

# WN11

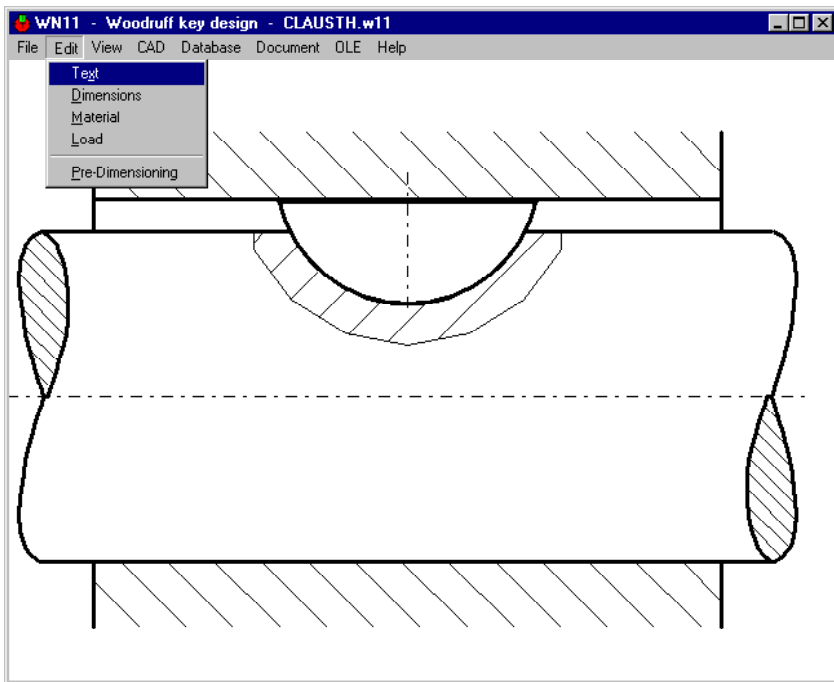


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## Woodruff Key Joints

Software for Windows

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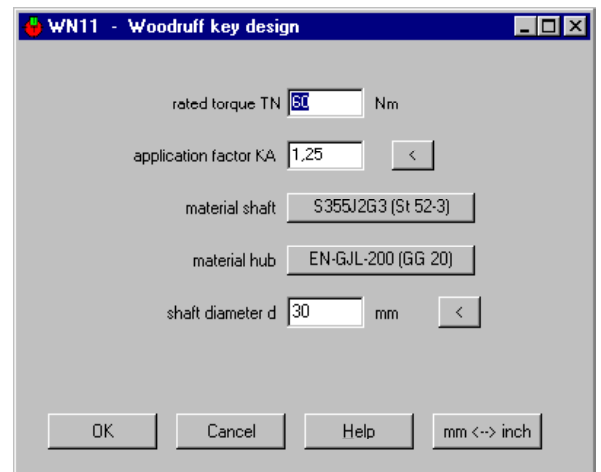
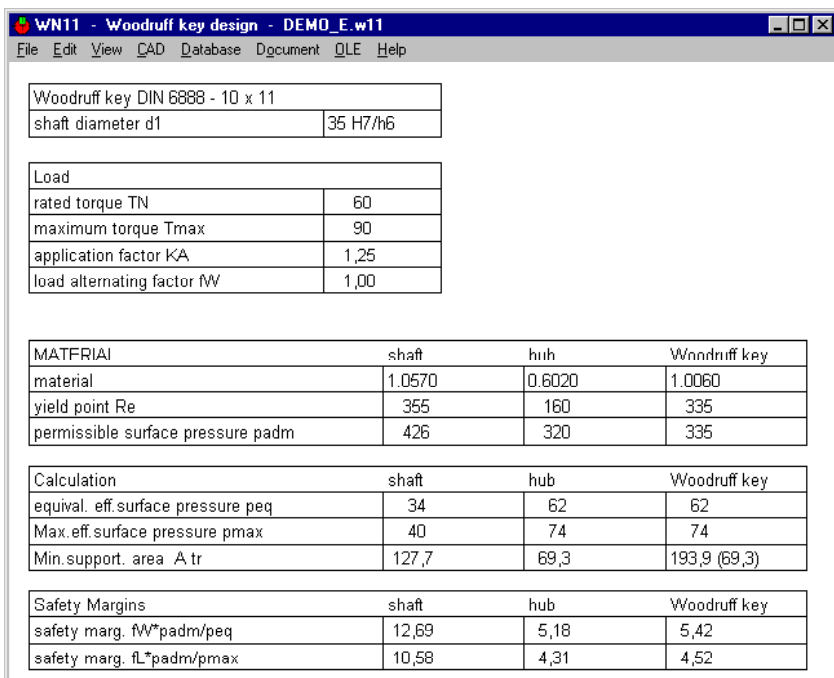


### Woodruff Key Design

WN11 Software calculates load bearing capacity of Woodruff key joints according to DIN 6892. This standard is specified for parallel keys, but can also be used for Woodruff keys, if load-bearing length and load-bearing height are replaced by load-bearing areas of shaft groove, hub groove and Woodruff key. Dimensions of the Woodruff key according to DIN 6888 as well as material properties for Woodruff key, shaft and hub can be loaded from the integrated database. As a result, WN11 generates printout, tables and drawings of Woodruff key, shaft and hub.

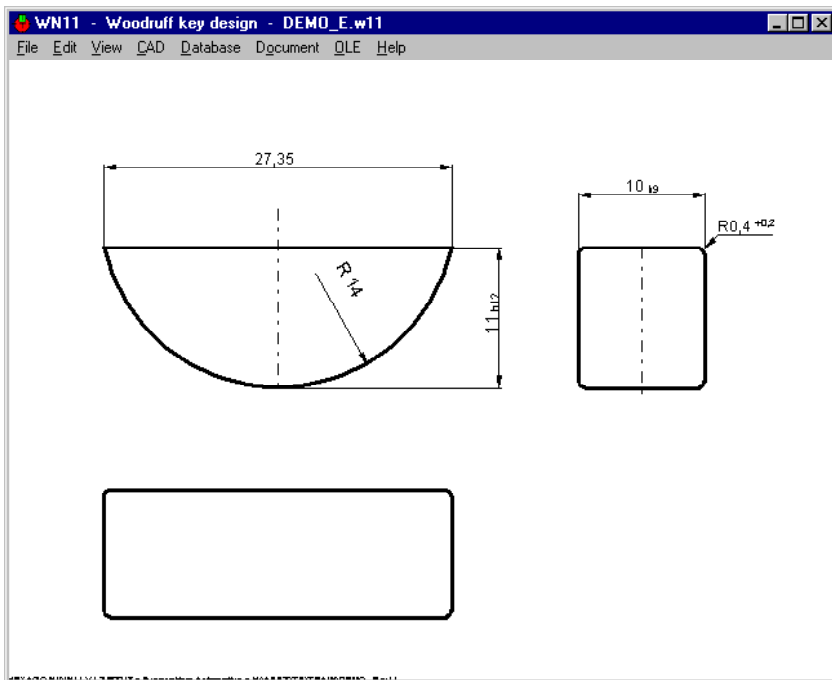
### WN11 - Pre-Dimensioning

In Pre-Dimensioning, you can calculate shaft diameter from torque and material data, then select suitable Woodruff key from database.



### WN11 - Calculation

For recalculation according to DIN 6892, additionally enter peak torque Tmax, load distribution factor, friction factor (for press fits), additional bending moment, load alternating factor and load peak frequency factors. Support factors fS and hardness factors fH are loaded from material database. WN11 calculates safety factors for permissible pressure by maximum and equivalent torque on Woodruff key, shaft and hub.



## WN11 - Woodruff Key Database

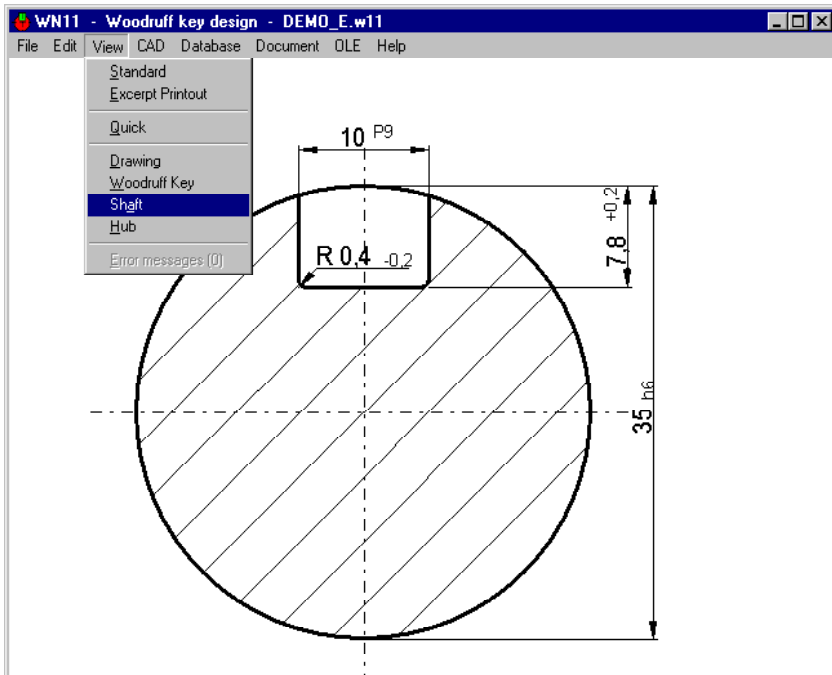
WN11 includes a database with dimensions of Woodruff keys according to DIN 6888. Database may be extended and modified by the user.

D_VON	D_BIS	B	H	D2	R1	T1A	T1B	T2A	T2B
10	12	4	6,5	16	0,2	5	5,6	1,7	
10	12	4	7,5	19	0,2	6	6,6	1,7	
12	17	5	6,5	16	0,2	4,5	5,4	2,2	
12	17	5	7,5	19	0,2	5,5	6,4	2,2	
12	17	5	9	22	0,2	7	7,9	2,2	
17	22	6	7,5	19	0,4	5,1	6	2,6	
17	22	6	9	22	0,4	6,6	7,5	2,6	
17	22	6	10	25	0,4	7,6	8,5	2,6	
17	22	6	11	28	0,4	8,6	9,5	2,6	
22	30	8	9	22	0,4	6,2	7,5	3	
22	30	8	11	28	0,4	8,2	9,5	3	
22	30	8	13	32	0,4	10,2	11,5	3	
30	38	10	11	28	0,4	7,8	9,1	3,4	
30	38	10	13	32	0,4	9,8	11,1	3,4	
30	38	10	16	45	0,4	12,8	14,1	3,4	

## WN11 - Material Database

Material properties for shaft, hub and Woodruff key may be selected from material database.

IDENT	MATERIAL	MAT_NR	NR	RM	RE	E_MODUL	A5	Z
1.0570	S395/203 (S152-3)	1.0570	1	510	395	210000	22	
1.0577	S395/2+N (Fe510D2)	1.0577	1	510	395	210000	18	
1.0595	Fe 510 DD 1	1.0595	1	510	395	210000	22	
1.0596	Fe 510 DD 2	1.0596	1	510	395	210000	22	
1.0601	C60	1.0601	13	890	580	210000	11	
1.0601+N	C60+N	1.0601	13	710	380	210000	10	
1.0603	C67	1.0603	26	1200	1050	210000	6	
1.0605	C75	1.0605	26	1290	1100	210000	6	
1.0614	C76D (D 75 2)	1.0614	1	0	0	210000	0	
1.0616	C96D (D 85 2)	1.0616	1	0	0	210000	0	
1.0618	C92D (D 95 2)	1.0618	1	0	0	210000	0	
1.0619	GS-C25	1.0619	42	440	245	210000	22	
1.0710	15S10	1.0710	11	520	420	210000	6	
1.0715	95Mn28	1.0715	11	560	440	210000	6	
1.0718	95MnFe28/115MnFe3	1.0718	11	560	440	210000	6	



## WN11 - Text Printout

Calculation results may be printed on screen, printer, text file, or exported into an Excel worksheet.

## WN11 - CAD Interface

True-scale drawing of the Woodruff key and profile drawings of shaft groove and hub groove can be exported to CAD via DXF or IGES interface.

## User Interface

The dialogue windows of WN11 allow even the less experienced PC user to find his way around the program quickly. WN11 provides users with a help text wherever they are in the program. When the demo mode is selected, WN11 runs through a demo program in which an example calculation is performed. WN11 contains auxiliary pictures with geometrical signs and formulas used by the program.

## System Requirements

WN11 is available as 32-bit app or as 64-bit app for Windows 7, Windows 8, Windows 10.

## Scope of Delivery

WN11 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.

