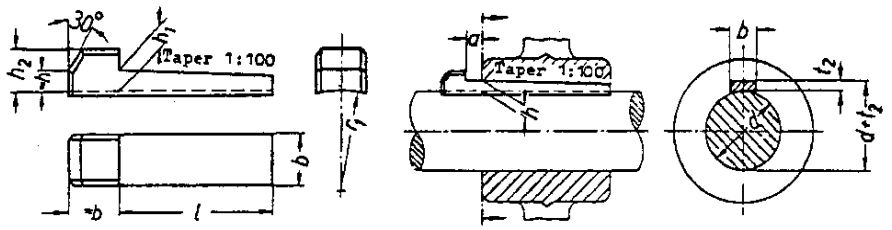
UDC 621.886.6 February 1956

Taper Key Torque Transmission
Gib-head Saddle Keys
Dimensions and Application

DIN 6889

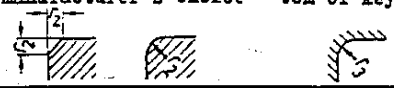
Spannungsverbindungen mit Anzug; Nasenhohlkeile, Abmessungen und Anwendung
Dimensions in mm



Designation of a gib-head saddle key of width b = 10 mm, height h = 4 mm and length l = 32 mm:

Gib-head saddle key 10 × 4 × 32 DIN 6889

Breaking of corners
Chamfering or radiusing at manufacturer's choice
Radius at bottom of keyway



Width of key	b h9	8	10	12	14	16	18	20	22	25	28	32	36
Height of key	h Nom.dim.	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
Height of key	h_1	3,7	4,2	4,2	4,7	5,2	5,2	6,2	7,2	7,2	7,7	8,8	9,4
	perm.var.	− 0,2											− 0,3
Height o.gib-head	h_2	7,5	8	8	9	11	11	14	15	18	20	22	25
Distance	$a \approx$	5	6	6	6	7	7	8	9	9	10	11	12
Width of keyway	b D10	8	10	12	14	16	18	20	22	25	28	32	36
Depth of keyway	t_1 [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		
Radius at 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	8.56											
22		9.03											
25		9.73	14.9										
28		10.4	15.9										
32	− 0,3	11.4	17.2	22.5									
36		12.3	18.5	24.1									
40		13.3	19.8	25.6	36.0								
45		14.4	21.5	27.6	38.6	53.1							
50		15.5	23.1	29.5	41.2	56.4	67.7						
56		16.8	25.0	31.8	44.3	60.3	72.2	102					
63		18.3	27.1	34.6	47.8	64.8	77.3	109	139				
70		19.8	29.3	37.2	51.3	69.2	82.4	115	148	192			
80		21.8	32.2	40.8	56.2	75.6	89.7	125	161	206	264		
90	− 0,5	23.7	35.1	44.3	61.1	81.8	96.9	135	173	220	281	383	
100			38.0	47.7	65.6	87.8	104	144	185	234	298	405	526
110			40.8	51.2	70.2	93.7	111	152	197	247	315	427	554
125				56.1	76.9	102	121	166	215	267	339	459	593
140				60.4	83.3	110	130	179	232	287	363	491	632
160					91.1	121	142	196	254	313	395	532	683
180						131	154	213	275	338	426	573	733
200							165	228	296	362	456	613	782
220								243	316	386	485	653	829
250									346	419	525	707	897
280										451	564	761	964
315											608	821	1040
355												886	1120
400													1205

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_1 is the maximum height of the key (less gib-head), dimensions $(d + t_2)$ and t_2 relate to the maximum depth of the hub keyway.
Material: St 60 (steel having a tensile strength of at least 60 kg/mm² in the finished condition) alternative materials to be specified when ordering

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 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 l should be used.