



Mechanical Properties

phone: 814.776.6150

300 Series Austenetic Stainless Steel (A)	Density g/cc (B)	Yield Strength PSI (C)	Ultimate Tensile Strength PSI (C)	Elongation % (C, D)	Apparent Hardness	Corrosion Index (E)
303 Stainless Steel						
303LH	6.6	20,000	39,000	13	HRB 39	B
MPIF35 equivalent 303L-12	6.6	17,000	39,000	17.5	HRB 21	B-
303LH2	6.8	23,000	48,000	22	HRB 34	B
MPIF35 equivalent 303L-15	6.6	24,000	48,000	15	HRB 35	B-
303N	6.4	48,000	57,000	2	HRB 68	B-
MPIF35 equivalent 303N2-35	6.5	42,000	55,000	5	HRB 63	C
303N2	6.7	46,000	64,000	7.6	HRB 70	B-
MPIF35 equivalent 303N2-38	6.9	45,000	68,000	10	HRB 70	C
304 Stainless Steel						
304LH	6.7	23,000	41,000	15	HRB 27	B
MPIF35 equivalent 304L-13	6.6	18,000	43,000	23	HRB 30	B-
304LH2	6.9	20,000	47,000	26	HRB 34	B+
MPIF35 equivalent 304L-18	6.9	26,000	57,000	26	HRB 45	B
304N	6.5	49,000	59,000	2	HRB 64	B-
MPIF35 equivalent 304N2-33	6.5	40,000	57,000	5	HRB 62	C+

300 Series Austenetic Stainless Steel (A)	Density g/cc (B)	Yield Strength PSI (C)	Ultimate Tensile Strength PSI (C)	Elongation % (C, D)	Apparent Hardness	Corrosion Index (E)
Standard 316 Stainless Steel						
316LH	6.4	24,000	35,000	6	HRB 26	A
MPIF35 equivalent 316H-20	6.6	25,000	35,000	7	HRB 33	B+
316LH2	6.9	21,000	47,000	26	HRB 37	A
No MPIF equivalent						
316N	6.7	34,000	47,000	7	HRB 51	A-
MPIF35 equivalent 316N1-25	6.4	34,000	41,000	0.5	HRB 59	B
316LN2	6.9	50,000	71,000	10	HRB 70	A-
MPIF35 equivalent 316N2-38	6.9	45,000	70,000	13	HRB 65	B-
316L Enriched Stainless Steel						
316LEH	6.4	26,000	38,000	7.5	HRB 38	A+
No MPIF equivalent						
316LEH2	7.0	26,000	50,000	16	HRB 45	A+
No MPIF equivalent						
316EN2	6.9	53,000	61,000	3	HRB 72	A-
No MPIF equivalent						
316 full density	7.6 min	60000	75000	40	HRB70	A-
No MPIF equivalent						
347 Stainless Steel						
347H	6.6	21000	30000	6	HRB 32	B
No MPIF equivalent						
347H2	6.6	50000	55000	2	HRB 70	B
No MPIF equivalent						

400 Series Martensitic Stainless Steel (A)	Density g/cc (B)	Yield Strength PSI (C)	Ultimate Tensile Strength PSI (C)	Elongation % (C, D)	Apparent Hardness	Corrosion Index (E)
410 Stainless Steel						
410LH	6.8	27000	45000	10	HRB 40	C
MPIF35 SS-410L-20	6.9	26000	48000	10	HRB 45	
410LH2	7.2	30,000	50000	25	HRB 50	C
No MPIF equivalent						
410LN	6.7	70,000	80000	2	HRB 70	C
No MPIF equivalent						
410LN2	6.9	70,000	80000	0.5	HRC 25	C-
No MPIF equivalent						
420 Stainless Steel						
420LH2	6.7	N/A	50000	0	HRC 46	D +
No MPIF equivalent						
420LN2	6.7	N/A	60000	0	HRC 42	D+
No MPIF equivalent						
Precipitation Hardened 17-4PH SS (A)	Density g/cc (B)	Yield Strength PSI (C)	Ultimate Tensile Strength PSI (C)	Elongation % (C, D)	Apparent Hardness	Corrosion Index (E)
17-4 PH Condition H900	6.3	68000	68000	<.5	HRB 80	C+
17-4 PH Condition H900	7.1	130000	135000	2	HRC 25	C+
High temp sintered						
Special Non-Ferrous Alloys (A)	Density g/cc (B)	Yield Strength PSI (C)	Ultimate Tensile Strength PSI (C)	Elongation % (C, D)	Apparent Hardness	Corrosion Index (E)
Monel	7.6	16000	35000	15	HRF 45	A+
Hastelloy C	6.9	33000	38000	2	HRF 50	A

Notes: **A** - H = Hydrogen Atmosphere • L = Low Carbon • H2 = High temperature • N = Nitrogen Atmosphere

• N2 = High temperature DA Atmosphere

B - Density will vary depending on part configuration

C - Mechanical property values represent average values derived from test bars produced with production parameters

D - Elongation given as inch/inch in one inch gauge length

E - Relative scale with A+ passing ASTM B117 and ASTM B895 testing, C and lower having varying percentages of red rust depending on the components, exposure and application