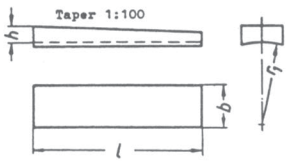
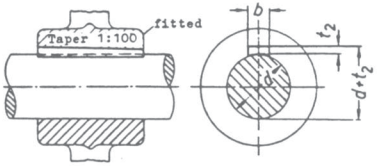
Taper Key Torque Transmission
Saddle Keys
Dimensions and Application

DIN 6881

Spannungsverbindungen mit Anzug; Hohlkeile, Abmessungen und Anwendung

Dimensions in mm





Designation of a saddle key of width b = 10 mm, height h = 4 mm and length l = 25 mm:
Saddle key 10 × 4 × 25 DIN 6881

Breaking of corners
Chamfering Radiusing
at manufacturer's choice

Radius at bottom of keyway

Width of key	b h 9	8	10	12	14	16	18	20	22	25	28	32	36
Height of key	h Nominal	3,5	4	4	4,5	5	5	6	7	7	7,5	8,5	9
For shaft diameter d [1]	above	22	30	38	44	50	58	65	75	85	95	110	130
	up to	30	38	44	50	58	65	75	85	95	110	130	150
Width of keyway	b D 10	8	10	12	14	16	18	20	22	25	28	32	36
Depth of keyway	t_2 [2]	3,2	3,7	3,7	4	4,5	4,5	5,5	6,5	6,4	6,9	7,9	8,4
	perm. var.	+0,2											
Radius	r_1	15	19	22	25	29	33	38	43	48	55	65	75
	perm. var.			−2				−3			−4	−5	
Chamfering or radiusing	r_2	0,4		0,5				0,6			0,8		1
	perm. var.	+0,2									+0,3		
Radiusing of bottom of keyway	r_3	0,4		0,5				0,6			0,8		1
	perm. var.	−0,2									−0,3		

Length l [3]	perm. var.	Weight (7,85 kg/dm³) kg/1000 pieces ≈											
20	−0,2	4,65											
22		5,10											
25		5,77	8,28										
28		6,43	9,25										
32	−0,3	7,32	10,5	12,8									
36		8,18	11,8	14,3									
40		9,05	13,0	15,8	21,1								
45		10,1	14,6	17,7	23,6	30,1							
50		11,2	16,1	19,5	26,1	33,2	38,1						
56		12,4	17,9	21,7	29,1	37,0	42,4	56,4					
63		13,8	19,9	24,3	32,4	41,3	47,4	63,2	80,8				
70		15,2	22,0	26,8	35,8	45,7	52,3	69,7	89,5	103			
80		17,1	24,8	30,2	40,5	51,7	59,2	79,2	102	117	142		
90	−0,5	18,9	27,5	33,5	45,1	57,6	66,2	88,3	113	130	158	204	
100			30,2	36,7	49,4	63,4	72,7	97,3	125	144	175	226	271
110			32,8	40,0	53,8	69,0	79,3	106	137	157	191	247	297
125				44,5	60,2	77,3	88,7	119	154	177	215	278	334
140				48,8	66,2	85,2	98,0	132	170	196	238	309	371
160					73,6	95,3	110	148	192	221	269	349	420
180						105	121	164	213	245	299	388	468
200							131	179	233	268	328	426	513
220								193	252	291	356	464	558
250									281	323	396	517	625
280										354	433	568	687
315											475	625	758
355												687	834
400													915

No figures for permissible variations of tapers on keys and in hub keyways have so far been laid down. If, in special cases, certain prescribed permissible variations must be observed, these must be agreed with the manufacturer when ordering.
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: St 60 (steel having a tensile strength of at least 60 kg/mm² in the finished condition) alternative materials to be specified in order

1) Where corresponding dimensions are involved, particularly for shaft extensions, it is vital that the appropriate key cross-section be assigned to the shaft diameters concerned.
2) In workshop drawings the dimensions t_2 and $(d + t_2)$ may appear side by side; however, in many cases the dimension $(d + t_2)$ will suffice. In this connection it may be necessary to allow for permissible variations and machining allowances on the shaft and hub bore.
3) Where intermediate lengths are unavoidable these should be selected according to DIN 3. In all doubtful cases the permissible variation of the next greater length should be used.