

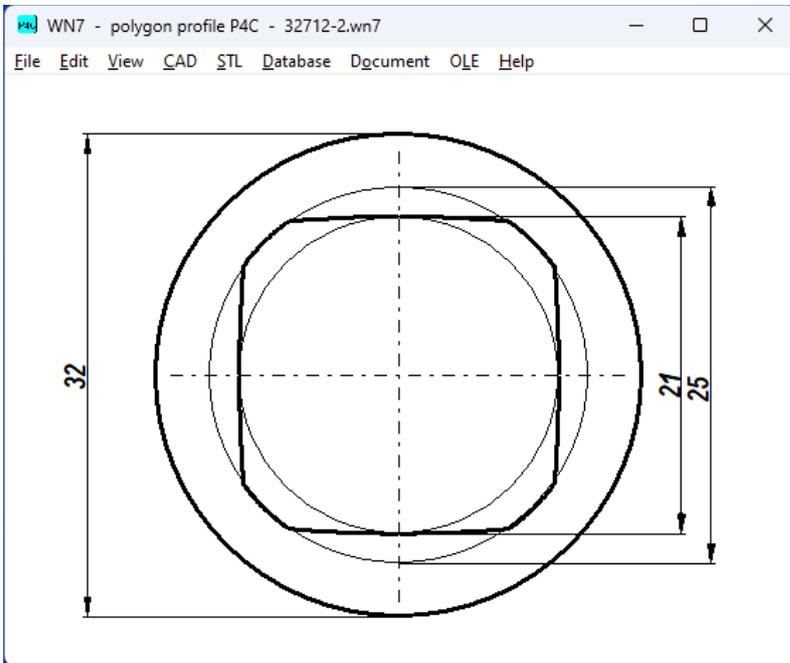
# WN7



## Software for Polygon Profiles P4G according to DIN 32712

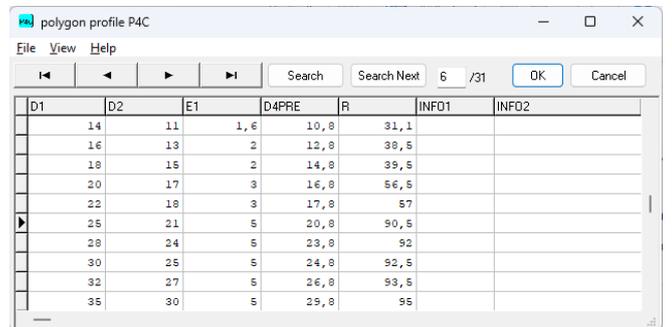
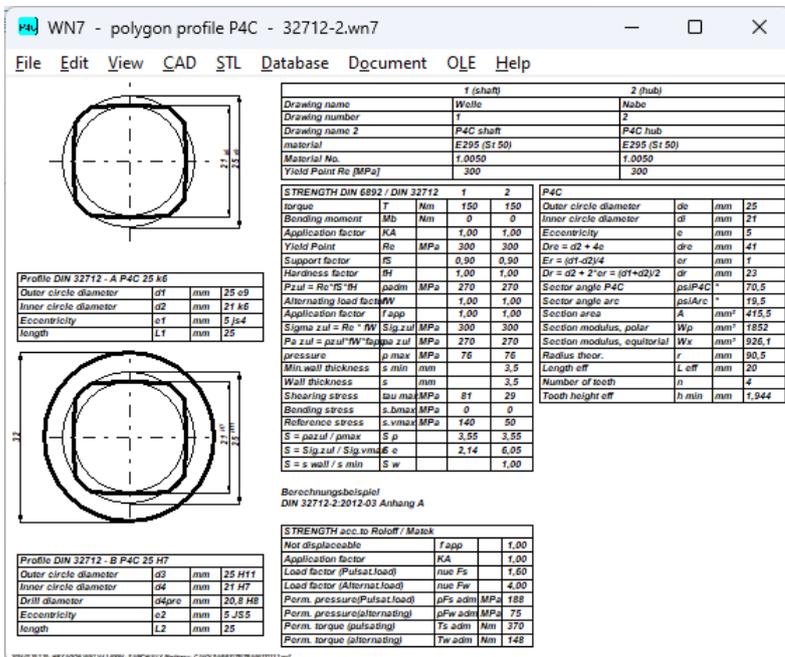
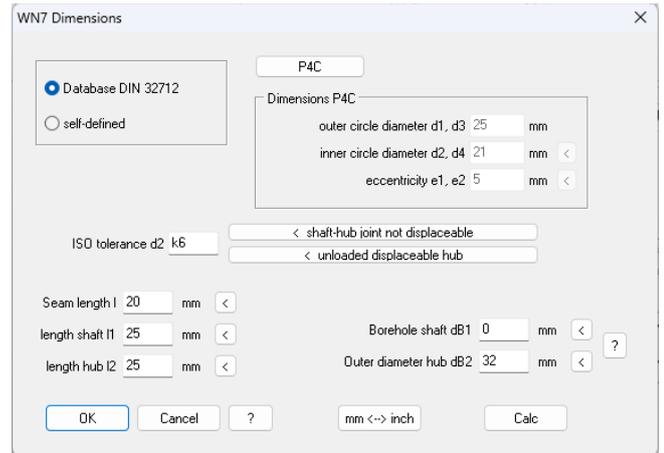
for Windows

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### P4C Calculation

WN7 calculates dimensions, tolerances, stress and safety factors for P4C polygon profiles according to DIN 32712.



### P4C Database

P4C sizes according to DIN 32712 (size 14 mm to 100 mm) can be selected from database. The database may be extended by the user.

### Pre-Dimensioning

Enter torque, select material and application: WN7 calculates minimum size required for a P4C shaft-hub joint.

WN7 - polygon profile P4C - 32712-2.wn7

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STRENGTH DIN 6892 / DIN 32712		1	2
material		1.0050	1.0050
torque	T	Nm	150
Bending moment	Mb	Nm	0
Application factor	KA		1,00
Yield Point	Re	MPa	300
Support factor	fS		0,90
Hardness factor	fH		1,00
$P_{zul} = Re \cdot f_S \cdot f_H$	padm	MPa	270
$\sigma_{zul} = Re \cdot f_W$	Sig.zul	MPa	300
$P_{a\ zul} = p_{zul} \cdot f_W \cdot f_{app}$	pa zul	MPa	270
pressure	p max	MPa	76
$S = p_{zul} / p_{max}$	S p		3,55
$S = \sigma_{zul} / \sigma_{vm\ max}$	S e		2,14
$S = s_{wall} / s_{min}$	S w		1,00

Profile DIN 32712 - A P4C 25 k6			
Outer circle diameter	d1	mm	25 e9
Inner circle diameter	d2	mm	21 k6
Eccentricity	e1	mm	5 js4
length	L1	mm	25

Profile DIN 32712 - B P4C 25 H7			
Outer circle diameter	d3	mm	25 H11
Inner circle diameter	d4	mm	21 H7
Drill diameter	d4pre	mm	20,8 H8
Eccentricity	e2	mm	5 JS5
length	L2	mm	25

## Strength Calculation

WN7 calculates compressive stress, torsional stress, bending stress, and equivalent stress according to DIN 32712 and DIN 6892. Material, application factors and life expectation coefficients are considered by WN7.

## Material Database

Materials for shaft and hub can be selected from the integrated material database with 900 steel and noniron materials.

material shaft

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IDENT	MATERIAL	M&T_Nr	NR	RM	RE	E_MODUL	A5
1.0050	E295 (St 50)	1.0050	1	490	295	210000	
1.0060	E335 (St 60)	1.0060	1	590	335	210000	
1.0070	E360 (St 70)	1.0070	1	690	360	210000	
1.0112	P235S	1.0112	1	360	235	210000	
1.0114	S235J0	1.0114	1	360	235	210000	
1.0116	S235J2G3	1.0116	1	360	235	210000	
1.0117	S235J2	1.0117	1	360	235	210000	
1.0130	P265S	1.0130	1	400	265	210000	
1.0143	S275J0	1.0143	1	430	275	210000	
1.0144	S275J2G3 (St 44-3)	1.0144	1	430	275	210000	
1.0145	Fe 430 D 2	1.0145	1	430	275	210000	
1.0149	S275J0H (RoSt44-2)	1.0149	1	430	275	210000	
1.0226	DK 51 D (St 02 Z)	1.0226	1	300	150	210000	
1.0301	C10	1.0301	7	650	390	210000	
1.0305	P235GLTH (St 35.8)	1.0305	3	350	230	210000	

WN7 - polygon profile P4C - 32712-2.wn7

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HEXAGON WN7 - polygon profile P4C V4.1

Profile DIN 32712 - B P4C 25 H7			
Outer circle diameter	d3	mm	25 H11
Inner circle diameter	d4	mm	21 H7
Drill diameter	d4pre	mm	20,8 H8
Eccentricity	e2	mm	5 JS5
length	L2	mm	25

Fit Dim.	Max. Dim.	Min. Dim.
25 H 11	25,130	25,000
21 H 7	21,021	21,000
5 JS 5	5,003	4,998

Responsible dept.	Technical reference	Created by	Approved by
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Title, Supplementary title			
Nabe		2	
P4C hub		Rev.	Date of issue
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## Production Drawing

P4C dimension table together with P4C profile in an ISO 7200 drawing header may be printed directly, or exported to CAD via DXF-/IGES interface. Drawing name, date, users and modifications are described in WN7.

## CAD Interface

WN7 generates a true scale P4C profile as DXF or IGES file to be used in CAD or CNC system. Resolution and tolerances can be configured.

## User Interface

The dialogue windows of WN7 allow even the less experienced PC user to find his way around the program quickly. WN7 provides users with a help text wherever they are in the program. When the demo mode is selected, WN7 runs through a demo program in which an example calculation is performed. WN7 contains auxiliary pictures with geometrical signs and formulas used by the program.

## System Requirements

WN7 is available as 32-bit app or as 64-bit app for Windows 11, Windows 10, Windows 7.

## Scope of Delivery

WN7 Software with user manual (pdf), example applications and help images, 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.