

Mechanical Properties at Elevated Temperature of Inconel 718 Vs 410SS

Inconel 718 Tensile Strength

Temp-re[deg.F]	Strength [PSI]
70	155000
900	144000
1000	141000
1200	119000
1400	72000
1600	20500

410SS Tensile Strength

Temp-re[deg.F]	Strength [PSI]
70	95000
900	62300
950	57800
1000	52800
1050	36300
1100	23900
1150	14800
1200	8200

Inconel 718 Yield Strength

Temp-re[deg.F]	Strength [PSI]
70	125000
900	115000
1000	110500
1200	103500
1400	64500
1600	17000

410SS Tensile Strength

Temp-re[deg.F]	Strength [PSI]
70	75000
900	37300
950	34600
1000	31600
1050	21700
1100	14300
1150	8900
1200	4900

CREEP PROPERTIES OF INCONEL 718

Condition: 1750°F – 1 hour - + 1325.1150°F) age

Test Temperature °F	Stress, psi, to Produce 0.5% Plastic Creep in:			Stress, psi, to Produce 2.0% Plastic Creep		
	10 hrs.	100 hrs.	1000 hrs.	10 hrs.	100 hrs.	1000 hrs.
1100	---	130,000	98,500	---	133,000	105,000
1200	113,000	86,000	57,000	120,000	91,500	64,000
1300	71,500	50,000	30,000	77,500	57,000	37,000
1400	42,000	---	---	48,000	---	---

Note: No Creep Properties for 410SS are available as this material is not intended for use at the temperature where creep warants consideration.