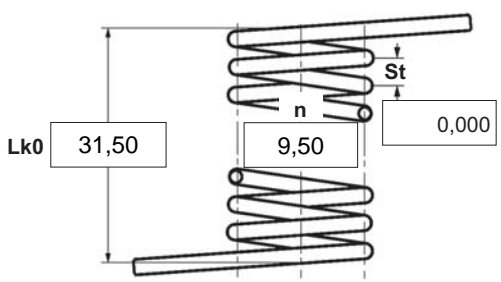


|            |        |                                       |
|------------|--------|---------------------------------------|
| $\alpha$   | degree | Unstressed leg position               |
| $\alpha 1$ | degree | Prestressed rotational angle          |
| $\alpha 2$ | degree | Loaded rotational angle               |
| $\alpha h$ | 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> <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 *   |                                     | <b>6 Stress cyc. end. N</b> <input type="text"/>                    |                                     | <b>13 Production compensation through</b>  |                                     |                                     |    |     |         |                              |        |                             |   |                          |                          |                          |                          |                          |                          |   |                                     |                                     |                                     |                                     |                                     |                          |   |                          |                          |                          |                          |                          |                                     |
| *We can also supply torsion springs with any form of leg for an extra charge.   |                                     | <b>7 Stress cycle frequ. n</b> <input type="text"/> /               |                                     | A spring torque and the associated swing angle $\alpha$ <input checked="" type="checkbox"/>  |                                     |                                     |    |     |         |                              |        |                             |   |                          |                          |                          |                          |                          |                          |   |                                     |                                     |                                     |                                     |                                     |                          |   |                          |                          |                          |                          |                          |                                     |
| <b>3 Fixing</b><br>Recumbent leg <input type="checkbox"/> Lever leg <input type="checkbox"/>  |                                     | <b>8 Application temp.</b> <input type="text"/> °C                  |                                     | A spring torque and the associated swing angle and $\alpha 0$ <input type="checkbox"/>   |                                     |                                     |    |     |         |                              |        |                             |   |                          |                          |                          |                          |                          |                          |   |                                     |                                     |                                     |                                     |                                     |                          |   |                          |                          |                          |                          |                          |                                     |
| <b>4 Load</b><br><input type="checkbox"/> in winding direction<br><input type="checkbox"/> against winding direction                          |                                     | <b>9 Material</b><br>EN 10270-3-1.4310                              |                                     | Two spring resistances and the associated swing angle $\alpha, n, d$ <input type="checkbox"/>  |                                     |                                     |    |     |         |                              |        |                             |   |                          |                          |                          |                          |                          |                          |   |                                     |                                     |                                     |                                     |                                     |                          |   |                          |                          |                          |                          |                          |                                     |
| <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"/>                    |                                     | $\alpha, n, Di$ <input type="checkbox"/>   |                                     |                                     |    |     |         |                              |        |                             |   |                          |                          |                          |                          |                          |                          |   |                                     |                                     |                                     |                                     |                                     |                          |   |                          |                          |                          |                          |                          |                                     |

**Prices**

| Quantity scale | Single price [EUR] |
|----------------|--------------------|
| 1              | 5,5300 €           |
| 2              | 3,9000 €           |
| 3              | 3,7100 €           |
| 7              | 2,9000 €           |
| 17             | 1,4300 €           |
| 37             | 1,1000 €           |
| 75             | 0,9400 €           |
| 125            | 0,6511 €           |
| 175            | 0,6135 €           |
| 250            | 0,5760 €           |
| 350            | 0,5306 €           |
| 450            | 0,4927 €           |

**Remarks**

Country of origin: DE | Customs tariff number: 73202089