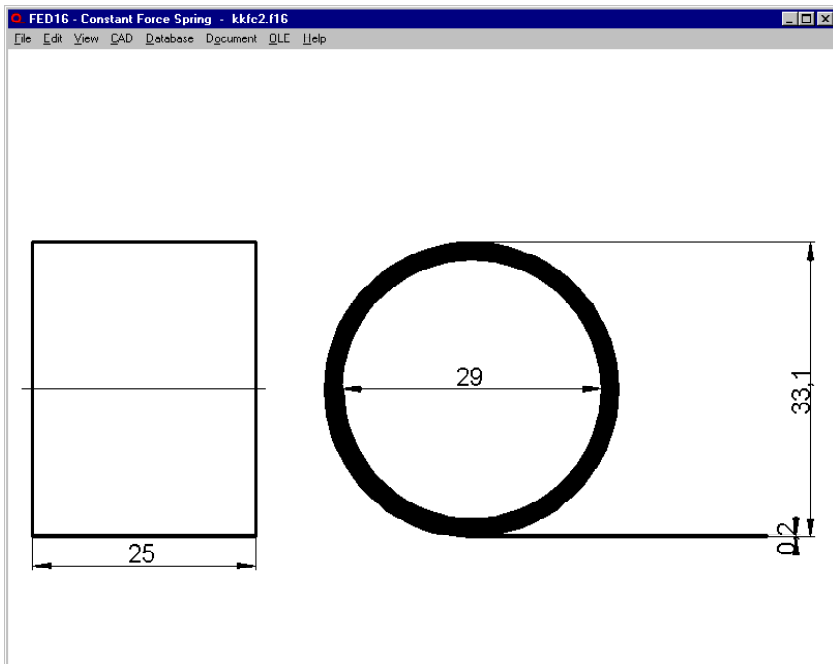# F E D 1 6

Software for

Constant Force Springs

www.hexagon.de

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FED16 - Calculation of Constant Force Springs
FED16 calculates constant force springs made of rolled strip steel. FED16 provides two calculation methods: pre-dimensioning and recalculation.

Recalculation
FED16 calculates spring force, spring travel, bending stress and life cycles. Input data are material thickness, material width, inner coil (drum) diameter, outer coil diameter and natural coil diameter as base diameter for calculation of force and stress.
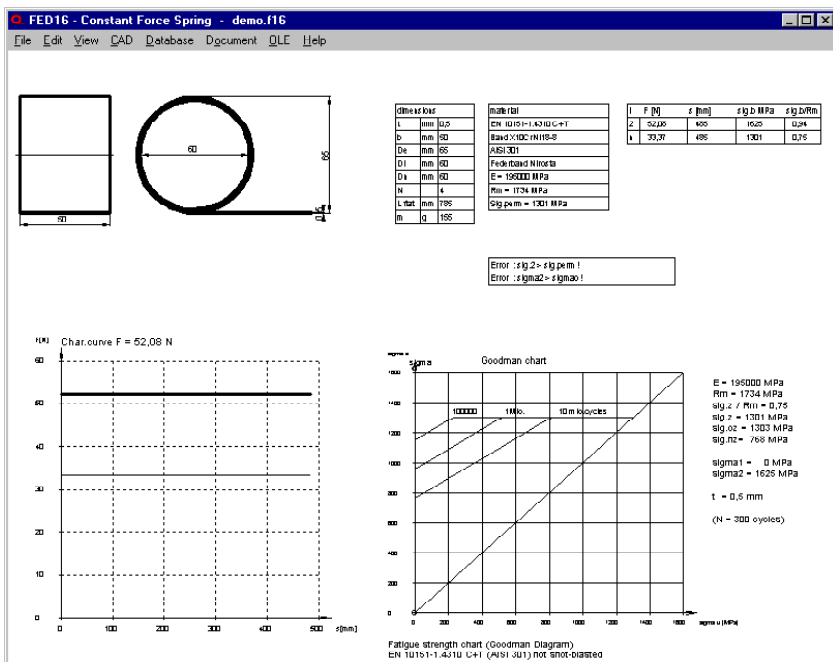
Pre-Dimensioning
In pre-dimensioning just enter required force and length (spring travel) and FED16 calculates dimensions of the required constant force spring. You can modify ratio of material width to material thickness as well as permissible stress to calculated stress to influence dimensions and life expectation.
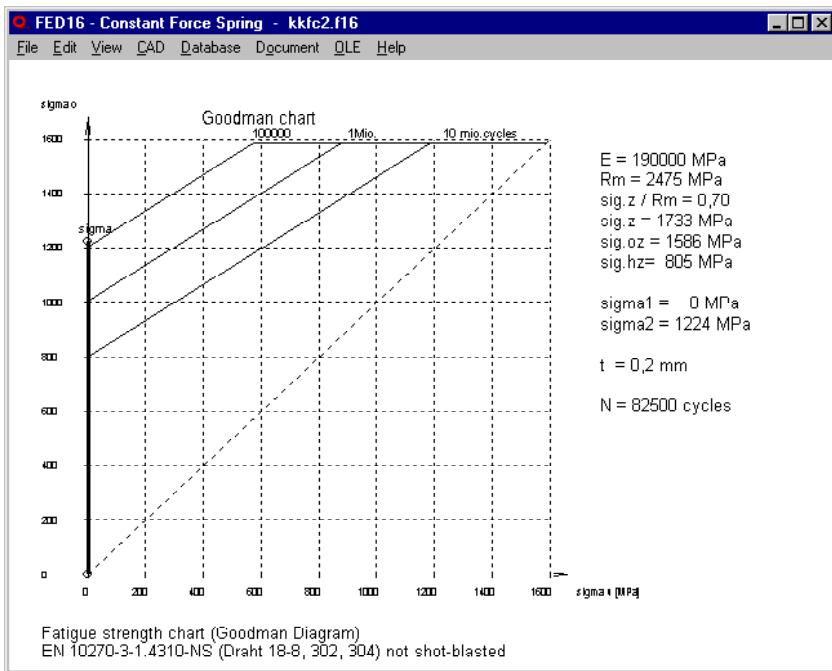
Units
FED16 can be switched between metric units (mm, N. MPa) and imperial units (inch, lbf, psi)

Material Database
Material properties of the most important flat spring materials (tensile strength, permissible shear stress and bending stress as function of material thickness, modulus of elasticity, density) are stored at the integrated material database. The dbf file may be extended and modified by the user.

Diagrams
FED16 calculates force and spring travel (load-extension diagram).

Goodman-Diagram
If dynamically loaded, Goodman diagram is useful to calculate fatigue strength safety and bearable load cycles of the spring.

Quick View
Quick View includes tables with dimensions and calculation results and Goodman diagram altogether on one screen.

Printout
Input data and calculation results may be printed, saved as text or HTML file, or exported to MS Excel via OLE interface.

Production Drawing
FED16 generates a production drawing of the constant force spring with ISO 7200 title block. Drawing name, date, users and modifications are described in FED16.

HEXAGON Help System
Auxiliary text and images are available for all dialogue windows. If error messages appear, you can get description and remedy suggestion.

Interfaces
Drawings and diagrams can be saved as DXF or IGES file to be loaded with CAD programs.
The OLE interface lets you import/export data from/to Excel.

Export Formats
DXF, IGES, STL, HTML, TXT, DBF, Excel, F16.

Import Formats
TXT, DBF, Excel, F16.

System Requirements
FED16 is available as 32-bit app or as 64-bit app for Windows 10, Windows 8, Windows 7.

Scope of Delivery
Program with user manual (pdf), database files, example applications and help images, non-expiring license for unlimited time use with update rights.

Software Maintenance
HEXAGON Software is continuously improved and updated. Registered users are regularly kept informed of updates and new editions.

Guarantee
HEXAGON gives a 24 month guarantee on full functionality of the software. We provide help and support by email and hotline without extra charge.