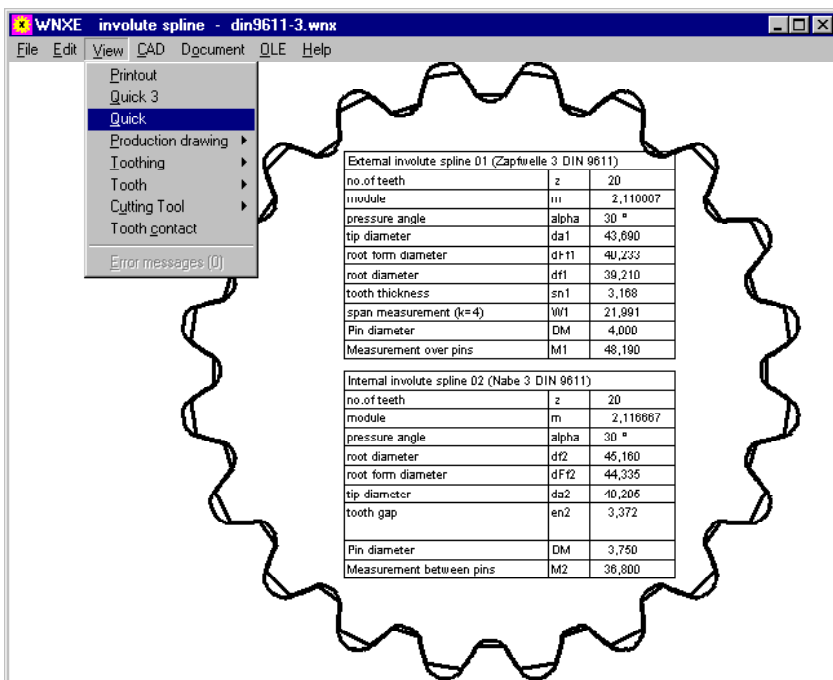




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Involute Spline Design

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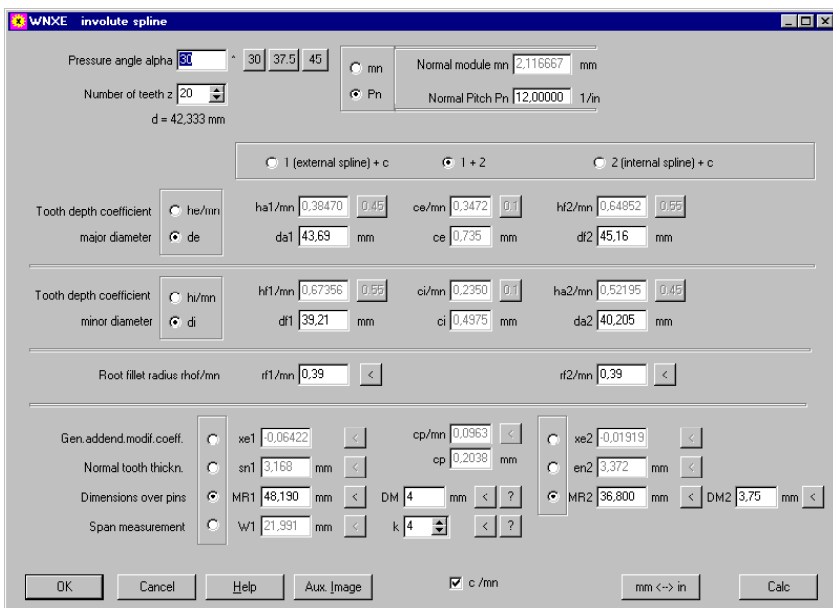
Application

WNXE calculates dimensions of any involute spline. You have the choice to input dimensions of external spline and internal spline, then calculate clearance and backlash. Or enter dimensions of external spline or internal spline together with clearance and backlash to get counterpart dimensions.

And you have the choice to input tooth thickness or tooth gap width or profile shift coefficient or dimension over/between pins or span width .

WNXE can calculate dimensions of involute splines (without tolerances) according to any standard, if the most essential dimensions are known or measured. WNXE calculates involute splines to ISO 4156, DIN 5480, ANSI B92.1, DIN 5482, DIN 9611. Even JIS splines with 20 deg pressure angle and large profile shift.

Involute splines according to unknown standards and non-standard involute splines can be designed, calculated and generated by means of WNXE.



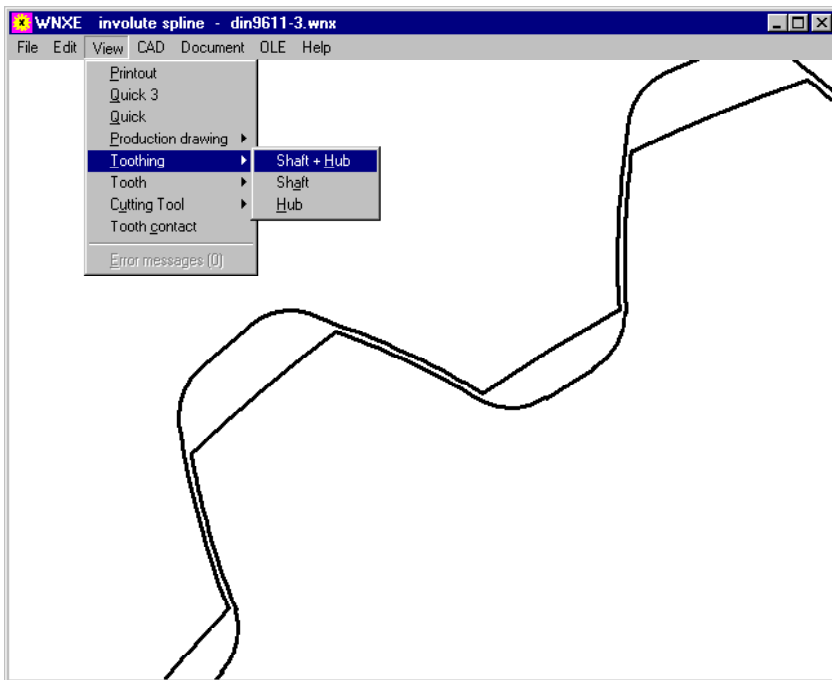
Tooth Profile

WNXE generates a true-scale drawing of the involute profile of both, internal and external involute spline. The profile drawing can be used for profile projector, wire eroding machine, 3D printer, etc.

Calculation

WNXE software calculates dimensions and profile of external spline (shaft) and internal spline (hub). WNXE offers various input options:

- external spline and internal spline or either of them together with clearance and backlash
- major diameter and minor diameter or tooth height coefficients (addendum and dedendum)
- profile shift coefficient or tooth thickness or dimensions over/between balls or span width
- clearance and backlash in mm or inches, or as factor of module c/m
- module or pitch



Measurement

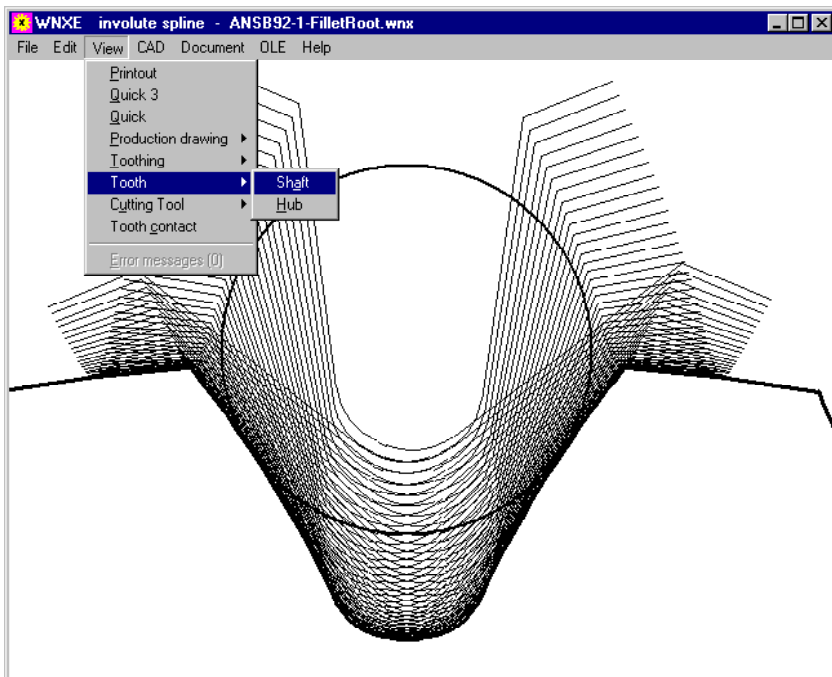
WNXE calculates span width and dimensions over/ between pins, where pin diameter and number of teeth measured may be modified. Or you can input measured dimensions instead of addendum modification coefficient. Dimensions not selected for input are immediately calculated and displayed in the dialogue window.

Reference Profile

Addendum and dedendum tooth height coefficients can be entered, or WNXE calculates it from major diameter and minor diameter.

Tolerances

WNXE calculates dimensions without tolerances. Thus, profile shift coefficient x_e means the factor of the generated profile shift, not the nominal value x . If limits should be calculated with WNXE, you have to run two calculations with min and max tolerances. And maybe a 3rd one with mean tolerance.



Quick View

Quick View shows a drawing of internal and external spline together with tables of dimensions and measurement altogether on one screen.

Graphics

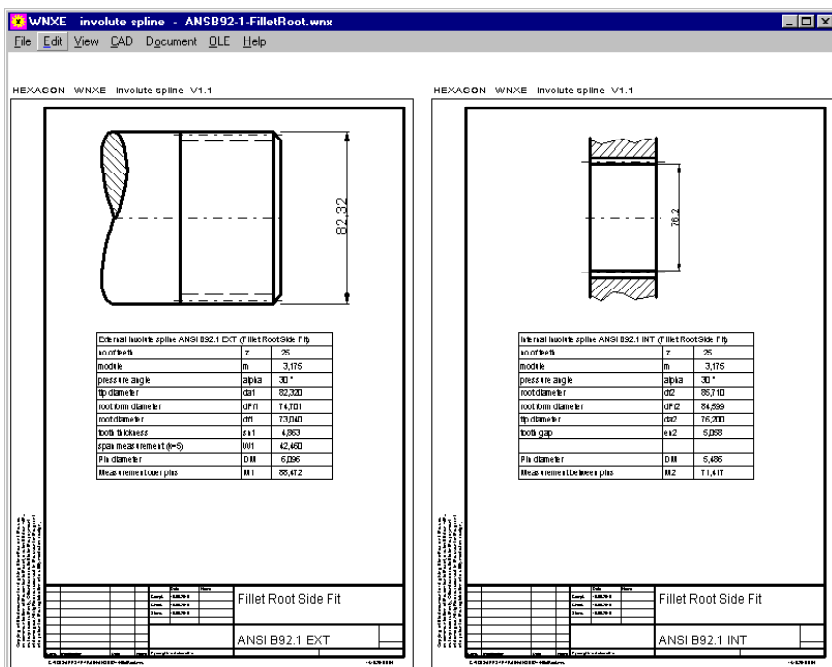
Drawings of tooth gap, involute spline profile, reference profile of the cutting tool can be shown on screen, printed or generated as DXF or IGES file.

Production Drawing

WNXE generates a production drawing with involute spline dimensions with ISO 7200 data field. Drawing data and modifications can be edited within WNXE. Production drawing may be printed directly, or exported as DXF or IGES file.

CAD Interface

WNXE generates true-scale drawings as DXF or IGES file, ready to be loaded into any CAD or CNC system. Settings like number of points for the involute or fillet curve may be configured in WNXE.



Units

WNXE software can be switched between metric units (mm) and imperial units (inch).

System Requirements

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

Scope of Delivery

WNXE Software with 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.