# Data sheet Compression spring : D-180M-23

GUTEKUNST FEDERN

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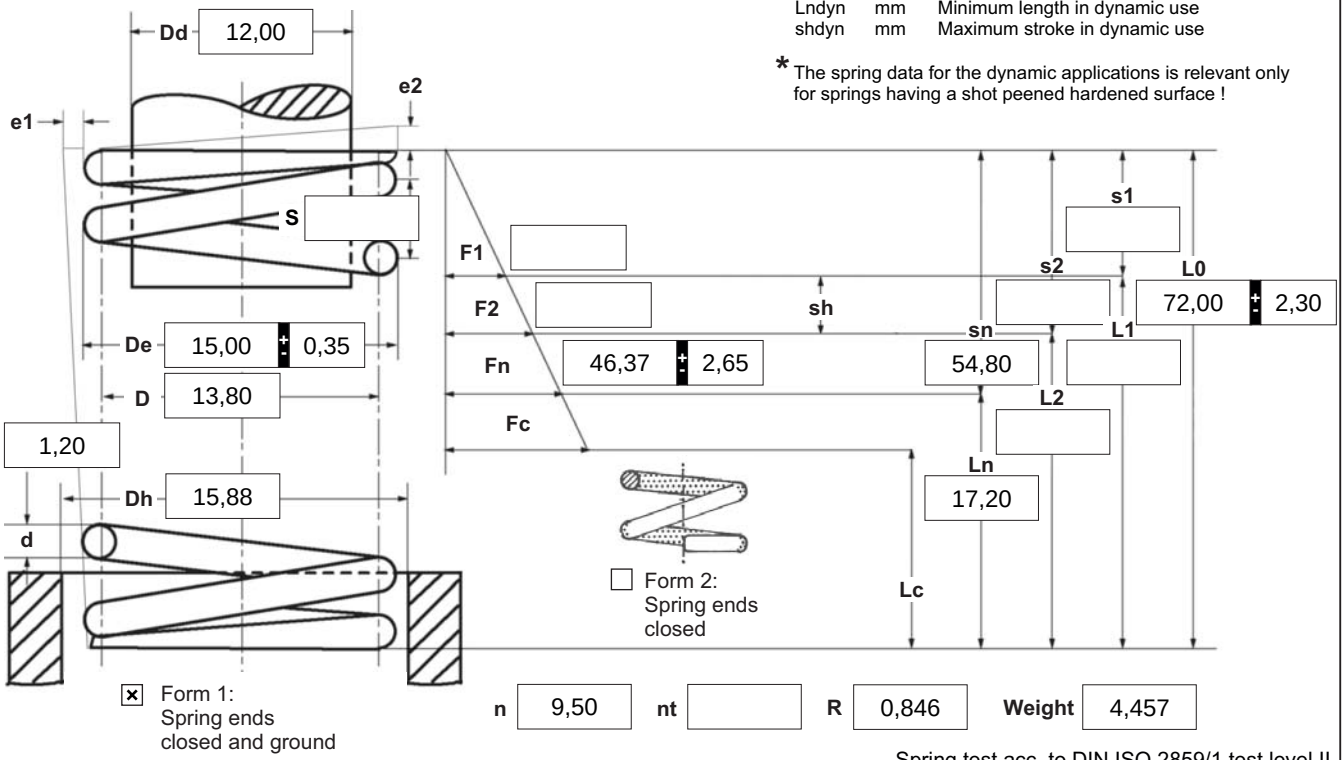
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| d | mm | Wire diameter | Fn | N | Maximum force in static use | nt | pc. | Total coils |
| D | mm | Mean coil diameter | Fc | N | Theoretic maximum force at Lc | R | N/mm | Spring rate |
| Dd | mm | Diameter of mandrel | L0 | mm | Length of unstressed spring | S | mm | Pitch (distance between coils) |
| De | mm | Outer coil diameter | L1 | mm | Prestressed spring length | s1 | mm | Prestressed spring deflection |
| Dh | mm | Diameter of bush | L2 | mm | Loaded spring length | s2 | mm | Loaded spring deflection |
| e1 | mm | Perm.dev. perpendicular line | Lk | mm | Buckling length | sh | mm | Maximum stroke in static use |
| e2 | mm | Perm.dev. parallel line | Ln | mm | Minimum length in static use | sn | mm | Maximum spring deflection in static use |
| F1 | N | Prestressed spring force | Lc | mm | Block length | Weight | g | Weight of one spring in grammes |
| F2 | N | Loaded spring force | n | pc. | Aktive coils | | | |

| | | |
|---|---|---|
| Fndyn | N | Maximum force in dynamic force |
| Fndtol | N | (+/-) tolerance of maximum dynamic force |
| Lndyn | mm | Minimum length in dynamic use |
| shdyn | mm | Maximum stroke in dynamic use |

* The spring data for the dynamic applications is relevant only for springs having a shot peened hardened surface !




n 9,50 | nt | R 0,846 | Weight 4,457

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

**1 Coiling direction**

☐ left ☒ right

**2 Dynamic load ***

| | |
|---|---|
| Fndyn | 44,84 |
| Fndtol | 2,60 |
| Lndyn | 19,00 |
| shdyn | 21,00 |

**3 Excursion sh** mm

**4 Stress cyc. end. N**

**5 Stress cycle frequ. n** /

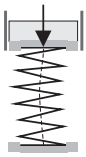
**6 Application temp.** °C

**7 Guidance and seat to DIN EN 13906-1**

☐ mandrel ☐ bush

Buckling length **Lk** at

v=0,5 / Bild 5 21,45 mm



**8 Material**

EN 10270-1

**9 Wire or rod surface**

☒ drawn ☐ rolled ☐ metal-cut

**10 Springs deburred** ☐ inside ☐ outside

**11 Surface treatment** ☐ shot peened

**12 Tolerances to DIN EN 15800**

| Grade | De,Di,D | L0 | F1,F2 | e1,e2 | Wire diameter **d** to DIN 2076 |
|---|---|---|---|---|---|
| 1 | ☐ | ☐ | ☐ | ☐ | |
| **2** | ☒ | ☒ | ☒ | ☒ | |
| 3 | ☐ | ☐ | ☐ | ☐ | ☒ |

**13 Prouction compensation through**

| | | |
|---|---|---|
| A spring resistance and associated length of tensed spring | L0 | ☐ |
| A spring resistance, associated length of tensed spring and L0 | n, d | ☒ |
| | n, De, Di | ☐ |
| Two spring resistances and associated lengths of tensed spring | L0, n, d | ☐ |
| | L0,n,De,Di | ☐ |

**14 Setting springs**

All springs which show setting tendency because of their size are pre-set within the production process.

**Remarks**

Paese d'origine: DE | Numero della tariffa doganale: 73202081

**Prices**

| Quantità progressive | Prezzo singolo [EUR] |
|---|---|
| 1 | 4,9000 € |
| 2 | 3,4600 € |
| 3 | 3,3000 € |
| 7 | 1,8900 € |
| 17 | 0,9300 € |
| 37 | 0,5700 € |
| 75 | 0,3900 € |
| 125 | 0,3566 € |
| 175 | 0,3067 € |
| 250 | 0,2817 € |
| 350 | 0,2526 € |
| 450 | 0,1895 € |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