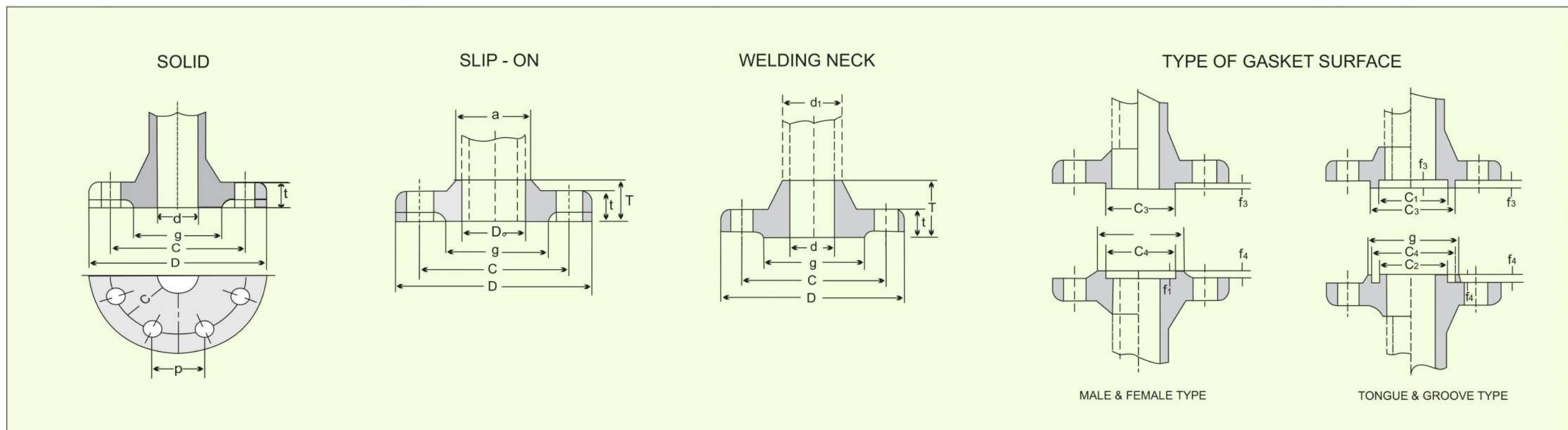


TOLERANCES FOR PIPE FLANGES

KS B1502, JIS B2203



Flange Section	Surface Condition	Basic Size	Dimensional Tolerance		
Outside Dia D	As Forged (1)	300 & below	+ Not Specified 2,0		
		over 300 thru 600			
		over 600 thru 1000			
		over 1000 thru 1500	+ Not Specified 3,0		
		over 1500			
	Finish	300 & below	+ 1		
		over 300 thru 600	+ 1,5		
		over 600 thru 1000	+ 2		
		over 1000 thru 1500	+ 2,5		
		over 1500	+ 3		
Inside Dia D	Solid Flange d (2)	As Forged (1)	16 & below	+ 1	
			over 16 thru 63	+ 1,5	
			over 63 thru 125	+ 2	
			over 125 thru 150	+ 2,5	
			over 250 thru 500	+ 3	
		over 500 thru 1000	+ 4		
		over 1000	+ 5		
		Slip - on Flange do	As Forged (1)	100 & below	+0,5 0
				over 100 thru 400	+1 0
				over 400 thru 600	+1,5 0
	over 600 thru 800			+2 0	
	over 800 thru 1000			+2,5 0	
	Finish		over 1000	+3 0	
			Welding Neck Flange d	100 & below	0 -0,5
				over 100 thru 400	0 -1
				over 400 thru 600	0 -1,5
				over 600 thru 800	0 -2
	over 800 thru 1000	0 -2,5			
	over 1000	0 -3			
	Bolt Hole	Bolt Circle Dia C.	2500 & below	+ 0,5	
over 250 thru 550			+ 0,6		
over 550 thru 950			+ 0,8		
over 950 thru 1350			+ 1		
over 1350			+ 1,5		

Note

- (1) This dimensional tolerance applies to the machined surface, as required.
- (2) This dimension "d" has been specified only for the flange, of which the bore part is cylindrical in shape.

Remarks

- (1) The dimensions "d" of bore part of the solid flanges with surface, as forged of valves, pumps, etc. are allowed up to plus 100% of the above dimensional tolerance. Provided that the required thickness shall be free from its influence.
- (2) The thickness of flange of valve and the like, of which the dimension between flange faces is limited to a fixed value, are allowed up to plus 100% of the above dimensional tolerance in the column of thickness.
- (3) In the case of spot facing of the single surface finishing, the thickness of spot facing is allowed up to 70% of the dimensional tolerance in the above column of thickness in negative side.
- (4) The chain double - dashed lines in the figures of solid flange and socket welding type flange illustrate the cases of large raised face flange.

Flange Section	Surface Condition	Basic Size	Dimensional Tolerance				
Bolt Hole	Pitch of Hole p	Drilling Hole	Unit: mm	+ 0,5			
			220 & below	+2 0			
			over 220 thru 450	+3 0			
			over 450 thru 650	+4 0			
			over 650 thru 850	+6 0			
			over 850 thru 1000	+7 0			
			over 1000	+8 0			
			Dia. Of Hub	Slip - on Flange (a) and Welding Neck Flange (d1)	As Forged	220 & below	+1 0
						over 220 thru 450	+1,5 0
						over 450 thru 650	+2 0
over 650 thru 850	+2,5 0						
over 850 thru 1000	+3 0						
Finish	over 1000	+3,5 0					
	Gasket Seat	C1, C2, C3, C4			500 & below	+ 0,3	
					over 500 thru 1000	+ 0,35	
					over 1000 thru 1500	+ 0,4	
		f ₄ f ₃			Finish	8 & below	+ 0,2
over 8			+ 0,25				
g	Finish	200 & below	+ 0,8				
		over 200 thru 650	+ 0,9				
		over 650 thru 1000	+ 1				
ever 1000	+ 1,2						
Thickness t	One - side Finish	2 & below	+ 1,5 0				
		over 20 thru 50	+2 0				
		over 50 thru 100	+3 0				
		Both - side Finish	20 & below	+1 0			
			over 20 thru 50	+1,5 0			
	over 50 thru 100		+2 0				
	Hub Height T		Flange with Pipe inserted	50 & below	+ 1		
				over 50 thru 100	+ 1,5		
		over 100 thru 200		+ 2			
		Flange with Pipe Bolt - welded Pipe	Finish	over 200 & below	+2 0		
Finish			over 200 thru 300	+3 0			