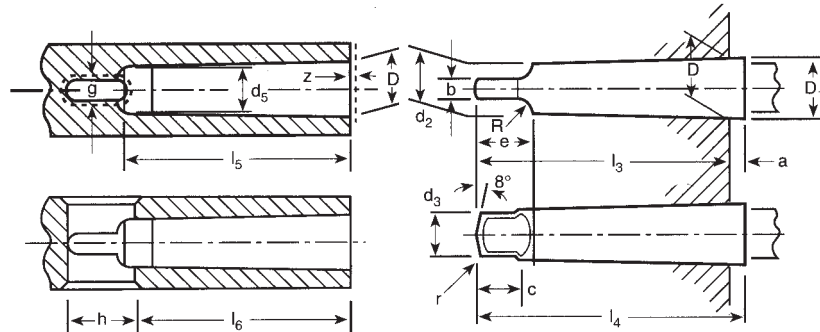


MORSE TAPERS

Nos. 1 to 6 METRIC

EXTERNAL TAPER WITH TANG



NOTE: All dimensions are in millimeters unless otherwise specified.

Designation	Metric Taper		Morse Taper						Metric Taper					
	4	6	1	2	3	4	5	6	80	100	120	160	200	
Basic Size			0.598 58:12 =1:20.047 =0.049 88	0.599 41:12 =1:20.020 =0.049 95	0.062 35:12 =1:19.922 =0.050 20	0.623 26:12 =1:19.254 =0.051 94	0.631 51:12 =1:19.002 =0.052 63	0.625 65:12 =1:19.180 =0.052 14						
External Taper	D	4 6	12.065	17.780	23.825	31.267	44.399	63.348	80	100	120	160	200	
	a	2 3	3.5	5	5	6.5	6.5	8	8	10	12	16	20	
	D ₁ (1)	4.1 6.2	12.2	18	24.1	31.6	44.7	63.8	80.4	100.5	120.6	160.8	201	
	d (1)	2.9 4.4	9.4	14.6	19.8	25.9	37.6	53.9	70.2	88.4	106.6	143	179.4	
	d ₁ (2)	- -	M6	M10	M12	M16	M20	M24	M30	M36	M36	M48	M48	
	d ₃ max.	- -	8.7	13.5	18.5	24.5	35.7	51	67	85	102	138	174	
	d ₂ (1)	- -	9	14	19.1	25.2	36.5	52.4	69	87	105	141	177	
	d ₄ max.	2.5 4	9	14	19	25	35.7	51	67	85	102	138	174	
	l ₁ max.	23 32	53.5	64	81	102.5	129.5	182	196	232	268	340	412	
	l ₂ max.	25 35	57	69	86	109	136	190	204	242	280	356	432	
	l ₃ max.	- -	62	75	94	117.5	149.5	210	220	260	300	380	460	
	l ₄ max.	- -	65.5	80	99	124	156	218	228	270	312	396	480	
	b h13	- -	5.2	6.3	7.9	11.9	15.9	19	26	32	38	50	62	
	c (3)	- -	8.5	10	13	16	19	27	24	28	32	40	48	
	e max.	- -	13.5	16	20	24	29	40	48	58	68	88	108	
l min.	- -	16	24	28	32	40	50	65	80	80	100	100		
R max.	- -	5	6	7	8	10	13	24	30	36	48	60		
R max.	- -	1.2	1.6	2	2.5	3	4	5	5	6	8	10		
t max.	2 3	5	5	7	9	10	16	24	30	36	48	60		
Internal Taper	d ₅ H11	3 4.6	9.7	14.9	20.2	26.5	38.2	54.6	71.5	90	108.5	145.5	182.5	
	d ₆	- -	7	11.5	14	18	23	27	33	36	39	52	52	
	l ₅ min.	25 34	56	67	84	107	135	188	202	240	276	350	424	
	l ₆	21 29	52	62	78	98	125	177	186	220	254	321	388	
	g A13	22 32	52	63	79	11.9	15.9	19	26	32	38	50	62	
	h	8 12	19	22	27	32	33	47	52	60	70	90	110	
	z (4)	0.5 0.5	1	1	1	1.5	1.5	2	2	2	2	3	3	

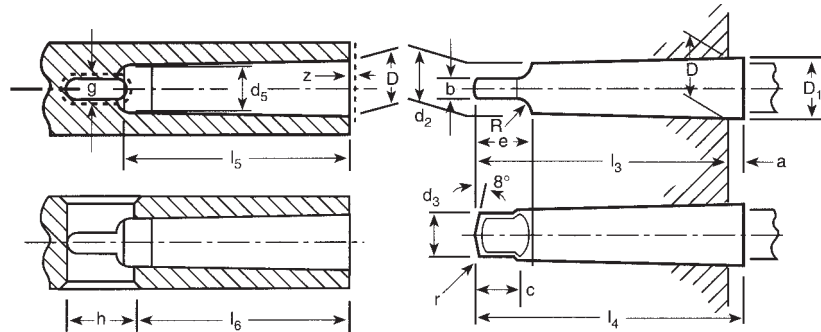
NOTES:

1. D₁ and d or d₂ = approximate values given for guidance. The actual values result from the actual values of a and l₁ or l₃ respectively, taking into account the taper and the basic size D.
2. It is allowed to increase the length c over which the tang is turned to diameter d₃, but without exceeding e.
3. z = maximum permissible deviation, outwards only of the position of the gage plane D from the nominal position of coincidence with the leading face.

MORSE TAPERS

Nos. 1 to 6

EXTERNAL TAPER WITH TANG



NOTE: All dimensions are in inches unless otherwise specified.

Designation		Morse Taper					
		1	2	3	4	5	6
Basic Size	Taper	0.598 58:12 =1:20.047	0.599 41:12 =1:20.020	0.062 35:12 =1:19.922	0.623 26:12 =1:19.254	0.631 51:12 =1:19.002	0.625 65:12 =1:19.180
		=.049 88	=0.049 95	=0.050 20	=0.051 94	=0.052 63	=0.052 14
External Taper	D	0.475	0.700	0.938	1.231	1.748	2.494
	a	1/8	3/16	3/16	1/4	1/4	5/16
	D ₁ (1)	0.481 2	0.709 4	0.947 4	1.244 0	1.761 2	2.510 3
	d (1)	0.369 0	0.572 0	0.778 0	1.020 0	1.475 0	2.116 0
	d ₁ (2)	UNC 1/4	UNC 3/8	UNC 1/2	UNC 5/8	UNC 5/8	UNC 1
	d ₂ (1)	0.353 4	0.553 3	0.752 9	0.990 8	1.438 8	2.063 9
	d ₃ max.	11/32	17/32	23/32	31/32	1-13/32	2
	d ₄ max.	11/32	17/32	23/32	31/32	1-13/32	2
	l ₁ max.	2-1/8	2-9/16	3-3/16	4-1/16	5-3/16	7-1/4
	l ₂ max.	2-1/4	2-3/4	3-3/8	4-5/16	5-7/16	7-9/16
	l ₃ max.	2-7/16	2-15/16	3-11/16	4-5/8	5-7/8	8-1/4
	l ₄ max.	2-9/16	3-1/8	3-7/8	4-7/8	6-1/8	8-9/16
	b h12	0.203 1	0.250 0	0.312 5	0.468 7	0.625 0	0.750 0
	c (3)	11/32	13/32	17/32	5/8	3/4	1-1/16
e max.	0.52	0.66	0.83	0.96	1.15	1.58	
Internal Taper	l min.	1/2	3/4	1	1-1/4	1-1/4	2
	R max.	3/16	1/4	9/32	5/16	3/8	1/2
	r max.	3/64	1/16	5/64	3/32	1/8	5/32
	t max.	3/16	3/16	1/4	1/4	5/16	3/8
	d ₅ H11	0.378	0.588	0.797	1.044	1.502	2.150
	d ₆	9/32	7/16	9/16	11/16	11/16	1-1/8
	l ₅ min.	2-3/16	2-21/32	3-9/32	4-5/32	5-5/16	7-3/8
	l ₆	2-1/16	2-1/2	3-1/16	3-7/8	4-15/16	7
	g H12	0.223	0.270	0.333	0.493	0.650	0.780
	h	3/4	7/8	1-1/8	1-1/4	1-1/2	1-7/8
z (4)	0.040	0.040	0.040	0.060	0.060	0.080	

NOTES:

- D₁ and d or d₂ = approximate values given for guidance. The actual values result from the actual values of a and l₁ or l₃ respectively, taking into account the taper and the basic size D.
- It is allowed to increase the length c over which the tang is turned to diameter d₃, but without exceeding e.
- z = maximum permissible deviation, outwards onl of the position of the gage plane D from the nominal position of coincidence with the leading face.