KISSsoft Specifications

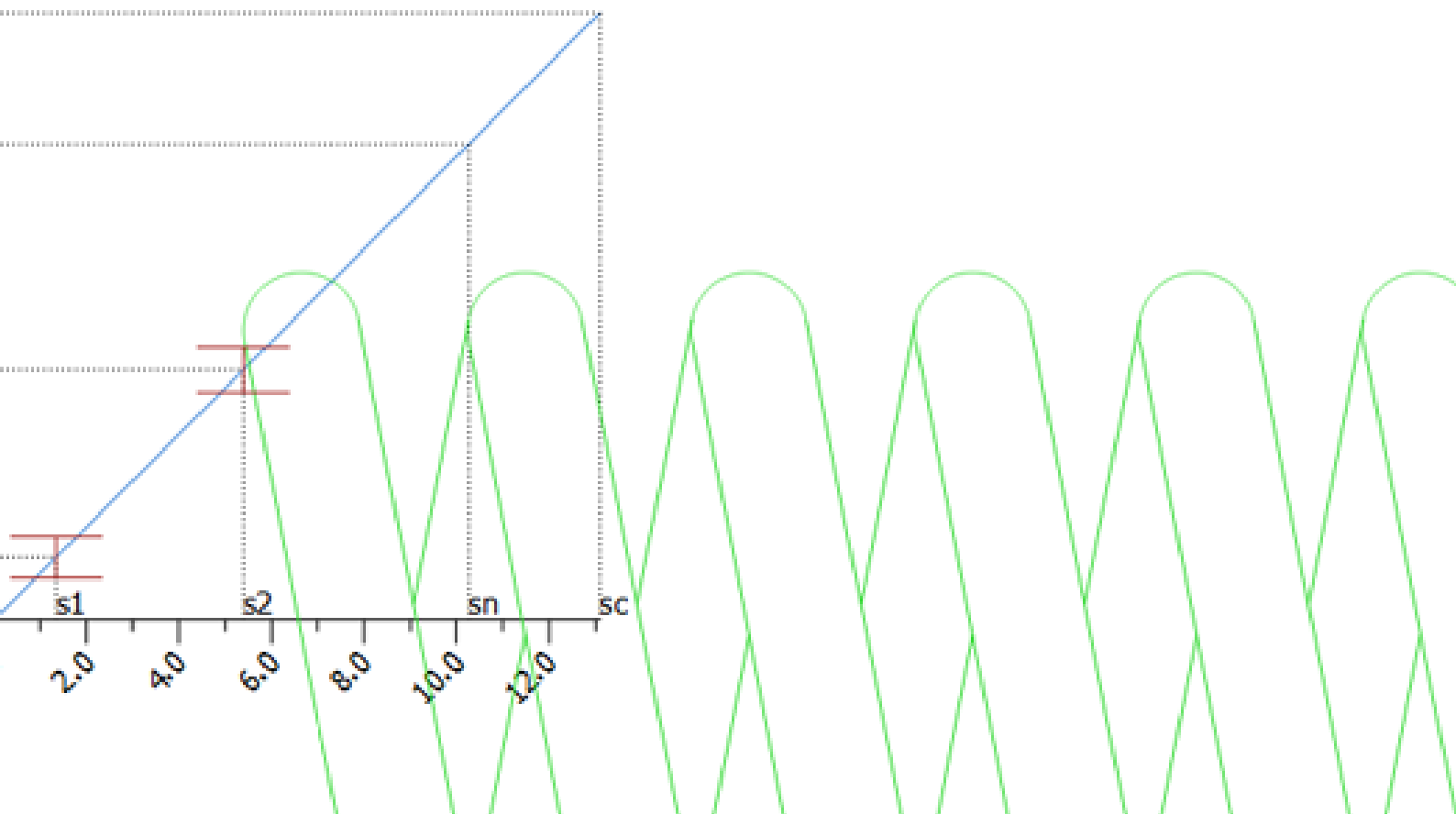## Springs

Sharing Knowledge

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1   Springs

The use of the most important spring types can be calculated and verified. In order to find a suitable spring for a given load, there are numerous sizing options for individual parameters. A database containing the most common spring materials and wire diameters is provided in KISSsoft. The tolerance standards are also contained in the KISSsoft database. For illustration, the spring characteristic curve and (if available) the Goodman - diagram are shown. For some materials for spring wire, a relaxation curve is also known, from which the resulting relaxation curve can be interpolated for an existing wire diameter and operating temperature. In addition, the temporal course of the relaxation and the spring force can be displayed in a graphic. For some materials, a drawing stamp can be configured and generated.

2   Compression springs

The cylindrical compression springs are calculated according to DIN EN 13906-1 and the conical compression springs (conical compression springs) according to the literature "Metal Springs" by Meissner, Schorcht. The calculation contains the sizing (by entering the compression forces and mounting distances) as well as the verification of compression springs. A database with the most important spring materials is available in KISSsoft, as well as a display of the spring characteristic line and a Goodman diagram for dynamically stressed springs and relaxation. The main dimensions are specified in DIN 2076 (withdrawn), DIN 2077 (withdrawn), DIN EN 10270-1, DIN EN 10270-2, DIN EN 10270-3 (withdrawn), DIN EN ISO 6931-1 and DIN EN 10218-2. The tolerances are specified according to DIN 2096 and DIN EN 15800 quality standards 1-3. A database with spring geometries specified in DIN 2098 Sheet 1 (withdrawn) is likewise integrated.

3   Tension springs

The cylindrical tension springs are calculated in accordance with DIN EN 13906-2. The calculation contains the sizing (by entering the compression forces and mounting distances) and the verification of tension springs, as well a database with the most important spring materials, a display of the spring characteristic line, and a Goodman diagram for dynamically stressed springs and relaxation. The main dimensions are specified in DIN 2076 (withdrawn), DIN 2077 (withdrawn), DIN EN 10270-1, DIN EN 10270-2, DIN EN 10270-3 (withdrawn), DIN EN ISO 6931-1 and DIN EN 10218-2. The tolerances are specified according to DIN 2096 and DIN EN 15800 quality standards 1-3. The different eye shapes are implemented according to the calculation standard EN 13906-2.

4   Leg springs

The cylindrical rotating springs are calculated in accordance with DIN EN 13906-3. The calculation contains the sizing (by entering the compression forces and mounting distances) and the verification of leg springs, as well as a database with the most important spring materials and a display of the spring characteristic line. The leg can either be clamped in a fixed position, supported, tangential or bent. The main dimensions are specified in DIN 2076 (withdrawn), DIN 2077 (withdrawn), DIN EN 10270-1, DIN EN 10270-2, DIN EN 10270-3 (withdrawn), DIN EN ISO 6931-1 and DIN EN 10218-2. The tolerances are specified according to DIN 2194 quality standards 1-3.

5 Disc springs

The disc springs and spring packages are calculated as specified in DIN EN 16984. The calculation contains the sizing (by entering the compression forces and mounting distances) and the verification of disc springs. Spring packages or spring columns can also be taken into account for the calculation. A database with material properties and dimensions specified in DIN EN 16984 Series A-C and a display of the spring characteristic line Goodman diagram are available.

6 Torsion bar springs

Torsion-bar springs with a round cross-section are calculated according to DIN 2091. The calculation contains the sizing (by entering the compression moments and mounting distances) and the verification of torsion-bar springs. The material properties according to DIN EN 10089 and the material dimensions specified by DIN 2091 are available in KISSsoft, as well as a display of the spring characteristic line.