

# Taper Pipe Threads

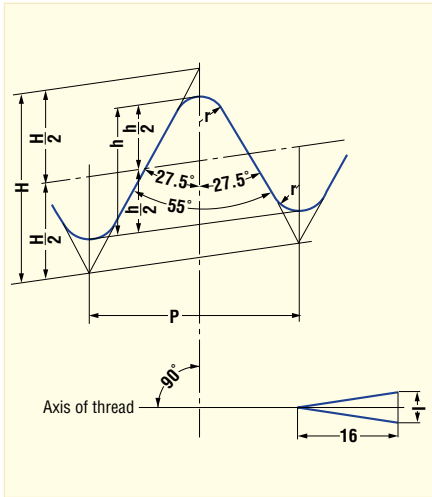
JIS B 0203:1999  
ISO 7-1:1994  
(BS21)

UDC 621.882.082.2 JIS  
Japanese Industrial Standard

This Japanese Industrial Standard specifies taper pipe threads and is applicable to the threads used mainly for pressure-tight joints on the threads for joining pipes, pipe fittings, fluid machinery, etc.

## Attached Table: Basic Profiles, Basic Dimensions and Tolerance

Basic Profile Applied for Taper External and Taper Internal Threads



Thick continuous line shows basic profile.

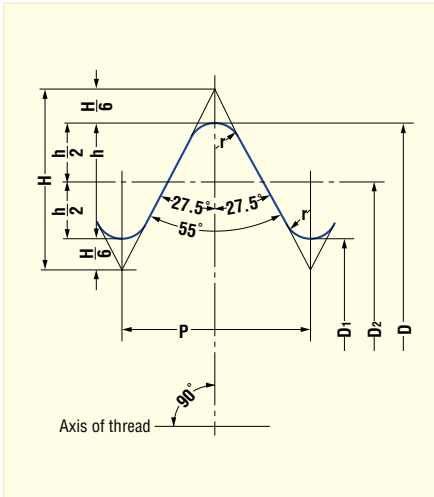
$$P = \frac{25.4}{n}$$

$$H = 0.960237 P$$

$$h = 0.640327 P$$

$$r = 0.137278 P$$

Basic Profile Applied for Parallel Internal Threads



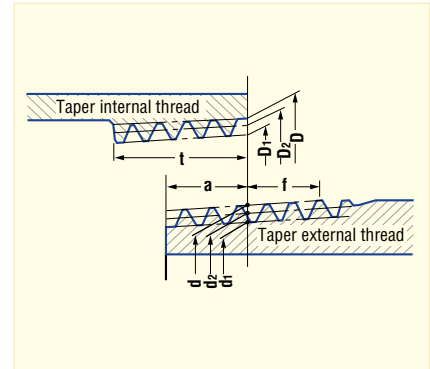
Thick continuous line shows basic profile.

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

$$H = 0.960491 P$$

$$h = 0.640327 P$$

$$r = 0.137329 P$$



How to symbolize taper pipe threads:

Taper external thread	<b>R 3/8</b>
Taper internal thread	<b>Rc 3/8</b>

Unit: mm

Designation of thread	Thread				Gauge dia.			Position of gauge plane			Tolerance on $D$ , $D_2$ and $D_1$ of parallel internal thread $\pm$	Length of useful thread (min.)				Size of carbon steel pipe for ordinary piping (Given for reference)			
	Number of threads (in 25.4mm) $n$	Pitch $P$ (Given for reference)	Height of thread $h$	Radius $r$ or $r'$	External thread			External thread		Internal thread		From position of gauge plane toward larger dia. end $f$	Internal thread		From position of gauge plane toward smaller dia. end $l$	From end of pipe or coupler $l'$ (Given for reference)	From gauge plane or end of pipe or coupler $t$	Outer dia.	Thickness
					Major dia. $d$	Pitch dia. $d_2$	Minor dia. $d_1$	From pipe end		At pipe end			When there is incomplete thread part	When there is no incomplete thread part					
					Major dia. $D$	Pitch dia. $D_2$	Minor dia. $D_1$	Gauge length $a$	Axial tolerance $\pm b$										
R 1/8	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		
R 1/4	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		
R 3/8	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		
R 1/2	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		
R 3/4	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		
R 1	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	34.0	3.2		
R 1-1/4	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		
R 1-1/2	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		
R 2	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		
R 2-1/2	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		
R 3	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		
R 4	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		
R 5	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		
R 6	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		