

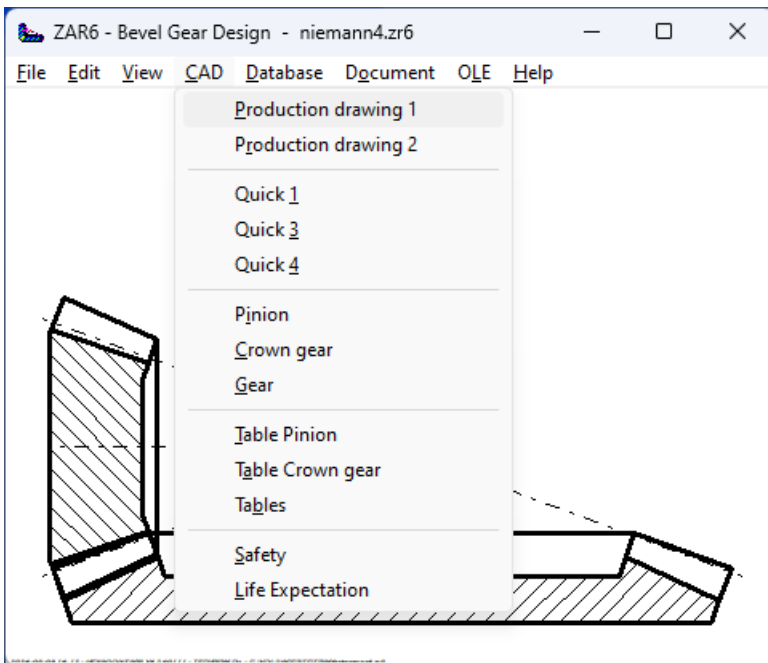
ZAR6



Bevel Gear Design (straight, helical, spiral)

for Windows

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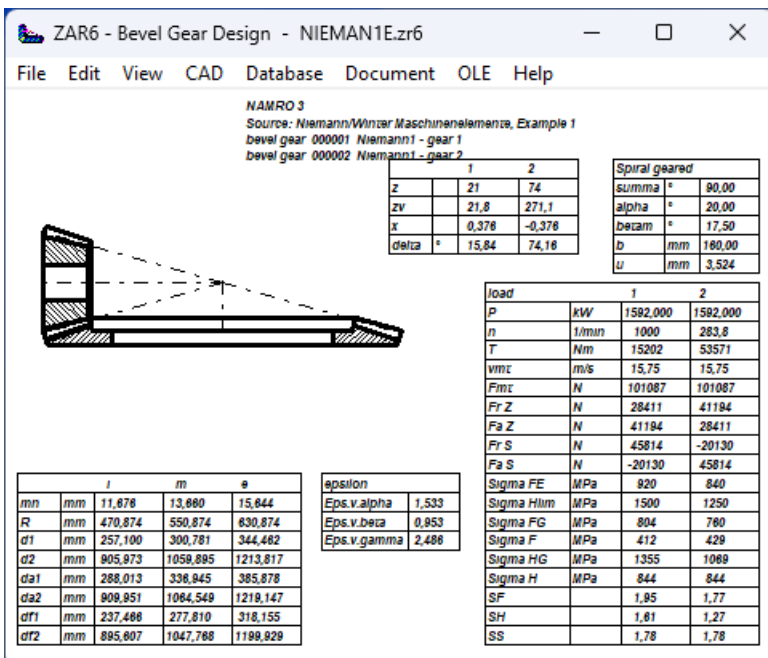
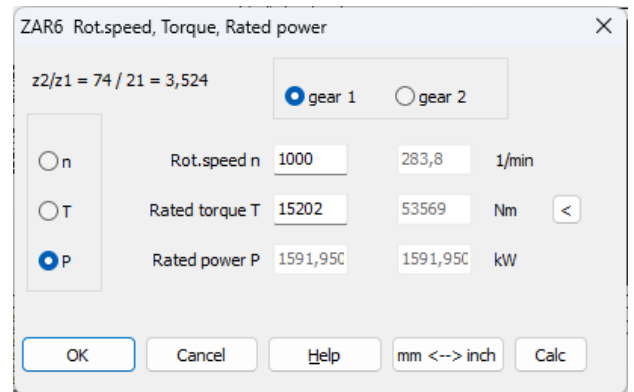


Calculation Base

ZAR6 calculates dimensions of bevel gears (straight, helical and spiral) with decreasing tooth height due to cone center. Load-bearing capacity with safety against tooth breakage, pitting and seizure for bevel gear pairs is calculated according to DIN 3991.

Pre-dimensioning

In pre-dimensioning ZAR6 makes recommendations for the dimensions of bevel gear by input of gear ratio, rotational speed and power or torque. Gear materials can be selected from database.



Calculation

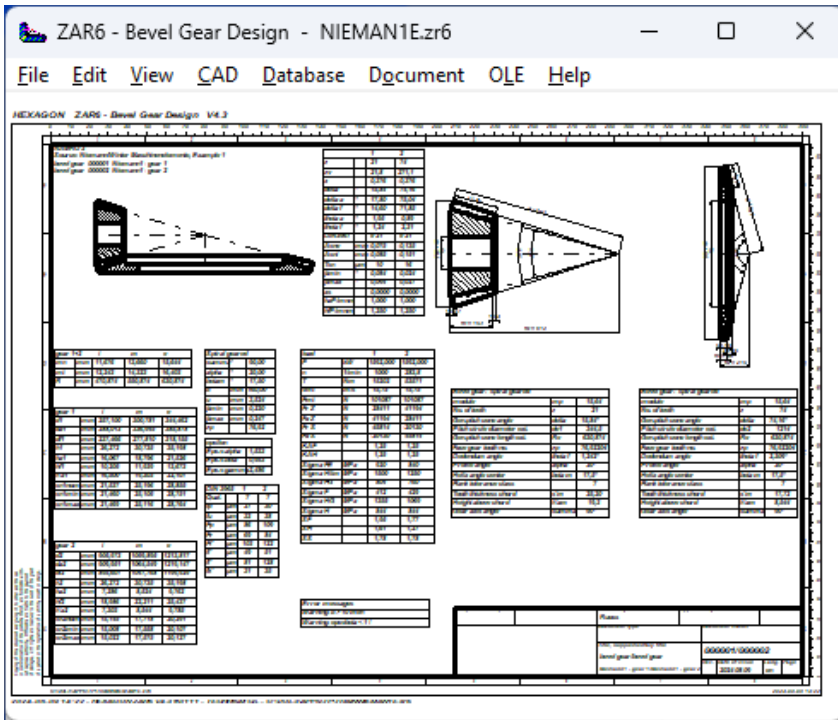
The pre-dimensioned values can be used in the next dialogue window for gear geometry. The program suggests values for tooth thickness modification xs and profile shift coefficient x.

Tooth Flank Tolerances

You can select tolerance zone to DIN 3967, and ZAR6 calculates min and max dimensions of inner and outer tooth thickness, flank clearance and backlash. And ZAR6 calculates pitch tolerances, flank tolerances and permissible runout according to DIN 3965.

Material Database

ZAR6 includes a material database with gear materials. Database may be extended by the user with new materials.



Tooth Forces

Axial and radial forces for push/pull operation are calculated. These values can be transferred to the shaft calculation programs WL1+.

Strength Calculation

ZAR6 calculates virtual cylindrical gear and factors for calculation of load-bearing capacity and safety factors for tooth breakage, pitting and seizure. If not strength-safe, ZAR6 calculates life expectation until fatigue breakage or pitting. Safety factors and life expectation as function of nominal torque are displayed in a diagram.

Load spectrum

If you define a load spectrum by input of torques and load cycle shares, ZAR6 calculates safety factors and life expectation.

Quick View

Quick view shows calculation results with drawings and diagrams altogether on one screen.

Text Printout

Input data and results of geometry and strength calculation can be printed to screen or printer, saved as TXT file or HTML file, or loaded in MS-Excel.

CAD Interface

Drawings and diagrams can be exported to CAD via the DXF or IGES interfaces.

Production Drawing

ZAR6 generates complete drawings with manufacturing data for straight and helical bevel gears. Drawing info and modifications can be entered in the program. The drawings may be printed directly, or loaded into CAD via DXF or IGES interface.

HEXAGON Help System

As with all HEXAGON programs ZAR6 can provide you with a help text and auxiliary picture for each input. Help texts and auxiliary pictures can be modified and appended by the user as required. When error messages appear you can have a description and remedy suggestion displayed.

Units

ZAR6 can be switched between metric units (mm, N,MPa) and imperial units (inch, lbf, psi)

System Requirements

ZAR6 is available as 32-bit app or as 64-bit app for Windows 11, Windows 10, Windows 7.

Scope of Delivery

Software with user manual (pdf), non-expiring license for unlimited time use with update rights.

Guarantee

HEXAGON gives a 24 month guarantee on full functionality of the software. We provide help and support by email without extra charge. HEXAGON Registered users are regularly kept informed of updates.

