

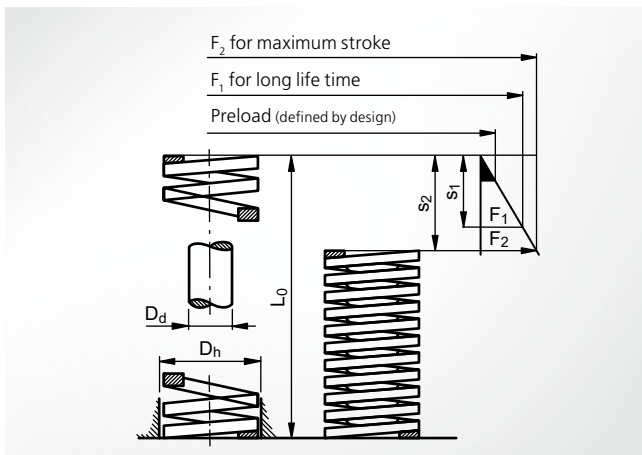


STEINEL system springs are available in eight types of load, as well as various diameters and lengths. Types of load are colour-marked so that they can be immediately told apart.

### Technical features

- alloyed valve spring steel
- heat-treated
- shot-blasted
- set
- powder-coated
- Application up to 180°C
- Forces up to 4500 daN over the maximum stroke

### General spring characteristic image



$D_d$  = Pin diameter in mm (inner guide)  
 $D_h$  = Sleeve diameter in mm (outer guide)  
 $F_1$  and  $F_2$  = Spring forces in N  
 assigned to stroke  $s_1$  and  $s_2$   
 $L_0$  = Length of the unloaded spring in mm  
 $s_1$  and  $s_2$  = Strokes in mm  
 assigned to the spring forces  $F_1$  and  $F_2$

$c$  = Spring rate in N/mm  
 (Force increase per stroke)

The "long life time" is recommended for the optimal design of the spring. The data on the maximum stroke can be found on the corresponding product pages. The tolerances for the length  $L_0$  of the unloaded spring are  $\pm 1\%$ , at least  $\pm 0.75$  mm.

# Spring elements

## System spring units



In addition to the standardised system springs, all components for pre-loaded system spring units are also available; this ensures a perfectly coordinated, ready-to-install combination.

### System spring units in the tool

