

Stainless Steel 316 Bolts, nuts and washers used on PN16 and PN35 flanges

1. CWW & SEW only permits 316 Stainless Steel Fasteners in buried applications.
2. All Stainless Steel fasteners shall include the use of PTFE (Teflon) or Molybond coated Nuts to reduce seizing, galling and the tightening friction of the nut on the washer (thus reducing the tightening torque required).
3. Class 16 (PN16) Stainless Steel Studs (Bolts), Nuts (PTFE or Molybond coated) and Washers shall be 316 Stainless Steel, Class 50
4. Class 35 (PN35) Stainless Steel Studs (Bolts), Nuts (PTFE or Molybond coated) and Washers shall be 316 Stainless Steel, Class 70
5. Details of fasteners used for PN16 and PN35 flanges and Washer dimensions are shown in Table 1 & 2:

Table 1: Flange Bolts

Flange Size (DN) in mm	Bolt Size		Length of bolt (mm)		Nos. of holes/bolts	
	PN16	PN35	PN16	PN35	PN16	PN35
100	M16	M16	75	90	4	8
150	M16	M20	75	90	8	12
225	M16	M24	75	120	8	12
300	M20	M24	100	120	12	16
375	M24	M24	100	130	12	16
450	M24	M30	120	150	12	20
600	M27	M33	130	180	16	24
750	M30	M33	130	180	20	28

Table 2: Stainless Steel Washers as per AS 1237-1 & 2:2002

Nominal Bolt Size	Inside dia (mm)		Outside dia (mm)		Washer Thickness (mm)		
	Min	Max	Min	Max	Nom	Min	Max
M16	16.57	17.43	29.38	30.62	3.0	2.7	3.3
M20	20.48	21.52	36.38	37.62	3.0	2.7	3.3
M24	24.48	25.52	43.38	44.62	4.0	3.7	4.3
M27	27.48	28.52	49.26	50.74	4.0	3.7	4.3
M30	30.38	31.62	55.26	56.74	4.0	3.7	4.3
M33	33.38	34.62	59.26	60.74	5.0	4.4	5.6

Note: Tolerances as per AS 1237.2:2002