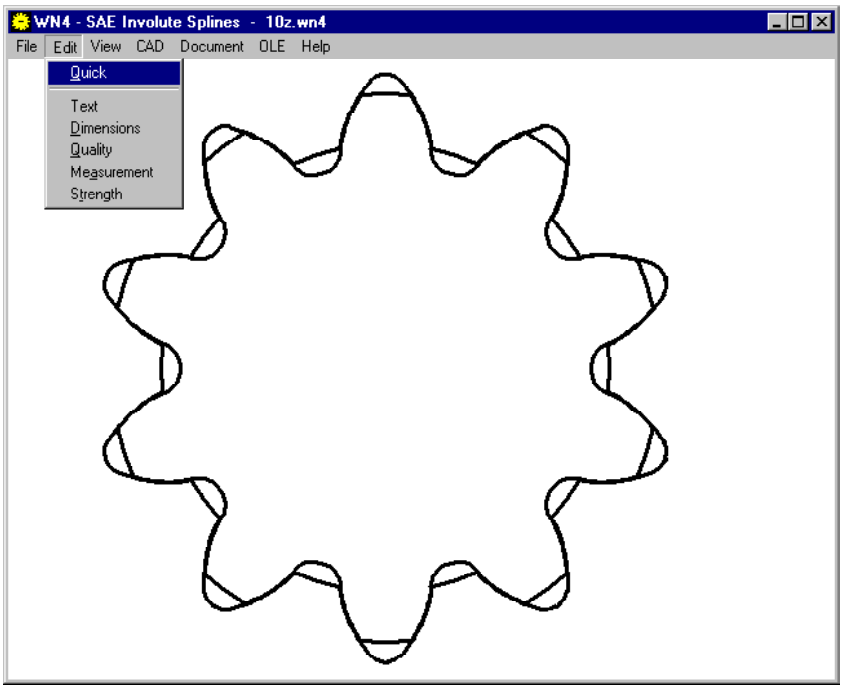
W N 4

Software for Involute Splines

according to ANSI B92.1

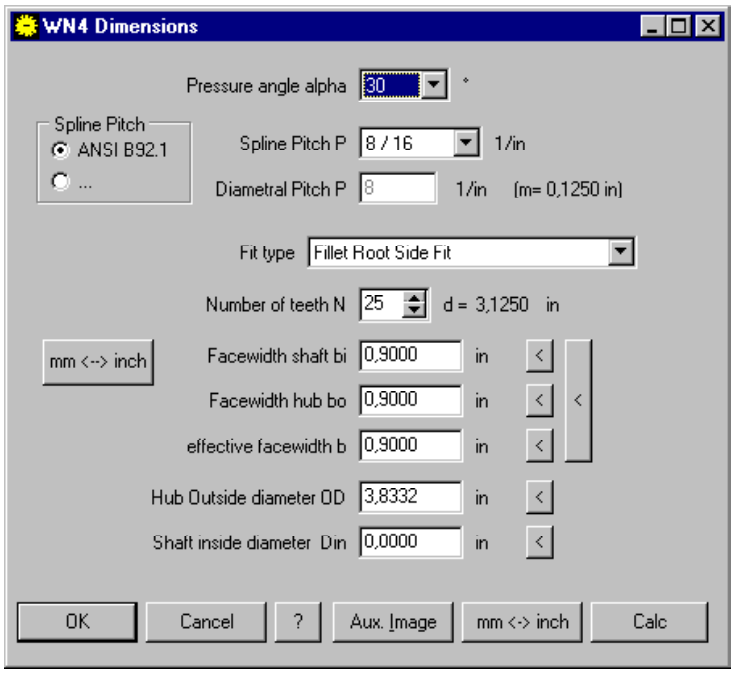
for Windows

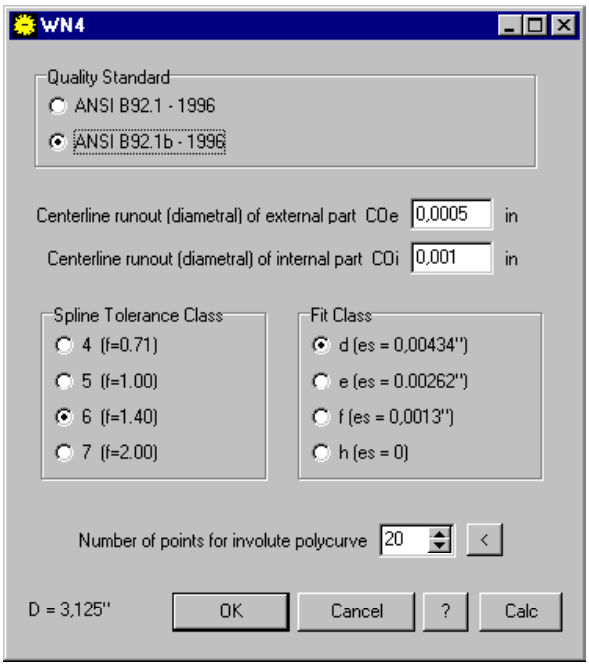
www.hexagon.de

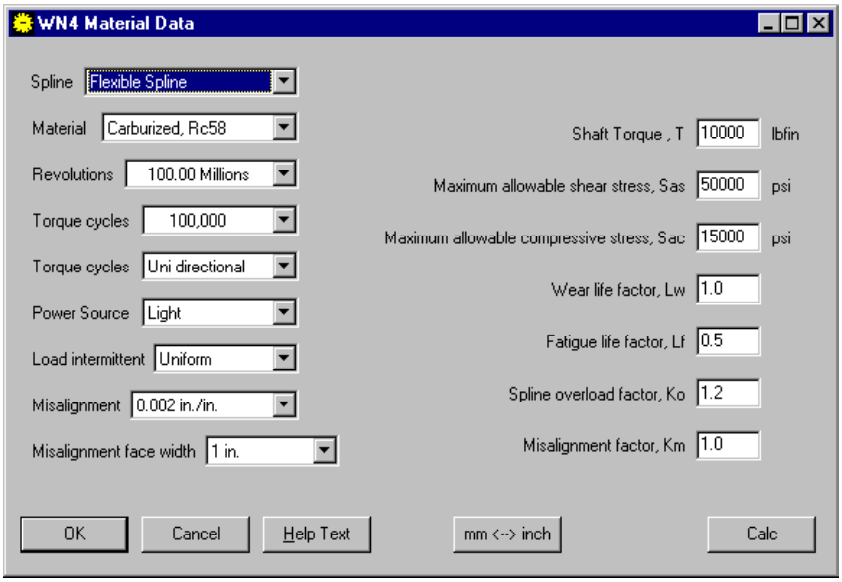


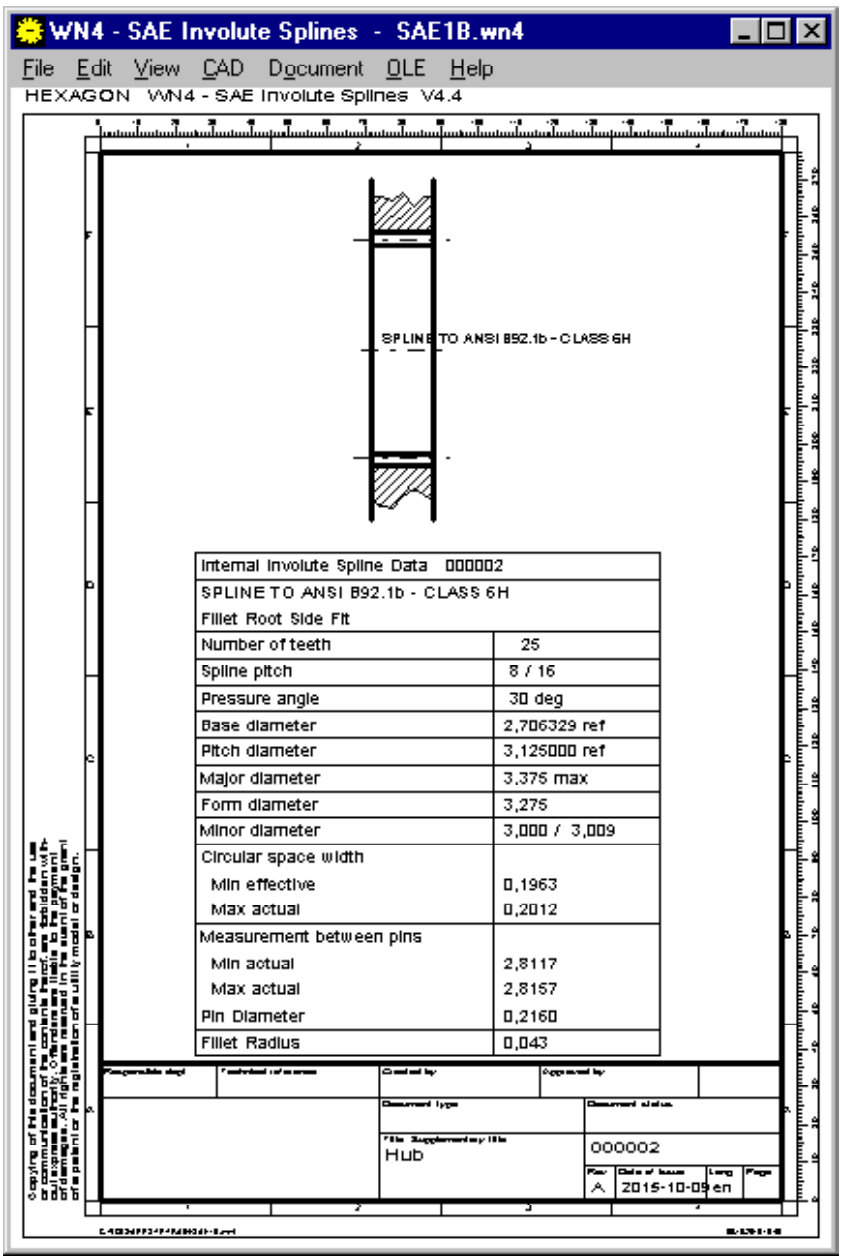
Calculation Base
WN4 software calculates dimensions, tolerances, measurement and stresses for SAE Involute Splines according to ANSI B92.1 and ANSI B92.1b. WN4 uses imperial units; metric units are supported as well. The program was designed to calculate spline fit types "Flat Root Side Fit" and "Fillet Root Side Fit" as well as "Major Diameter Side Fit". Pressure angle can be 30°, 37,5° or 45°. Normal Circular Pitch can be selected between "2.5 / 5" and "128 / 256".

Clearance, Tolerance
According to ANSI B92.1, WN4 calculates admissible deviation and tolerance. Additionally, you can select the appropriate spline fit class, if you choose calculation according to ANSI B92.1b.When entering centerline runout, WN4 calculates required clearance.









Measurement
Defined by dimensions and tolerance class, WN4 calculates span width and dimensions over/between pins (min, max, mean value). Number of teeth measured, and pin diameter may be changed.

Strength Calculation
WN4 calculates compressive stress, spline teeth shear stress, hoop stress, bending stress, torsional shear stress and equivalent stress according to "Design Guide for Involute Splines", SAE 1994. The program generates error messages, if allowable material values are overridden. Material values, application factors and wear life factors can be selected from tables, or you can enter the values directly.

Production Drawing
Drawing tables with dimensions and tolerances according to ANSI B92.1 are generated by WN4, together with a draft of shaft or hub, and ISO 7200 drawing header. Drawings may be printed on any Windows printer, or exported to CAD as DXF or IGES file.

Tooth Contact
Drawings with teeth, tooth gap, tooth contact, and tool profile are displayed on screen.

CAD Interface
True-scale drawings of involute splines and tool geometry can be exported to CAD as DXF or IGES file, as well as a table with the spline data according to ANSI B92.1.

User Interface
The dialogue windows of WN4 allow even the less experienced PC user to find his way around the program quickly. WN4 provides users with a help text wherever they are in the program. When the demo mode is selected, WN4 runs through a demo program in which an example calculation is performed. WN4 contains auxiliary pictures with geometrical signs and formulas used by the program.

System Requirements
WN4 is available as 32-bit app or as 64-bit app for Windows 7, 8, Windows 10.

Scope of Delivery
Program with user manual (pdf), 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.