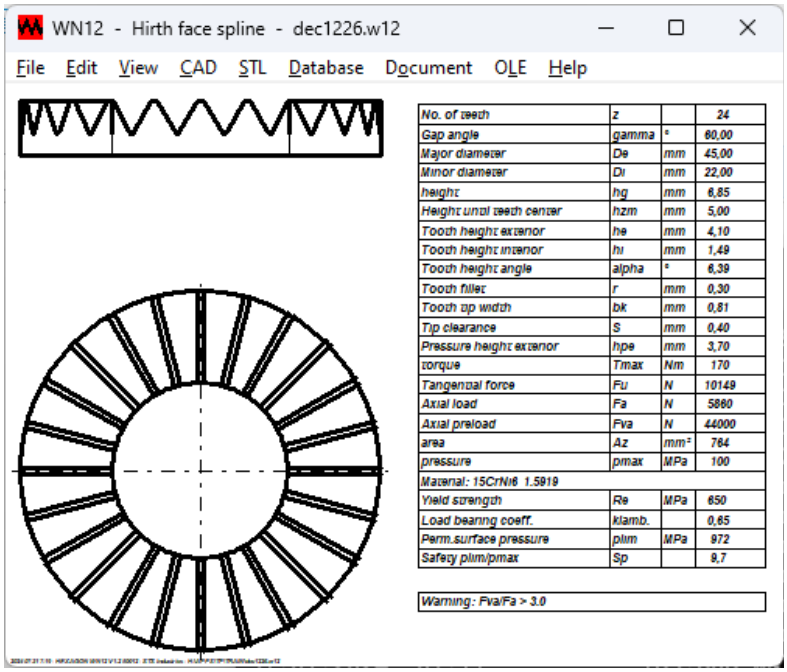
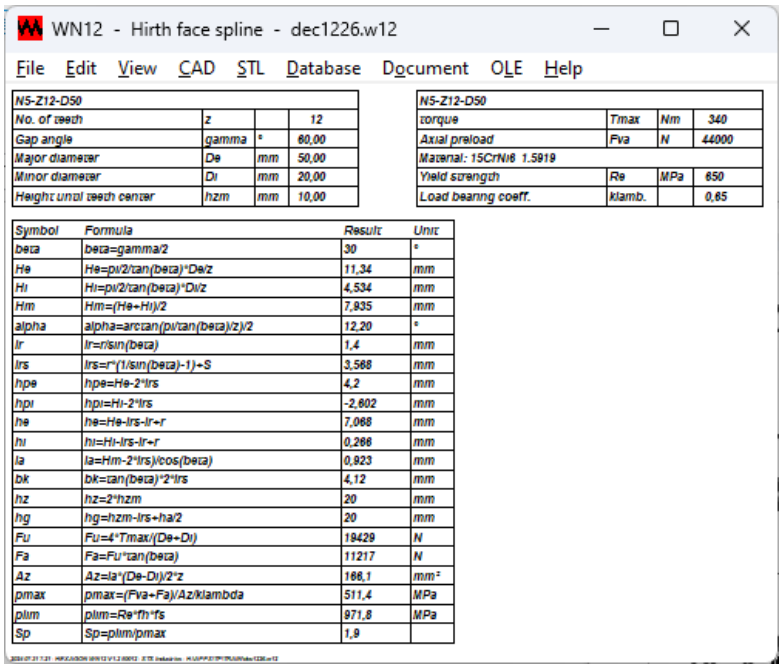
W N 1 2

Software for Face Splines (Hirth Axial Spline)

for Windows





Calculation and Design

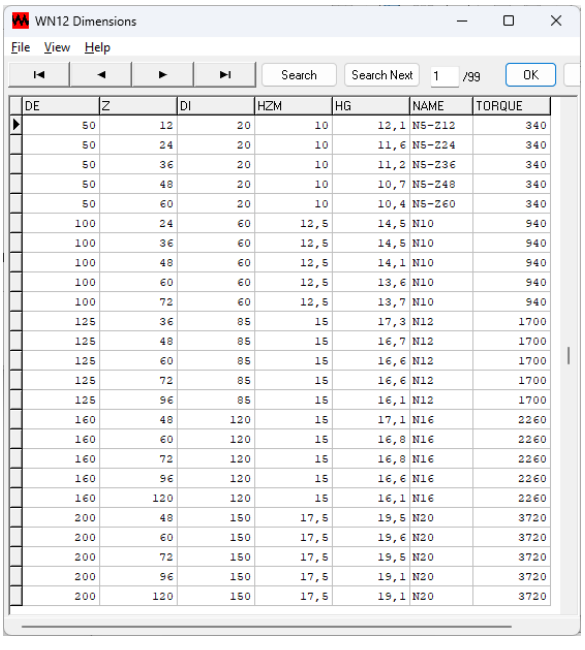
WN12 calculates dimensions and strength of Hirth face splines. WN12 calculation ist not restricted to 60 deg tooth gap angle. Input dimensions are inner and outer ring diameter, number of teeth, tooth root fillet, tip clearance, and tooth gap angle. WN12 calculates pressure area, permissible flank pressure and safety coefficient from torque, axial preload and material data. WN12 generates drawings (2D and 3D) that can be used with CAD. A model with face spline can be produced with 3D printer by means of a STL file generated by WN12.

Dimensions

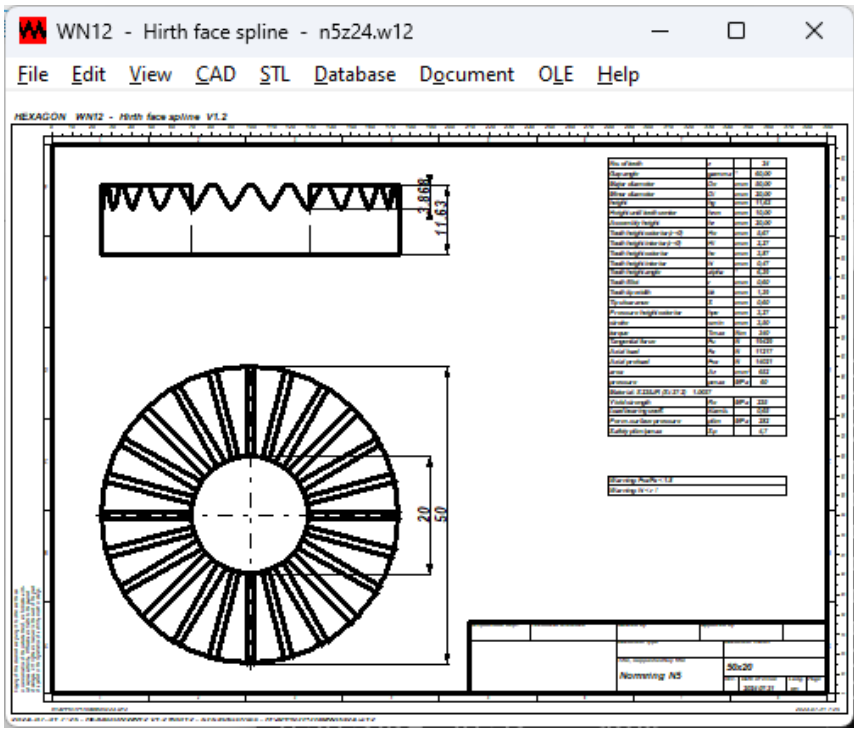
Standard dimensions and sizes can be loaded from database, or you enter dimensions for self-defined face splines directly.

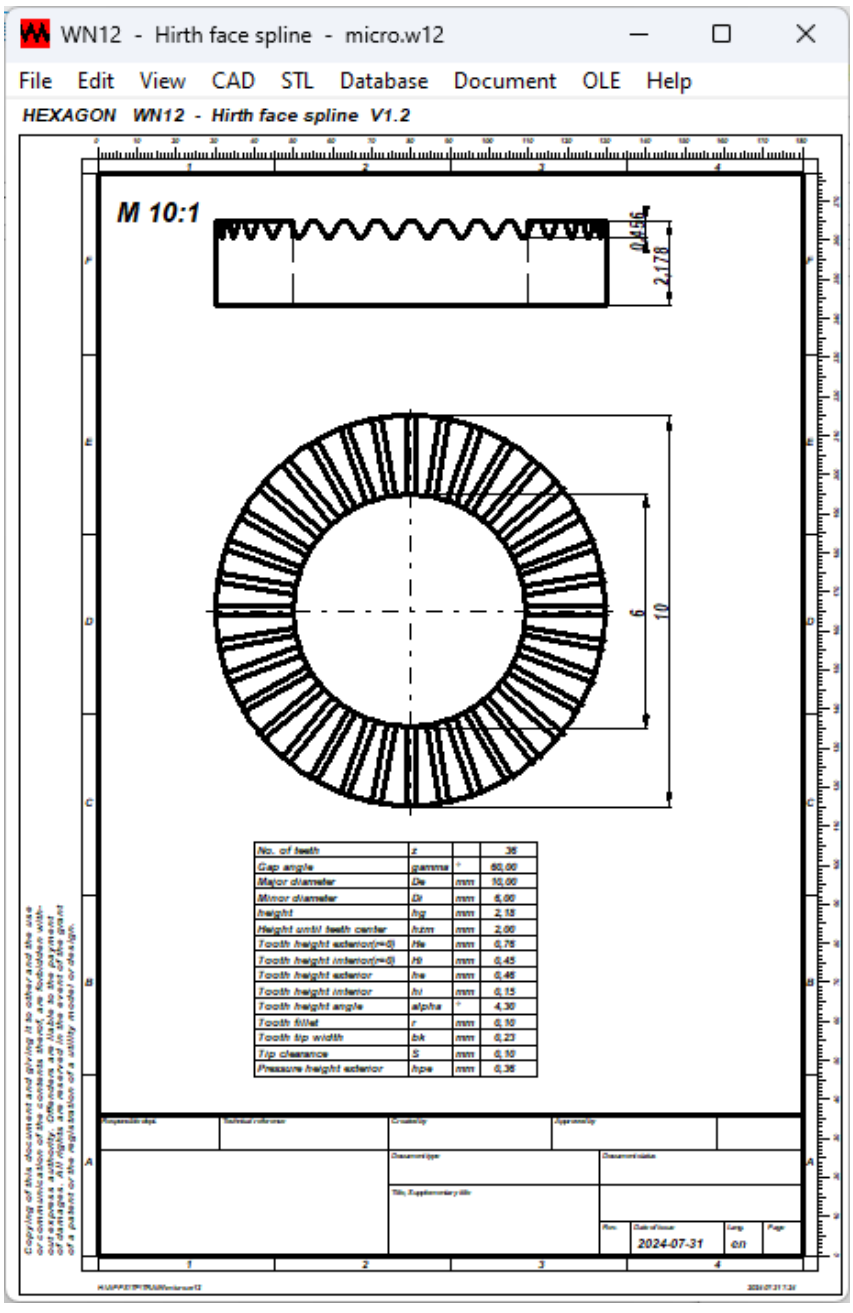
Database Dimensions

Database provides standard rings with Hirth face spline of external diameter 50 mm until 900 mm. Database may be modified and extended by user.



DE	Z	DI	HZM	HG	NAME	TORQUE
50	12	20	10	12,1	N5-Z12	340
50	24	20	10	11,6	N5-Z24	340
50	36	20	10	11,2	N5-Z36	340
50	48	20	10	10,7	N5-Z48	340
50	60	20	10	10,4	N5-Z60	340
100	24	60	12,5	14,5	N10	940
100	36	60	12,5	14,5	N10	940
100	48	60	12,5	14,1	N10	940
100	60	60	12,5	13,6	N10	940
100	72	60	12,5	13,7	N10	940
125	36	85	15	17,3	N12	1700
125	48	85	15	16,7	N12	1700
125	60	85	15	16,6	N12	1700
125	72	85	15	16,6	N12	1700
125	96	85	15	16,1	N12	1700
160	48	120	15	17,1	N16	2260
160	60	120	15	16,8	N16	2260
160	72	120	15	16,8	N16	2260
160	96	120	15	16,6	N16	2260
160	120	120	15	16,1	N16	2260
200	48	150	17,5	19,5	N20	3720
200	60	150	17,5	19,6	N20	3720
200	72	150	17,5	19,5	N20	3720
200	96	150	17,5	19,1	N20	3720
200	120	150	17,5	19,1	N20	3720





Material Database
The material database includes material data of 900 steel and non-iron materials. You can select material from database or input material data directly.

Strength Calculation
From peak torque, axial preload, material data and load distribution factor, WN12 calculates flank pressure and safety coefficient.

Calculation Sheet
Cause no ISO standard exists for face splines until now, WN12 displays a screen with terms and formulas used for calculation.

Quick View
Quick View shows face spline drawing and tables with essential dimensions and calculation results on one screen.

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

Drawings and Tables
WN12 generates true-scale drawings of the face spline to be printed or loaded into CAD. Also tables with dimensions and calculation results.

Production Drawing
A table drawing with A4 drawing header according to ISO 7200 includes profile drawings and tables with dimensions of the face spline. Production drawing may be printed direcly, or exported to CAD via DXF or IGES interface.

STL-Model for 3D Printer
A 3D STL model of the face splined rings is generated by WN12 and can be produced on your 3D printer.

Export Formats
DXF, IGES, STL, HTML, TXT, DBF, Excel, W12.

HEXAGON Help System
WN12 provides help text and auxiliary images. Warnings and error messages occur if exceeding a limit. For error messages you can have a description and remedy suggestion.

Units
Units can be switched between metric (mm) and imperial (inches).

System Requirements
WN12 is available as 32-bit app or as 64-bit app for Windows 11, Windows 10, Windows 7.

Scope of Delivery
Program with example applications and help images, user manual (pdf), license contract.

Guarantee
HEXAGON gives a 24 month guarantee on full functionality of the software. We provide support by email without extra charge. Registered users will be informed about news and updates.