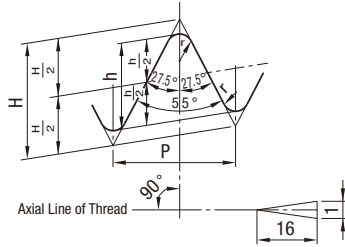


Taper Pipe Threads

Excerpts from JIS B 0203 (1999)

Reference Thread Shape and Reference Dimension

Reference Thread Shape and Basic Dimension for a Tapered Male/Female Thread



Thick Solid Lines: Reference Thread Shape

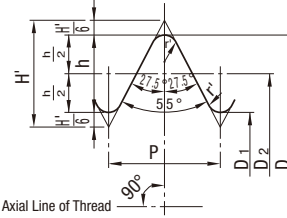
$$P = \frac{25.4}{n}$$

$$H = 0.960237P$$

$$h = 0.640327P$$

$$r = 0.137278P$$

Reference Thread Shape for a Parallel Female Thread



Thick Solid Lines: Reference Thread Shape

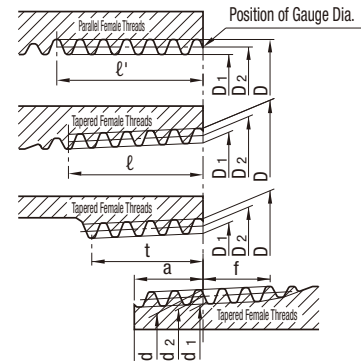
$$P = \frac{25.4}{n}$$

$$H' = 0.960491P$$

$$h' = 0.640327P$$

$$r' = 0.137329P$$

Fitting together a tapered female thread or parallel female thread and a tapered male thread.



Unit: mm

Nominal of Thread ⁽¹⁾	Thread				Gauge Dia.			Position of Gauge Dia.			Length of Effective Thread (Min.)				Carbon Steel for Piping Size of Steel Pipe (Reference)			
	Number of Threads in 25.4 mm n	Pitch P (Reference)	Thread Height h	Roundness r or r'	Male Thread			Male Thread		Female Thread	From Position of Gauge Dia. Spot to Major Dia. Spot	Female Thread					Outer Diameter	Thickness
					Outer Dia. d	Effective Dia. d ₂	Minor Dia. d ₁	From Pipe End	Pipe End	With Incomplete Threaded Portion		Without Incomplete Threaded Portion						
										Tapered Female Threads			Parallel Female Threads	Tapered Female Threads, Parallel Female Threads				
					Reference Length	Axial Tolerance	Axial Tolerance	f	From Position of Gauge Dia. Spot to Minor Dia. Spot l	From pipe end or pipe fitting end l' (Reference)	t ⁽²⁾							
					Minor Dia. D	Effective Dia. D ₂	Inner Dia. D ₁	a	b	c								
R1/16	28	0.9071	0.581	0.12	7.723	7.142	6.561	3.97	±0.91	±1.13	±0.071	2.5	6.2	7.4	4.4	—	—	
R1/8	28	0.9071	0.581	0.12	9.728	9.147	8.566	3.97	±0.91	±1.13	±0.071	2.5	6.2	7.4	4.4	10.5	2.0	
R¼	19	1.3368	0.856	0.18	13.157	12.301	11.445	6.01	±1.34	±1.67	±0.104	3.7	9.4	11.0	6.7	13.8	2.3	
R3/8	19	1.3368	0.856	0.18	16.662	15.806	14.950	6.35	±1.34	±1.67	±0.104	3.7	9.7	11.4	7.0	17.3	2.3	
R½	14	1.8143	1.162	0.25	20.955	19.793	18.631	8.16	±1.81	±2.27	±0.142	5.0	12.7	15.0	9.1	21.7	2.8	
R¾	14	1.8143	1.162	0.25	26.441	25.279	24.117	9.53	±1.81	±2.27	±0.142	5.0	14.1	16.3	10.2	27.2	2.8	
R1	11	2.3091	1.479	0.32	33.249	31.770	30.291	10.39	±2.31	±2.89	±0.181	6.4	16.2	19.1	11.6	34	3.2	
R1¼	11	2.3091	1.479	0.32	41.910	40.431	38.952	12.70	±2.31	±2.89	±0.181	6.4	18.5	21.4	13.4	42.7	3.5	
R1½	11	2.3091	1.479	0.32	47.803	46.324	44.845	12.70	±2.31	±2.89	±0.181	6.4	18.5	21.4	13.4	48.6	3.5	
R2	11	2.3091	1.479	0.32	59.614	58.135	56.656	15.88	±2.31	±2.89	±0.181	7.5	22.8	25.7	16.9	60.5	3.8	
R2½	11	2.3091	1.479	0.32	75.184	73.705	72.226	17.46	±3.46	±3.46	±0.216	9.2	26.7	30.1	18.6	76.3	4.2	
R3	11	2.3091	1.479	0.32	87.884	86.405	84.926	20.64	±3.46	±3.46	±0.216	9.2	29.8	33.3	21.1	89.1	4.2	
R4	11	2.3091	1.479	0.32	113.030	111.551	110.072	25.40	±3.46	±3.46	±0.216	10.4	35.8	39.3	25.9	114.3	4.5	
R5	11	2.3091	1.479	0.32	138.430	136.951	135.472	28.58	±3.46	±3.46	±0.216	11.5	40.1	43.5	29.3	139.8	4.5	
R6	11	2.3091	1.479	0.32	163.830	162.351	160.872	28.58	±3.46	±3.46	±0.216	11.5	40.1	43.5	29.3	165.2	5.0	

Note (1): The nominal of a tapered male thread is given here. For a taper female thread or parallel female thread, R should be replaced with Rc or Rp. (Refer to*)

(2): Tapered thread: length from position of gauge dia. spot to a minor dia. spot. / Parallel female thread: length from a pipe end or pipe fitting end.

Reference

- The threads should be at right angles to the central axial line, and the pitch should be measured along the central axial line.
- The length of the effective thread means the length over which threads are fully provided. A pipe or a pipe fitting may be left in place on the crests of the last few threads. A chamfered end, if any, of a pipe or a pipe fitting should be included in the length of the effective thread.
- When the value of a, f and t does not meet the requirements, the criteria of other standard is provided.

(*) Tapered threads type for a pipe are specified as taper male thread for a pipe, taper female thread and parallel female thread for a pipe.

The parallel female thread for a pipe should be mated with a tapered male thread for a pipe, and differs in dimension tolerances from the parallel female thread specified by JIS B 0202.