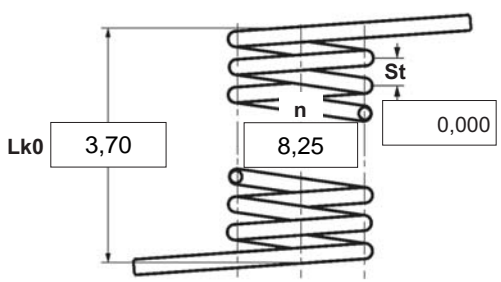


|            |        |                                       |
|------------|--------|---------------------------------------|
| $\alpha$   | degree | Unstressed leg position               |
| $\alpha_1$ | degree | Prestressed rotational angle          |
| $\alpha_2$ | degree | Loaded rotational angle               |
| $\alpha_h$ | degree | Excursion                             |
| $\alpha_n$ | degree | Maximum rotational angle              |
| d          | mm     | Wire diameter                         |
| Ddmin      | mm     | Min. possible mandrel diameter        |
| Ddmax      | mm     | Max. possible mandrel diameter        |
| De         | mm     | Outer coil diameter                   |
| Di         | mm     | Inner coil diameter                   |
| F1         | N      | Prestressed spring force              |
| F2         | N      | Loaded spring force                   |
| Lk0        | mm     | Length of spring body when relaxed    |
| LS         | mm     | Length of leg                         |
| M1         | Nmm    | Prestressed torque                    |
| M2         | Nmm    | Loaded torque                         |
| Mn         | Nmm    | Maximum torque                        |
| n          | pc.    | Active coils                          |
| RH         | mm     | Distance power flow point from centre |
| St         | mm     | Distance between coils (pitch)        |
| Weight     | g      | Weight of one spring in grammes       |



Spring test acc. to DIN ISO 2859/1 test level II

| <b>1 Coiling direction</b><br><input checked="" type="checkbox"/> left <input type="checkbox"/> right                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>5 Excursion <math>\alpha_h</math></b> <input type="text"/> degr. | <b>12 Tolerances to DIN 2194</b><br><table border="1"> <thead> <tr> <th>Grade</th> <th>Di</th> <th>Lk0</th> <th>LSH,LSR</th> <th><math>\alpha, \alpha_1, \alpha_2</math></th> <th>M1,M2</th> <th>Wire diameter d to DIN 2076</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>2</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>3</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table> | Grade                               | Di                                  | Lk0                                 | LSH,LSR                             | $\alpha, \alpha_1, \alpha_2$ | M1,M2 | Wire diameter d to DIN 2076 | 1 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------|-------|-----------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Grade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Di                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Lk0                                 | LSH,LSR                             | $\alpha, \alpha_1, \alpha_2$        | M1,M2                               | Wire diameter d to DIN 2076  |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>                                            | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input checked="" type="checkbox"/>                                 | <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>                                            | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| <b>2 Form of legs</b><br>tangential, straight, no bends *<br><br>*We can also supply torsion springs with any form of leg for an extra charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>6 Stress cyc. end. N</b> <input type="text"/>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| <b>3 Fixing</b><br>Recumbent leg <input type="checkbox"/> Lever leg <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>7 Stress cycle frequ. n</b> <input type="text"/> /               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| <b>4 Load</b><br><input type="checkbox"/> in winding direction<br><input type="checkbox"/> against winding direction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>8 Application temp.</b> <input type="text"/> °C                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| <b>Remarks</b><br>Zem pvodu: DE   íslo celního sazebníku: 73202089                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>9 Material</b><br>EN 10270-3-1.4310                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| <b>10 Wire or rod surface</b><br><input checked="" type="checkbox"/> drawn <input type="checkbox"/> rolled <input type="checkbox"/> metal-cut                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>11 Surface treatment</b> <input type="text"/>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| <b>13 Production compensation through</b><br>A spring torque and the associated swing angle $\alpha$ <input checked="" type="checkbox"/><br>A spring torque and the associated swing angle and $\alpha_0$ <input type="checkbox"/><br>Two spring resistances and the associated swing angle $\alpha, n, d$ <input type="checkbox"/><br>$\alpha, n, Di$ <input type="checkbox"/>                                                                                                                                                                                                                                         |                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| <b>Prices</b><br><table border="1"> <thead> <tr> <th>Stupnice množství</th> <th>Jedn. cena [EUR]</th> </tr> </thead> <tbody> <tr><td>1</td><td>5,1600 €</td></tr> <tr><td>2</td><td>3,6400 €</td></tr> <tr><td>3</td><td>3,4700 €</td></tr> <tr><td>7</td><td>2,4200 €</td></tr> <tr><td>17</td><td>1,1500 €</td></tr> <tr><td>37</td><td>0,8500 €</td></tr> <tr><td>75</td><td>0,6800 €</td></tr> <tr><td>125</td><td>0,4859 €</td></tr> <tr><td>175</td><td>0,4196 €</td></tr> <tr><td>250</td><td>0,3695 €</td></tr> <tr><td>350</td><td>0,3536 €</td></tr> <tr><td>450</td><td>0,3284 €</td></tr> </tbody> </table> |                                                                     | Stupnice množství                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Jedn. cena [EUR]                    | 1                                   | 5,1600 €                            | 2                                   | 3,6400 €                     | 3     | 3,4700 €                    | 7 | 2,4200 €                 | 17                       | 1,1500 €                 | 37                       | 0,8500 €                 | 75                       | 0,6800 € | 125                                 | 0,4859 €                            | 175                                 | 0,4196 €                            | 250                                 | 0,3695 €                 | 350 | 0,3536 €                 | 450                      | 0,3284 €                 |                          |                          |                                     |
| Stupnice množství                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Jedn. cena [EUR]                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 5,1600 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3,6400 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3,4700 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2,4200 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,1500 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0,8500 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0,6800 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0,4859 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0,4196 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0,3695 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0,3536 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |
| 450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0,3284 €                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                              |       |                             |   |                          |                          |                          |                          |                          |                          |          |                                     |                                     |                                     |                                     |                                     |                          |     |                          |                          |                          |                          |                          |                                     |