Tech Note 25:
Flange Pressure-Temperature Rating Summary

TN.25

Various flange standards (types) are available and shall be confirmed as suitable for the application based on pressure, temperature (including the ring seal), application or a combination of these.

Tables below are organised per standard, noting the flange rating may be higher or lower than what the press-fitting join is rated, and shall be considered as part of the system as a whole. Please refer to the applicable standard in full, this is a summary only.

AS 2129-2000		Working (Operating) Pressure (max kPa)			Site Test Pressure (kPa)
		-200 to 50°C	< 150°C	< 200°C	
Table D	316L S/S	700	650	600	1,200
Table E	316L S/S	1,400	1,300	1,200	2,400
	Copper, <DN80	1,400	1,400	1,400 (<170°C)	2,100
	Copper, DN100	1,200	1,100	1,100 (<170°C)	1,800
Table F	316L S/S	2,100	1,900	1,800	3,750
Table H	316L S/S	3,500	3,200	2,900	6,150
Note: 316 and 316L have different pressure ratings (316L is lower).					

ANSI B16.5 316/L (Group 2)	Working (Operating) Pressure (max kPa)			Site Test Pressure
	38°C	< 100°C	< 200°C	
ANSI #150	1,980	1,330	1,120	3,000
ANSI #300	5,170	3,480	2,920	7,800
ANSI #400	6,890	4,640	3,890	10,300
Note: Test up to 1.5x the 38°C pressure for that class, rounded up to the next full bar; #= class.				

EN 1092-1 316/L (Table 17, 12E0)	**AS 4331.1-1995** 316/L (Table E.3, 12E0)	Working (Operating) Pressure (max kPa)			Site Test Pressure
		-10 to 50°C	< 100°C	< 200°C	
DIN PN6	PN6	5,300	4,700	4,100	8,040
DIN PN10	PN10	8,900	7,800	6,900	13,400
DIN PN16	PN16	14,200	12,500	11,000	21,440
Note: Hydrostatic testing (annex E.3.2.1) max = 1.34 x PN value.					

AS 4087-2011 316/L (Table 2.1)	Standard < 80°C	Incl Surges < 80°C	Site Test Pressure	Lab Test Only
PN14	1,400	1,680	1,750	2,100
PN16 (~Table D)	1,600	1,920	2,000	2,400
PN21 (~Table F)	2,100	2,520	2,625	3,150
PN35 (~Table H)	3,500	4,200	4,375	5,250
Note: AS 4087 is used for wastewater and an update of AS 2129 (which is still in use), featuring thicker flanges.				