

TECHNICAL - CHEMICAL & PHYSICAL DATA

Stainless Steel	Chemistry	Brinell Hardness	Physical (Annealed Condition)
302	Carbon (max)	0.15	Tensile Strength 85,000
	Manganese (max)	2.00	Yield Strength 35,000
	Silicon	1.00	Elongation in 2" (%) 60.0
	Chromium	17.00/19.00	Reduction of Area (%) 70.0
	Nickel	8.00/10.00	
303	Carbon (max)	.15	Tensile Strength 90,000
	Manganese (max)	2.00	Yield Strength 35,000
	Silicon (max)	1.00	Elongation in 2" (%) 50.0
	Chromium	17.00/19.00	Reduction of Area (%) 55.0
	Sulfur	0.15	
	Molybdenum (max)	0.60	
304	Carbon (max)	.03	Tensile Strength 75,000
	Manganese (max)	2.00	Yield Strength 30,000
	Silicon (max)	1.00	Elongation in 2" (%) 60.0
	Chromium	18.00/20.00	Reduction of Area (%) 70.0
	Nickel	8.00/12.00	
304L	Carbon (max)	.03	Tensile Strength 75,000
	Manganese (max)	2.00	Yield Strength 30,000
	Silicon (max)	1.00	Elongation in 2" (%) 60.0
	Sulfur (min)	18.00/20.00	Reduction of Area (%) 70.0
	Nickel	8.00/12.00	
316	Carbon (max)	.08	Tensile Strength 75,000
	Manganese (max)	2.00	Yield Strength 30,000
	Silicon (max)	1.00	Elongation in 2" (%) 60.0
	Chromium	16.00/18.00	Reduction of Area (%) 70.0
	Nickel	10.00/14.00	
316L	Carbon (max)	.03	Tensile Strength 75,000
	Manganese (max)	2.00	Yield Strength 30,000
	Silicon (max)	1.00	Elongation in 2" (%) 60.0
	Chromium	16.00/18.00	Reduction of Area (%) 70.0
	Nickel	10.00/14.00	
.410	Carbon (max)	.15	Tensile Strength 75,000
	Manganese (max)	1.00	Yield Strength 40,000
	Silicon (max)	1.00	Elongation in 2" (%) 35.0
	Chromium	11.50/13.50	Reduction of Area (%) 70.0
416	Carbon (max)	.15	Tensile Strength 75,000
	Manganese (max)	1.25	Yield Strength 40,000
	Silicon (max)	1.00	Elongation in 2" (%) 30.0
	Chromium	12.00/14.00	Reduction of Area (%) 60.0
	Molybdenum	.60	
Alloy 20	Carbon (max)	.07	Tensile Strength 75,000
	Stainless Steel	2.00	Yield Strength 30,000
	Manganese (max)	1.00	Elongation in 2" (%) 60.0
	ASTM B473	16.00/18.00	Reduction of Area (%) 70.0
	Nickel	32.00/38.00	
Navel Brass	Cu	59-62	Tensile Strength 60,000
	Fe	0.18	Yield Strength 27,000
	Alloy 464	0.5-1	Elongation in 2" (%) 25
	Pb	0.20	
	Zn	Balance	
	Free Cutting Brass	60-63	Tensile Strength 57,000
	Fe	0.35 (max)	Yield Strength 27,000
	Pb	2.5-3.7	Elongation in 2" (%) 15
	Alloy 360	Balance	
	Zn	Balance	
High Silicon Bronze	Cu	94.8 (min)	Tensile Strength 70,000
	Fe	0.8	Yield Strength 38,000
	Alloy 655	0.05	Elongation in 2" (%) 15
	Zn	1.5 (max)	
Low Silicon Bronze	Cu	96	Tensile Strength 75,000
	Fe	0.8	Yield Strength 45,000
	Alloy 651	0.05	Elongation in 2" (%) 8
	Zn	1.5	
Aluminum 2024-T4 Alloy	Cr	0.10	Tensile Strength 62,000
	Mn	0.30-0.90	Yield Strength 40,000
	Si	0.50	Elongation in 2" (%) 10
	Cu	3.80-4.90	
	Fe	0.50	
	Mg	1.20-1.80	
	Zn	0.250	
	Al	Balance	
Aluminum 6061-T6 Alloy	Cr	0.20	Tensile Strength 42,000
	Mg	1.0	Yield Strength 35,000
	Si	0.60	Elongation in 2" (%) 10
	Cu	0.270	
Aluminum 7075-T73 Alloy	Cr	0.20	Tensile Strength 68,000
	Mg	2.50	Yield Strength 56,000
	Cu	0.06	Elongation in 2" (%) 12
	Cr	0.30	
	Zn	5.60	
	Al	Balance	

Stainless Steel	Chemistry	Brinell Hardness	Physical (Annealed Condition)	
Nickel-Copper Cold Drawn	Ni	63.0-70.0	Tensile Strength 70,000-110,000	
	C	0.3 (max)	Yield Strength 25,000-85,000	
	Monel Alloy 400	Mn 2.0 (max)	Elongation in 2" (%) 35-20	
	Fe 2.50 (max)			
Class A	S	0.024 (max)		
	Si	0.50 (max)		
	Cu	Balance		
Nickel-Copper Cold Drawn	Ni (+ Cobalt)	63.0-70.0	Tensile Strength 70,000-85,000	
	C	0.3 (max)	Yield Strength 25,000-50,000	
	Monel Alloy 405	Mn 2.0 (max)	Elongation in 2" (%) 35-13	
	Fe 2.50 (max)			
Class B	S	0.06 (max)		
	Si	0.50 (max)		
	Cu	Balance		
K-Monel Cold Drawn	Ni (+ Cobalt)	63.0-70.0	Tensile Strength 100,000-140,000	
	C	0.25 (max)	Yield Strength 70,000-125,000	
	Mn	1.50 (max)	Elongation in 2" (%) 35-13	
	Fe	2.00 (max)		
	S	0.01 (max)		
	Al	2.30-3.15		
	Si	0.50 (max)		
	Ti	0.35-0.85		
	Cu	Balance		
Inconel Alloy 600 Cold Drawn	Ni (+ Cobalt)	72.0	Tensile Strength 105,000-150,000	
	C	0.150 (max)	Yield Strength 80,000-125,000	
	Mn	1.00 (max)	Elongation in 2" (%) 30-10	
	Fe	6.00 (min)-10.00 (max)		
	S	0.015 (max)		
	Si	0.50 (max)		
	Cu	0.50 (max)		
	Cr	14.00-17.00		
Nickel-Copper Cold Drawn	Ni (+ Cobalt)	63.0-70.0	Tensile Strength 70,000-85,000	
	C	0.3 (max)	Yield Strength 25,000-50,000	
	Monel Alloy 405	Mn 2.0 (max)	Elongation in 2" (%) 35-13	
	Fe 2.50 (max)			
	Class B	S	0.06 (max)	
		Si	0.50 (max)	
		Cu	Balance	
	Inconel Alloy 600	Ni (+ Cobalt)	72.0	Tensile Strength 85,000-120,000
		C	0.150 (max)	Yield Strength 35,000-90,000
Mn		1.00 (max)	Elongation in 2" (%) 50-25	
Fe		6.00 (min)- 10.00 (max)		
S		0.015 (max)		
Si		0.50 (max)		
Cu		0.50 (max)		
Cr		14.00-17.00		
Inconel Alloy 625	C	72.0	Tensile Strength 120,000-150,000	
	Mn	0.150 (max)	Yield Strength 60,000-95,000	
	Fe	5.0 (max)	Elongation in 2" (%) 60-30	
	S	0.015 (max)		
	Si	0.50 (max)		
	Cr	20.0-23.0 (max)		
	Al	0.40 (max)		
	Ti	0.40 (max)		
	Cb + Ta	3.15-4.15		
	Mo	8.0-10.0		
Incoloy Alloy 800	Co	1.0 (max)	Tensile Strength 75,000-100,000	
	P	0.015 (max)	Yield Strength 30,000-60,000	
	Ni	Balance	Elongation in 2" (%) 60-30	
	Ni	30.0-35.0		
	C	0.10 (max)		
	Mn	1.5 (max)		
	Fe	Balance		
	S	0.015 (max)		
	Si	1.0 (max)		
	Cu	0.75 (max)		
Hastelloy Alloy B	Cr	19.0-23.0	Tensile Strength 121,000	
	Al	0.15-0.60	Yield Strength 57,000	
	Ti	0.15-0.60	Elongation in 2" (%) 52	
	Mo	28.00		
	Fe	5.00		
	V	Balance		
	Ni	0.024 (max)		
Hastelloy Alloy C	Mo	Balance	Tensile Strength 121,000	
	Fe	16.00	Yield Strength 58,000	
	V	16.00	Elongation in 2" (%) 47	
	Fe	5.00		
	W	4.00		
Titanium ASTM Grade 2	H	99.0 (min)	Tensile Strength 62,000	
	N	0.0125 (max)	Yield Strength 42,000	
	O	0.050 (max)	Elongation in 2" (%) 28	
	C	0.20 (max)		
	Fe	0.10 (max)		
		0.20 (max)		