 13,00  | 11,60 | 4,00       | 25 | 110,000 |
| 165   | 4,00 | 174,50 | 13,00  | 11,80 | 4,00       | 25 | 125,000 |
| 170   | 4,00 | 179,50 | 13,50  | 12,20 | 4,00       | 25 | 140,000 |
| 175   | 4,00 | 184,50 | 13,50  | 12,70 | 4,00       | 25 | 150,000 |
| 180   | 4,00 | 189,50 | 14,20  | 13,20 | 4,00       | 25 | 165,000 |
| 185   | 4,00 | 194,50 | 14,20  | 13,70 | 4,00       | 25 | 170,000 |
| 190   | 4,00 | 199,50 | 14,20  | 13,80 | 4,00       | 25 | 175,000 |
| 195   | 4,00 | 204,50 | 14,20  | 13,80 | 4,00       | 25 | 183,000 |
| 200   | 4,00 | 209,50 | 14,20  | 14,00 | 4,00       | 25 | 195,000 |
| 205   | 5,00 | 217,00 | 14,20  | 14,00 | 4,00       | 25 | 225,000 |
| 210   | 5,00 | 222,00 | 14,20  | 14,00 | 4,00       | 25 | 270,000 |
| 215   | 5,00 | 227,00 | 14,20  | 14,00 | 4,00       | 25 | 300,000 |
| 220   | 5,00 | 232,00 | 14,20  | 14,00 | 4,00       | 25 | 315,000 |
| 225   | 5,00 | 237,00 | 14,20  | 14,00 | 4,00       | 25 | 323,000 |
| 230   | 5,00 | 242,00 | 14,20  | 14,00 | 4,00       | 25 | 330,000 |
| 235   | 5,00 | 247,00 | 14,20  | 14,00 | 4,00       | 25 | 335,000 |
| 240   | 5,00 | 252,00 | 14,20  | 14,00 | 4,00       | 25 | 345,000 |

### material:

spring steel:

C75-DIN 17222 – UNI 7064

C60-DIN 17222 – UNI 7064

high-grade steel:

material: 1.4122 up to 100 mm

material: 1.4310 from 105 mm

### hardness:

HRC: 47-54

HRC: 44-51

HRC: 40-47

HRC: 38-43

HV: 470-580

HV: 435-530

HV: 390-470

HV: 370-415

### $d_1$ :

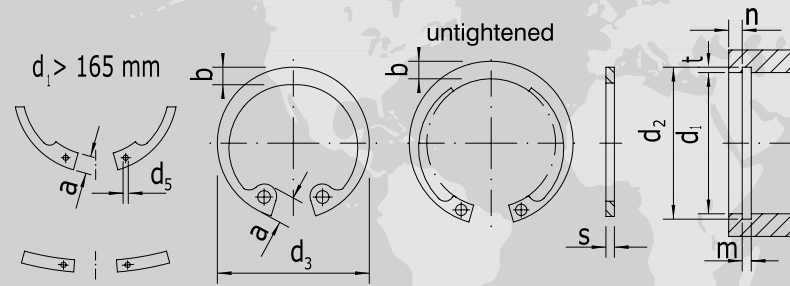
3- 48

50- 200

202- 300

305- 1000

## Circlips for bores



at the manufacturer's discretion



DIN 472 J

ring dimensions in mm

| $d_1$ | s    | $d_3$  | a max. | b     | $d_5$ min. | PU | kg/1000   |
|-------|------|--------|--------|-------|------------|----|-----------|
| 245   | 5,00 | 257,00 | 14,20  | 14,00 | 4,00       | 25 | 353,000   |
| 250   | 5,00 | 262,00 | 14,20  | 14,00 | 4,00       | 25 | 360,000   |
| 255   | 5,00 | 270,00 | 16,20  | 16,00 | 5,00       | 25 | 368,000   |
| 260   | 5,00 | 275,00 | 16,20  | 16,00 | 5,00       | 25 | 375,000   |
| 265   | 5,00 | 280,00 | 16,20  | 16,00 | 5,00       | 25 | 383,000   |
| 270   | 5,00 | 285,00 | 16,20  | 16,00 | 5,00       | 25 | 388,000   |
| 275   | 5,00 | 290,00 | 16,20  | 16,00 | 5,00       | 25 | 393,000   |
| 280   | 5,00 | 295,00 | 16,20  | 16,00 | 5,00       | 25 | 400,000   |
| 285   | 5,00 | 300,00 | 16,20  | 16,00 | 5,00       | 25 | 408,000   |
| 290   | 6,00 | 305,00 | 16,20  | 16,00 | 5,00       | 25 | 415,000   |
| 300   | 6,00 | 315,00 | 16,20  | 16,00 | 5,00       | 25 | 435,000   |
| 305   | 6,00 | 322,00 |        | 20,00 | 6,00       | 1  | 755,000   |
| 310   | 6,00 | 327,00 |        | 20,00 | 6,00       | 1  | 770,000   |
| 320   | 6,00 | 337,00 |        | 20,00 | 6,00       | 1  | 800,000   |
| 330   | 6,00 | 347,00 |        | 20,00 | 6,00       | 1  | 820,000   |
| 340   | 6,00 | 357,00 |        | 20,00 | 6,00       | 1  | 840,000   |
| 350   | 6,00 | 367,00 |        | 20,00 | 6,00       | 1  | 870,000   |
| 360   | 6,00 | 377,00 |        | 20,00 | 6,00       | 1  | 890,000   |
| 380   | 6,00 | 397,00 |        | 20,00 | 6,00       | 1  | 940,000   |
| 390   | 6,00 | 407,00 |        | 20,00 | 6,00       | 1  | 960,000   |
| 400   | 6,00 | 417,00 |        | 20,00 | 6,00       | 1  | 980,000   |
| 420   | 7,00 | 440,00 |        | 26,00 | 6,00       | 1  | 1.410,000 |
| 430   | 7,00 | 450,00 |        | 26,00 | 6,00       | 1  | 1.440,000 |
| 440   | 7,00 | 460,00 |        | 26,00 | 6,00       | 1  | 1.470,000 |
| 450   | 7,00 | 470,00 |        | 26,00 | 6,00       | 1  | 1.510,000 |
| 470   | 7,00 | 490,00 |        | 26,00 | 6,00       | 1  | 1.595,000 |
| 500   | 7,00 | 520,00 |        | 26,00 | 6,00       | 1  | 1.730,000 |
| 510   | 8,00 | 535,00 |        | 26,00 | 6,00       | 1  | 2.250,000 |
| 520   | 8,00 | 545,00 |        | 26,00 | 6,00       | 1  | 2.290,000 |
| 530   | 8,00 | 555,00 |        | 26,00 | 6,00       | 1  | 2.335,000 |
| 540   | 8,00 | 565,00 |        | 26,00 | 6,00       | 1  | 2.380,000 |
| 550   | 8,00 | 575,00 |        | 26,00 | 6,00       | 1  | 2.430,000 |
| 560   | 8,00 | 585,00 |        | 26,00 | 6,00       | 1  | 2.495,000 |
| 570   | 8,00 | 595,00 |        | 26,00 | 6,00       | 1  | 2.560,000 |
| 580   | 8,00 | 605,00 |        | 26,00 | 6,00       | 1  | 2.625,000 |
| 590   | 8,00 | 615,00 |        | 26,00 | 6,00       | 1  | 2.700,000 |
| 600   | 8,00 | 625,00 |        | 26,00 | 6,00       | 1  | 2.770,000 |
| 650   | 9,00 | 680,00 |        | 34,00 | 6,00       | 1  | 3.600,000 |
| 700   | 9,00 | 730,00 |        | 34,00 | 6,00       | 1  | 4.120,000 |

### material:

spring steel:

C75-DIN 17222 – UNI 7064

C60-DIN 17222 – UNI 7064

high-grade steel:

material: 1.4122 up to 100 mm

material: 1.4310 from 105 mm

### hardness:

HRC: 47-54

HRC: 44-51

HRC: 40-47

HRC: 38-43

HV: 470-580

HV: 435-530

HV: 390-470

HV: 370-415

### $d_1$ :

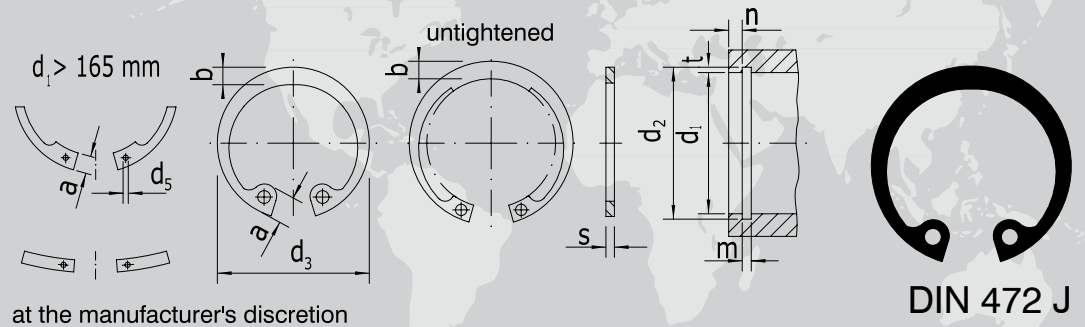
3- 48

50- 200

202- 300

305- 1000

## Circlips for bores



ring dimensions in mm

| $d_1$ | s    | $d_3$   | a max. | b     | $d_5$ min. | PU | kg/1000   |
|-------|------|---------|--------|-------|------------|----|-----------|
| 750   | 9,00 | 785,00  | 34,00  | 14,00 | 9,00       | 1  | 4.540,000 |
| 800   | 9,00 | 835,00  | 34,00  | 14,00 | 9,00       | 1  | 5.450,000 |
| 850   | 9,00 | 890,00  | 34,00  | 16,00 | 9,00       | 1  | 5.990,000 |
| 900   | 9,00 | 940,00  | 34,00  | 16,00 | 9,00       | 1  | 6.740,000 |
| 950   | 9,00 | 1000,00 | 34,00  | 16,00 | 9,00       | 1  | 7.930,000 |
| 1000  | 9,00 | 1050,00 | 34,00  | 16,00 | 9,00       | 1  | 8.880,000 |

surface protection at the manufacturer's discretion:

- phosphated and oiled
- burnished and oiled

special construction by request:

- galvanised
- tin-bronze

**Other dimensions and special sizes available on request.**

| material:         |                               | hardness:  |             | $d_1$ :   |
|-------------------|-------------------------------|------------|-------------|-----------|
| spring steel:     | C75-DIN 17222 – UNI 7064      | HRC: 47-54 | HV: 470-580 | 3- 48     |
|                   | C60-DIN 17222 – UNI 7064      | HRC: 44-51 | HV: 435-530 | 50- 200   |
| high-grade steel: | material: 1.4122 up to 100 mm | HRC: 40-47 | HV: 390-470 | 202- 300  |
|                   | material: 1.4310 from 105 mm  | HRC: 38-43 | HV: 370-415 | 305- 1000 |