UDC 621.886.6 September 1974

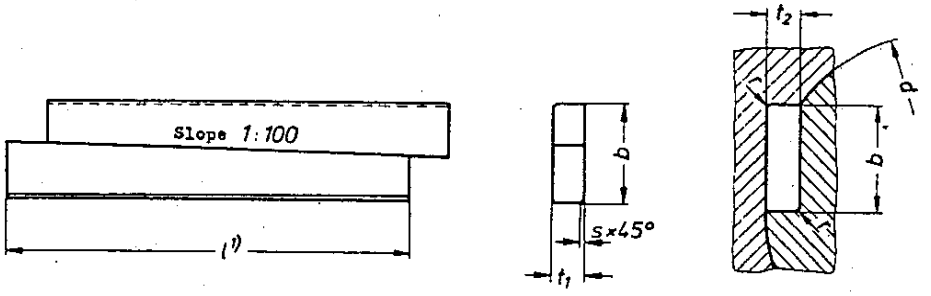
Tangential Keys and Tangential Keyways for Constant Loads

DIN 271

Tangentkeile und Tangentkeilnuten für gleichbleibende Beanspruchungen

For connection with ISO Draft ISO/DIS 3117-1973 published by the International Organization for Standardization (ISO), see Explanations.

Dimensions in mm



Designation of a tangential key (consisting of 2 parts) of b = 24 mm calculated width, t_1 = 8 mm thickness and l = 100 mm length[1]:

Tangential key 24 × 8 × 100 DIN 271

b calculated	Key t_1 h11	Key s min.	Key s max.	Keyway t_2	Keyway t_2 perm. var.	Keyway r max.	Keyway r min.	For shaft diameter d
19,3	7	0,6	0,8	7,3	+0,2 0	0,6	0,4	60
19,8								63
20,2								65
21								70
22,5	8			8,3				71
23,2								75
24								80
24,8								85
25,6								90
27,8	9			9,3				95
28,6								100
30,1								110
33,2	10	1	1,2	10,3		1	0,7	120
33,9								125
34,6								130
37,7	11			11,4				140
39,1								150

Table continued on page 2

[1]) The length l is dependent upon the design in question and must be quoted. It is recommended that a length be chosen which is some 10 to 15 % greater than the length of the hub.

Continued on pages 2 and 3
Explanations on page 3

b calculated	Key t_1 h11	Key s min.	Key s max.	Keyway t_2	Keyway t_2 perm. var.	Keyway r max.	Keyway r min.	For shaft diameter d
42,1	12	1	1,2	12,4	$+0{,}3$ 0	1	0,7	160
43,5								170
44,9								180
49,6	14			14,4				190
51		1,6	2			1,6	1,2	200
57,1	16			16,4				220
59,9								240
64,6	18			18,4				250
66								260
72,1	20	2,5	3	20,4		2,5	2	280
74,8								300
81	22			22,4				320
83,6								340
93,2	26			26,4				360
95,9								380
98,6								400
108,2	30	3	4	30,4		3	2,5	420
110,9								440
112,3								450
113,6								460
123,1	34			34,4				480
125,9								500
136,7	38			38,4				530
140,8								560
153,1	42			42,4				600
157,1								630

Material: St 60-2 according to DIN 17100

Other grades of steel, e.g., high-grade and fine steel, are to be specially agreed.

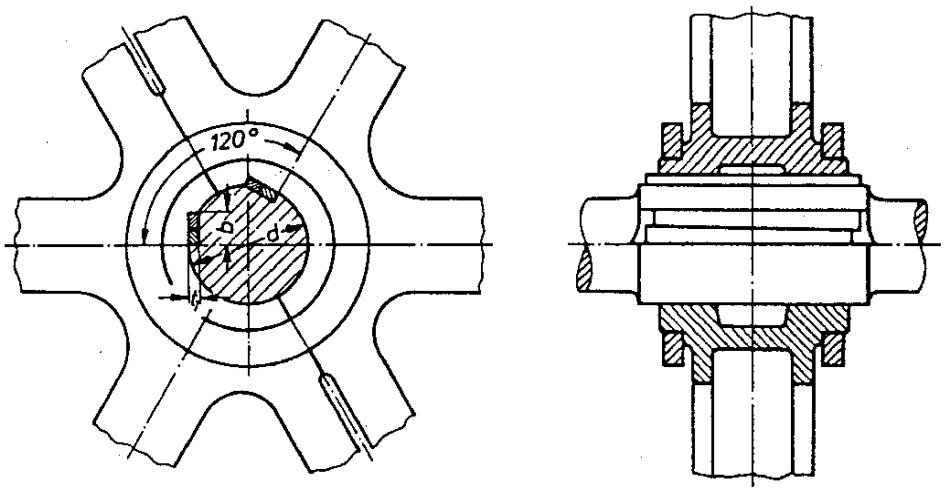
In the case of values lying between the shaft diameters listed in the Table, it is recommended that the key thickness t_1 of the next smaller shaft diameter be selected. The width b is calculated from $b = \sqrt{t_1 \cdot (d - t_1)}$.

For shaft diameters larger than 630 mm, $t_1 = 0.07\ d$, $b = 0.25\ d$ are recommended.

If alternating shock loads occur, tangential keys according to DIN 268 are recommended in the case of shaft diameters from 100 mm.

The shaft diameters 63, 71 and 125 according to ISO Recommendation R 775 and the proposed ISO Recommendation on tangential keys is not included in DIN 748 Part 1.

Application



For dimensions d, t_1, t_2 and b see pages 1 and 2

The two tangential keys can also be arranged at an angle of 180° should an angle of 120° present assembly difficulties.

Explanations

The present Standard corresponds in substance to the ISO Draft

ISO/DIS 3117-1973

Tangential keying

Clavetage par clavettes tangentielles

As compared with the April 1924 Issue of DIN 271, the following amendments and additions should be noted:

a) The shaft diameters were partly changed to conform to ISO Recommendation R 775 and also to correspond to DIN 748 Part 1.

b) While existing cross-sections of keys and keyways have been retained, changes have in some cases been made in the slope of the keys and in the rounding of the bottom of the keyways.

c) Shaft diameters above 630 mm have been omitted. Should it be necessary, however, tangential keys and keyways for larger shaft diameters can be determined from the formulae quoted.

d) The contents of the Standard have been revised and supplemented, e.g., by the inclusion of an example of designation and details of materials.