The load/deflection curve of a single Disc Spring is not linear. Its shape depends on the ratio of cone height ($h_o$) to the thickness ($t$) ($h_o/t$). If the ratio is small, 0.4 (DIN Series A), the characteristic is virtually a straight line. The load deflection becomes increasingly curved as the ratio $h_o/t$ increases.

Up to a ratio of 1.5, Disc Springs may safely be taken to the flat position.

At a ratio of 1.5 the curve is flat for a considerable range of deflection. This is a useful consideration for wear compensation.

Above 1.5 the Disc Spring exhibits increasingly regressive characteristics and is capable of push-through and therefore needs to be fully supported.

At ratios over 2, the Disc Springs may invert when taken towards the flat position.

$F_c$ is the design force of the Disc Spring in the flattened position.
SPIROL Application Engineers will review your application needs and work with you to recommend the optimum solution. One way to start the process is to visit our Optimal Application Engineering portal at SPIROL.com.