

WNXK

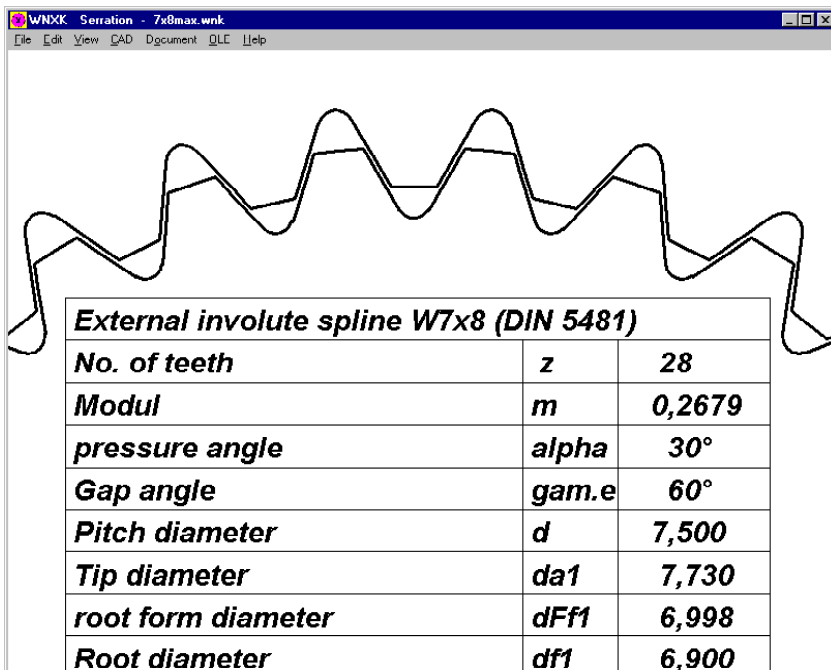


www.hexagon.de

Serration Spline Design

Software for Windows

© Copyright 2016 by HEXAGON Software, Kirchheim, Berlin, Neidlingen



Application

WNXK calculates dimensions of any serration 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.

WNXK can calculate dimensions of serration splines (without tolerances) according to any standard, if the most essential dimensions are known or measured. WNXK also calculates serration splines according to DIN 5481, and you can calculate dimensions and generate profile drawings of gauge. Serration splines according to unknown standards and non-standard serrations can be designed, calculated and generated by means of WNXK.

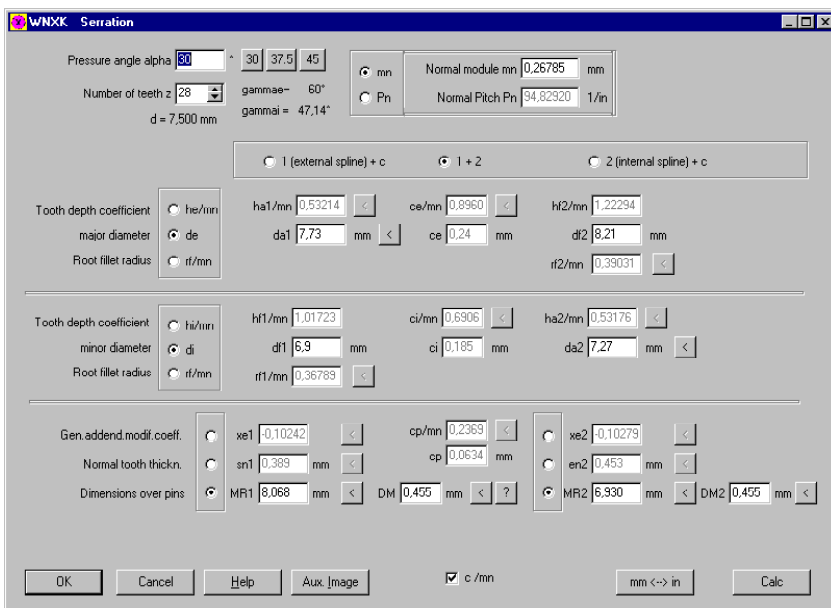
Tooth Profile

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

Calculation


WNXK software calculates dimensions and profile of external spline (shaft) and internal spline (hub). WNXK 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
- clearance and backlash in mm or inches, or as factor of module *c/m*
- module or pitch



WNXX Serration - 7x8mas.wnk

File Edit View CAD Document QLE Help



DIN 5481 N7x8
Internal spline N7x8
7x8 DIN 7501 "P" on
star Spline


External involute spline N7x8 (DIN 5481)	
No. of teeth	z 28
Modul	m 0,2679
pressure angle	alpha 30°
Gap angle	gamma i 40°
Pitch diameter	d 7,500
Tip diameter	da1 7,730
root form diameter	dF1 6,998
Root diameter	dF 6,900
Root fillet radius	rhoF1 0,104
tooth thickness	en1 0,453
measurement (DIN 7501)	MR1 6,968

Internal involute spline N7x8 (Internal spline)	
No. of teeth	z 28
Modul	m 0,2679
pressure angle	alpha 30°
Gap angle	gamma i 47,14°
Pitch diameter	d 7,500
Root diameter	dF2 8,110
Root form diameter	dF2 8,085
Tip diameter	da2 7,270
Root fillet radius	rhoF2 0,104
tooth gap	en2 0,453
measurement (DIN 7501)	MR2 6,930

DIMENSIONS			
normal circular pitch	pn	mm	0,841
Normal Pitch	Pn	f/in	0,0331
backlash	sp	mm	0,068
torsional backlash	jn	"	0,017

DIMENSIONS			
Pitch diameter	d	mm	7,500
base diameter	db	mm	6,495
addendum	a o/i	mm	0,340
backlash	sp	mm	0,068
profile shift	x	mm	-0,10323
profile shift	x*m	mm	-0,027
tooth depth	h	mm	0,415

Dimensions tool		
dedendum coeff tool	hP0/mm	0,532
addendum coeff tool	hA0/mm	1,017
fillet radius tool	rhoA0/mm	0,368
addendum of tool	hP0	mm 0,143
dedendum of tool	hA0	mm 0,272
fillet radius tool	rhoA0	mm 0,098



Measurement

WNXX calculates dimensions over/between pins, where pin diameter 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 WNXX calculates it from major diameter and minor diameter.

Tolerances

WNXX calculates dimensions without tolerances. This, you have to input average dimensions, not nominal dimensions. If limits should be calculated with WNXX, 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 single tooth and serration spline profile can be shown on screen, printed or generated as DXF or IGES file.

Production Drawing

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

CAD Interface

WNXX 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 WNXX.

Units

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

System Requirements

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

Scope of Delivery

WNXX 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.

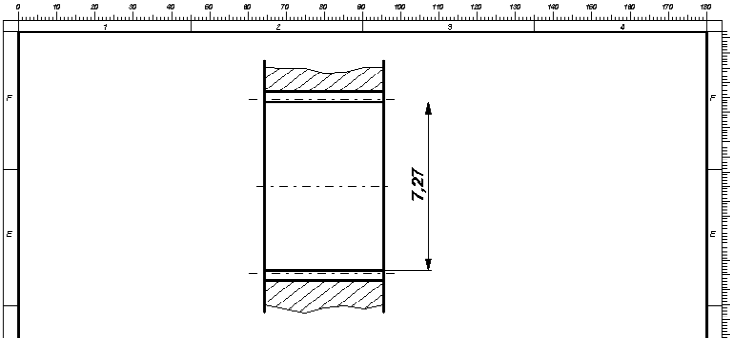
Guarantee

HEXAGON gives a 24 month guarantee on full functionality of the software.

WNXX Serration - 7x8mas.wnk

File Edit View CAD Document QLE Help

HEXAGON WNXX Serration V1.0



7,27

Internal involute spline N 7x8 (DIN 5481)	
No. of teeth	z -28
Modul	m 0,268
pressure angle	alpha 30°
Gap angle	gamma i 47,14°
Pitch diameter	d 7,500
Root fillet radius	rhoF2 (Ri) 0,104
root form diameter	dF2 (DFi) 8,085
Tip diameter	da2 (Dii) 7,270
tooth gap	en (E) 0,453
meas. circle diameter	Dm (DRi) 6,455
dimension over balls	MFRi 6,930
Pitch	P 0,841
tooth depth	h 0,470
Complement part	W7x8

Responsible dept.	Technical reference	Document type	Document status
Gleser GmbH	Created by	int. supply entry list	N 7x8
	Approved by	DIN 5481	File: 2016-04-10
		Internal serration	Ver: 01

Copyright of this document and giving it to others for the use or communication of the contents thereof, are reserved. Any reproduction, distribution, or other use of this document, or a part of the registration or a utility model, or design.

C:\VOL3\APPS\TP\TRAINING\wnxx.wnk

0916-6410 202 - HEXAGON WNXX V1.0 ©2011 - Gleser GmbH - C:\VOL3\APPS\TP\TRAINING\wnxx.wnk