

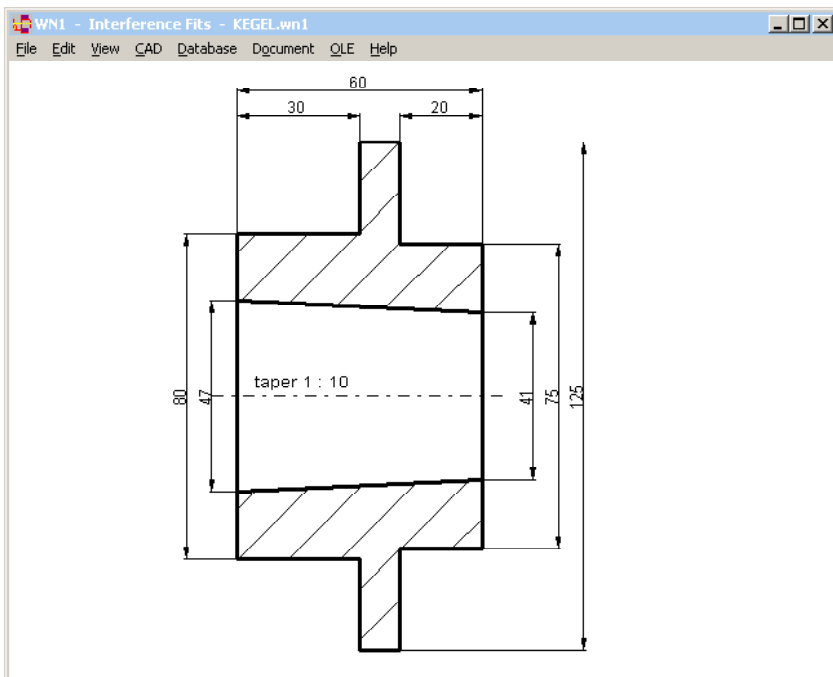
WN 1



www.hexagon.de

Software for Calculation of Cylindrical and Conical Interference Fits for Windows

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Calculation

WN1 calculates cylindrical interference fits according to DIN 7190. Input data includes material values, friction coefficients, dimensions, minimum pressure or transferable moment, or axial load to be transferred.

Since version 8.0, WN1 can calculate stepped hubs up to 10 segments. Since release 9.0, you can calculate tapered interference fits as well.

Pre-Dimension

In Pre-Dimension, you calculate the required interference dimensions of the interference fit from torque or axial load or minimum pressure.

Dimensioning

In the dimensioning dialogue window, you can enter dimensions and tolerances of shaft or hub, and WN1 calculates the counterpart seam diameter with tolerance. The ISO dimensions for bore and shaft in accordance with ISO 286 are provided by WN1.

Recalculation

Existing interference fits can be calculated by input of dimensions with tolerances.

Material Data Base

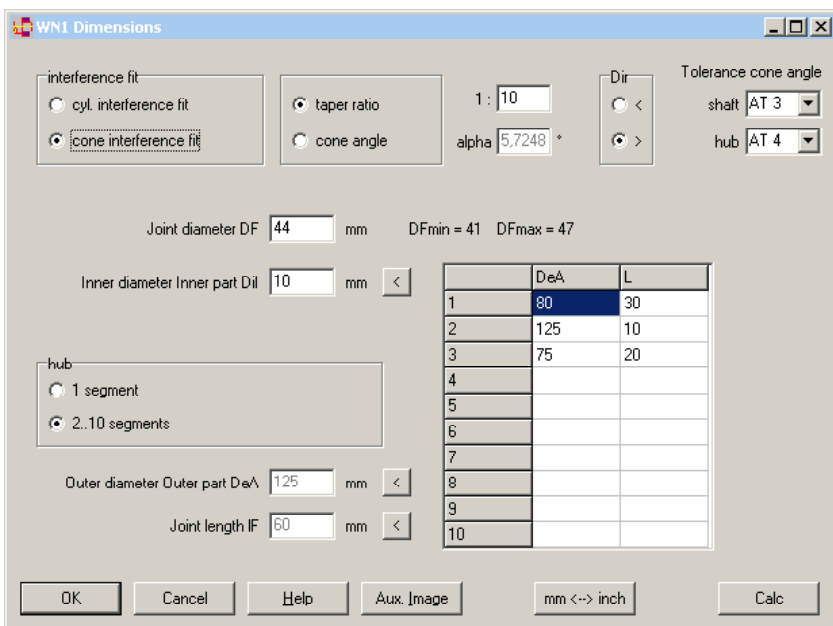
Materials can be selected from the integrated data base. The data base can easily be modified or extended with your own materials.

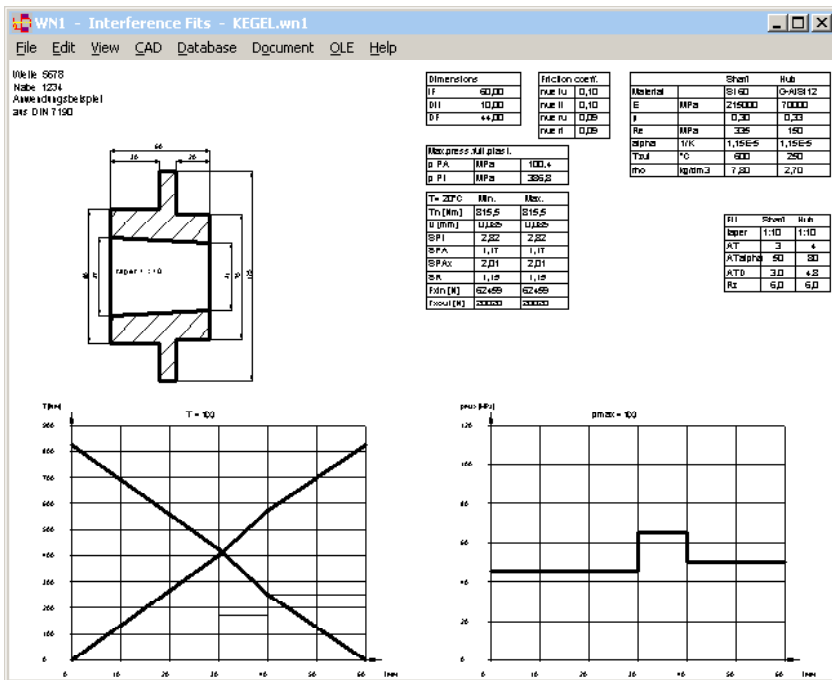
Joint Data

If cylindrical interference fit, WN1 calculates assembly force for cold fit as well as assembly temperature for hot fit. For taper interference fits, WN1 calculates mounting force, required penetration and dismantling force.

Friction Coefficients

Friction coefficients for loosening and sliding in longitudinal or circumferential direction can be entered directly or suggested by WN1 in relation to the method of joining and materials for shaft and hub.





Influence of temperature and speed

For different temperature coefficients of shaft and hub material, WN1 calculates pressure and interference for both, room temperature and operating temperature. For high-speed shafts, WN1 calculates joint pressure reduced by centrifugal force and lift-off speed.

Stress Spectrum

Stress diagrams show tangential stress and radial stress along the cross-section.

Test Certificate

WN1 generates a test certificate B according to DIN EN 10204.

Table Drawing

Dimensions and calculation results are generated in an A4 drawing with ISO 7200 header.

Production Drawing

WN4 generates a drawing of the hub with all dimensions and ISO 7200 header.

Interference Fit Graphic

For cylindrical fits with ISO tolerances, minimum and maximum interference along with all dimensions can be graphically displayed on screen.

Quick View

Calculation results, drawings and diagrams can be printed altogether on one screen.

Text Printout

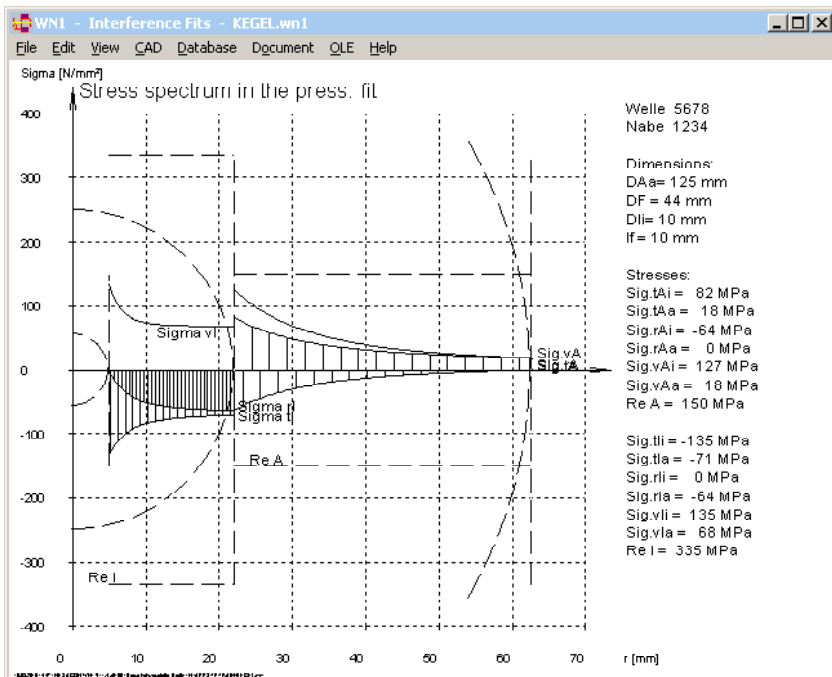
Input data and calculation results may be printed, saved as text or HTML file, or exported to MS Excel.

Graphic Printout

Drawings and diagrams can be printed on any Windows printer.

CAD Interface

Drawings and diagrams can be generated as DXF or IGES files for CAD.



WN1 - Interference Fits - KEGEL.wn1

File Edit View CAD Database Document OLE Help

Page & Posn. No.: _____

No. of pieces: _____

Designation of pieces: Hub Material: G-MS12

1. Dim. test					
Seam diameter	Nom. Dim.	Tolerance zone	Deviat. limit	Act. Dim. relat. to	
				left seam edge	seam center
Outer part (Borehole) stand. borehole					
Inner part (Shaft)					

2. Surface condition (Drawing entry accord. DIN ISO 1302)			
Ave. rough. val. Ra of seam surface	Nom. val.	Act. val.	Comment
Outer part (Borehole)	1,6		Manual test with compar. by Surface standard sample accord. DIN 4769 Part 1
Inner part (Shaft)	1,6		

3. Cylinder shape toler. (Drawing entry accord. DIN ISO 1101)			
Cylinder shape toler.	Nom. val.	Act. val.	Comment
Outer part			
Inner part			

HEXAGON Help System

WN1 provides help text and help images. If error messages appear, you can get description and help.

System Requirements

WN1 is available as 32-bit app or as 64-bit app for Windows XP, Vista, Windows 7, 8, Windows 10.

Scope of Delivery

Program with database files, example applications and help images, user manual (pdf), 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.