



The formula to determine loads of conical compression springs:

$$P = \frac{\pi d^4 G}{32 R_s^3} \left(\alpha - \frac{d'}{2 \pi R_s} \right)$$

In which:

d: Wire diameter

G: Transverse elastic modulus. This value changes depending on the material. You can visit our company's website for more details. (<https://www.tokaibane.com/en/spring-design/compression-springs-formulas>)

Rs: the radius of the smallest coil that is pressed to the solid height

d': can be determined by the following formula:

$$d' = d \sqrt{1 - \left(\frac{R_2 - R_1}{nd} \right)^2}$$

(R2: Radius of the biggest coil, R1: Radius of the smallest coil, Number of active coils at free length)

*** Regarding the spring constant of conical springs, there is no concept of the spring constant (k) after the spring reaches its solid height because it changes.**