

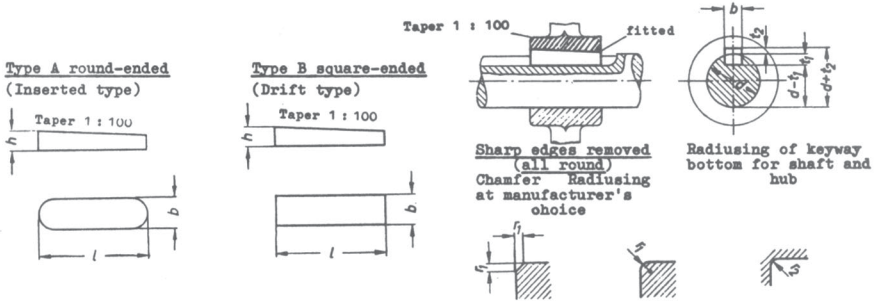
Stressed-type Fastenings with Taper Action
Taper Keys Keyways
Dimensions and Application

DIN
6886

Spannungsverbindungen mit Anzug; Keile, Nuten, Abmessungen und Anwendung

For connection with an ISO Recommendation in course of preparation, see under Explanations.

Dimensions in mm



Designation of a key Type A of width $b = 20$ mm, height $h = 12$ mm and length $l = 125$ mm:
Key A 20 x 12 x 125 DIN 6886

Trans-section of taper key (key steel acc. to DIN 6880)	Width b Height h	Width b													
		2	3	4	5	6	8	10	12	14	16	18	20	22	
For shaft diameter $d^{(1)}$	over to	6 <td>8<td>10<td>12<td>17</td><td>22</td><td>30</td><td>38</td><td>44</td><td>50</td><td>58</td><td>65</td><td>75</td> </td></td></td>	8 <td>10<td>12<td>17</td><td>22</td><td>30</td><td>38</td><td>44</td><td>50</td><td>58</td><td>65</td><td>75</td> </td></td>	10 <td>12<td>17</td><td>22</td><td>30</td><td>38</td><td>44</td><td>50</td><td>58</td><td>65</td><td>75</td> </td>	12 <td>17</td> <td>22</td> <td>30</td> <td>38</td> <td>44</td> <td>50</td> <td>58</td> <td>65</td> <td>75</td>	17	22	30	38	44	50	58	65	75	
Keyway width	b D10	2 <td>3<td>4<td>5<td>6<td>8<td>10<td>12<td>14</td><td>16<td>18</td><td>20</td><td>22</td> </td></td></td></td></td></td></td></td>	3 <td>4<td>5<td>6<td>8<td>10<td>12<td>14</td><td>16<td>18</td><td>20</td><td>22</td> </td></td></td></td></td></td></td>	4 <td>5<td>6<td>8<td>10<td>12<td>14</td><td>16<td>18</td><td>20</td><td>22</td> </td></td></td></td></td></td>	5 <td>6<td>8<td>10<td>12<td>14</td><td>16<td>18</td><td>20</td><td>22</td> </td></td></td></td></td>	6 <td>8<td>10<td>12<td>14</td><td>16<td>18</td><td>20</td><td>22</td> </td></td></td></td>	8 <td>10<td>12<td>14</td><td>16<td>18</td><td>20</td><td>22</td> </td></td></td>	10 <td>12<td>14</td><td>16<td>18</td><td>20</td><td>22</td> </td></td>	12 <td>14</td> <td>16<td>18</td><td>20</td><td>22</td> </td>	14	16 <td>18</td> <td>20</td> <td>22</td>	18	20	22	
Shaft keyway depth	f_1 f_2	1,2	1,8	2,5	3	3,5	4	5	5	5,5	6	7	7,5	9	
Hub keyway depth	f_2 f_1	0,5	0,9	1,2	1,7	2,2	2,4	2,4	2,4	2,9	3,4	3,4	3,9	4,4	
Chamfer or radius	r_1 min. max.		0,16			0,25				0,4				0,6	
Radiusing of keyway bottom	r_2 min. max.			0,08		0,16				0,25				0,4	
Length l (3)	perm. var. Taper Key Keyway	Weight 7.85 kg/dm ³ kg/1000 pieces for Type B													
6	-0.2 +0.2	0,186													
8		0,245	0,338												
10		0,305	0,495	1,24											
12		0,365	0,631	1,48	2,32										
14		0,424	0,866	1,73	2,71										
16		0,482	1,10	1,97	3,09	4,46									
18		0,540	1,23	2,21	3,47	5,01									
20		0,598	1,37	2,45	3,84	5,30	8,64								
25			1,50	2,69	4,22	6,11	9,52								
28			1,69	3,04	4,78	6,92	10,8	15,5							
32			1,87	3,39	5,34	7,73	12,1	17,3							
36			2,14	3,86	6,08	8,80	13,7	19,7	23,6						
40			2,39	4,32	6,81	9,86	15,4	22,1	26,5						
45				4,77	7,54	10,9	17,1	24,5	29,4	38,7					
50	-0.3 +0.3		5,24	8,45	12,3	19,1	27,5	33,0	43,4	55,2					
56				9,32	13,5	21,2	30,4	36,5	48,1	61,2	75,9				
63				10,4	15,1	23,6	33,9	40,7	53,6	68,4	84,8	103			
70					16,8	26,4	38,0	45,6	60,0	76,5	95,1	116	149		
80					18,6	29,2	42,0	50,4	64,8	84,8	105	128	165		
90						33,2	47,7	57,3	75,6	96,3	120	146	188		
100							37,0	53,3	64,0	84,6	108	134	163	211	
110								58,8	70,4	93,5	119	148	181	233	
125									64,3	77,2	102	131	163	198	256
140		-0.5 +0.5								86,9	115	147	183	223	289
160										96,3	125	163	204	248	322
180											144	185	231	281	365
200												206	257	314	407
220													283	346	449
250														376	490
															550
															550
Weight deduction for Type A		0,013	0,043	0,104	0,203	0,351	0,724	1,29	1,84	2,81	4,06	5,66	7,62	10,7	

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For notes and footnotes, see page 2

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Cross-section of taper key (key acc. to DIN 6886)	Width b Height h	25	28	32	36	40	45	50	56	63	70	80	90	100
		For shaft diameter d_1	over to	85 95	95 110	110 130	130 150	150 170	170 200	200 230	230 260	260 290	290 330	330 380
Keyway width	b D10	25	28	32	36	40	45	50	56	63	70	80	90	100
Shaft keyway depth	t_1 2) perm.var.	9	10	11	12	13	15	17	20	20	22	25	28	31
Hub keyway depth	t_2 2) perm.var.	4,4	5,4	6,4	7,1	8,1	9,1	10,1	11,1	11,1	13,1	14,1	16,1	18,1
Chamfer or radius	r_1 min.		0,6			1				1,6			2,5	
	r_1 max.		0,8			1,2				2			3	
RADIUSING OF KEYWAY BOTTOM	f_2 max.		0,6			1				1,6			2,5	
	f_2 min.		0,4			0,7				1,2			2	
Length l 3)	perm.var. Taper Key Keyway	Weight (7,85 kg/dm ³) kg/1000 pieces for Type B												
70	-0,3 +0,3	187												
80		214	274											
90		239	308	397										
100		265	341	439	551									
110		290	374	482	605	741								
125		328	423	546	685	839	1080							
140		366	471	609	764	937	1205	1590						
160		415	535	691	868	1060	1370	1710						
180		463	597	773	973	1190	1530	1910						
200		510	659	854	1070	1320	1700	2120						
220		557	721	933	1170	1440	1860	2320						
250		626	811	1050	1320	1630	2100	2620						
280		692	899	1170	1470	1810	2330	2920						
320			1010	1320	1660	2050	2650	3350						
360				1470	1850	2290	2950	3700						
400					2040	2510	3250	4080						
Weight deduction for Type A		13,8	19,8	29,2	40,4	55,8	80,6	112						

For taper keys of width $b = 56$ to 100 mm there are no specified lengths.

For the time being no permissible variations have been laid down for the taper on the key and in the hub keyway. If special conditions make necessary the observance of certain permissible variations these must be agreed at the time of ordering. The dimension h is the maximum height of the key, dimensions $(d + t_2)$ and t_2 relate to the maximum depth of the keyway in the hub.

Material: for key heights h up to 25 mm: St 50-1 K according to DIN 1652

for key heights h over 25 mm: St 60-2 K according to DIN 1652;

other grades of steel, e.g. quality steels and high-grade steels, are to be specially agreed.

- Where mating dimensions are involved, particularly for shaft extensions, it is essential that the correct correlation of key cross-section to shaft diameter be observed.
- In workshop drawings the dimensions t_1 and $(d - t_1)$ as well as t_2 and $(d + t_2)$ can be shown side by side. In many cases, however, the dimensions t_1 and $(d + t_2)$ are sufficient. At the same time the permissible variations and machining allowances on the shaft and hub bore are to be taken into account as appropriate.
- Intermediate lengths, if unavoidable, are to be chosen according to DIN 3. The permissible variations for the next greater length l are always to be adopted in borderline cases.

Explanations

The content of this Standard agrees essentially with the conclusions of Technical Committee ISO/TC 16 "Keys" on which the following ISO draft is based:

Draft ISO Recommendation No. 1085

Taper keys and their corresponding keyways, with or without gib head

Clavetage par clavettes inclinées, avec ou sans talon

Keile und Nasenkeile

The following amendments and additions should be noted compared with the February 1956 issue of DIN 6886:

- Some of the keyway depths in shaft and hub have been altered. They correspond with the depths for feather keys according to DIN 6885 Sheet 1 and with full utilisation of the tolerances on keyway depth they ensure oversize of
0,1 mm up to the 6 x 6 key
0,2 mm from the 8 x 7 up to 32 x 18 key, and
0,3 mm from and including the 36 x 20 key
referred each time to the nominal height of the key.
- The values for chamfering and radiusing the keys and for radiusing the keyway bottom have been altered in some cases, but no difficulty in regard to interchangeability need be feared on this account.
- The former lengths 315 and 355 mm have been replaced by lengths 320 and 360 mm.
- The material data have been taken over from the new issue of DIN 6880.