

316L POWDER STAINLESS STEEL

TECHNICAL DATA SHEET

DESCRIPTION

316L offers the highest degree of corrosion protection that is available in a standard P/M stainless steel grade. It provides very good strength at extremely high temperatures.

Our 316L product includes many fully customized powder specifications by varying lubricant type, content and particle size. We are able to manufacture high quality 316L powders to fit your applications.

PRODUCT	POWDER PROPERTIES		COMPACTING PRESSURE (TSI)	GREEN STRENGTH (PSI)	GREEN STRENGTH (GM/CC)	SINTERED DENSITY (GM/CC)	SINTERED BREAKING STRENGTH (PSI)	DIMENSIONAL CHANGE FROM DIE SIZE (%)	UTS (PSI)	% ELONG	RB HARDNESS (APPARENT)
	APPARENT DENSITY (GM/CC)	FLOW (SEC./50G)									
316L	2.7	30	30	400	6.25	6.35	75,000	-0.53	42,000	3.6	41.0
			40	700	6.60	6.60	103,000	-0.44	50,000	4.8	48.0
			50	1100	6.83	6.83	125,000	-0.40	58,000	6.0	67.0

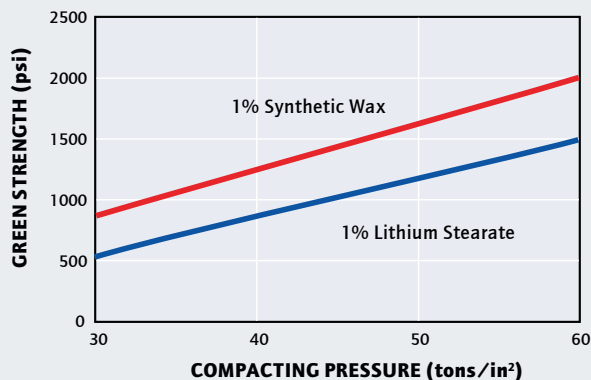
Compacting properties were measured on powder blended with 1% lithium stearate. Sintering was done in dissociated ammonia at 2050°F for 45 minutes.

POWDER PROPERTIES

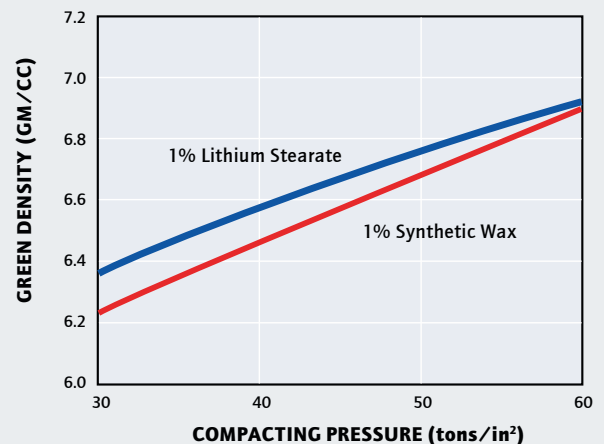
CHEMICAL COMPOSITION			
Chromium	16.0 - 18.0%	Carbon	0.03% max
Nickel	10.0 - 14.0%	Sulfur	0.03% max
Molybdenum	2.0 - 3.0%	Phosphorus	0.045% max
Manganese	1.0% max	Iron	Balance
Silicon	1.0% max		

PHYSICAL PROPERTIES	
Apparent Density	2.7 g/cm ³
Flow Rate	30 sec/50g

GREEN STRENGTH



COMPACTIBILITY



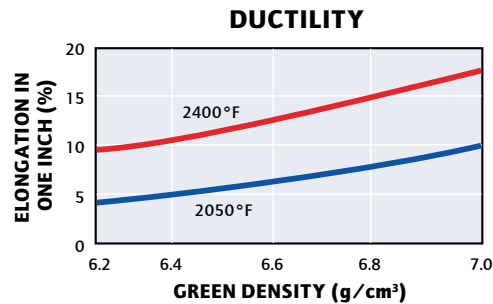
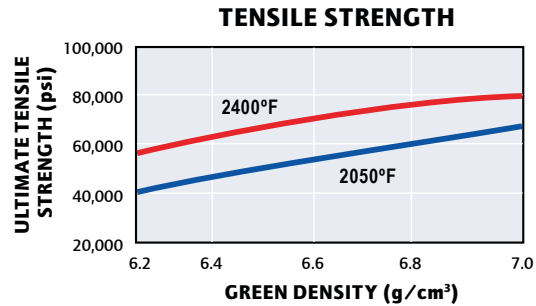
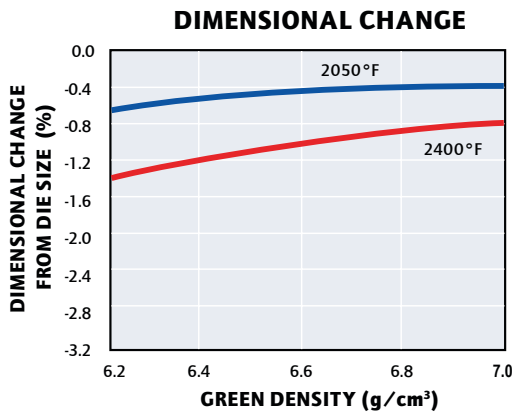
316L POWDER STAINLESS STEEL

TECHNICAL DATA SHEET



SINTERED PROPERTIES

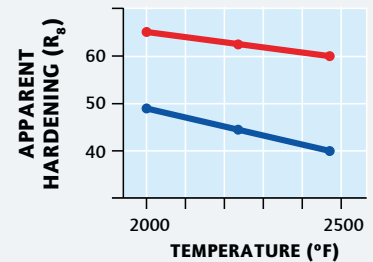
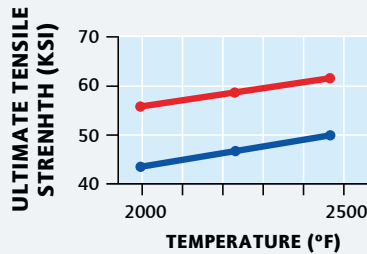
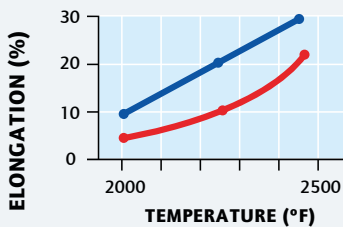
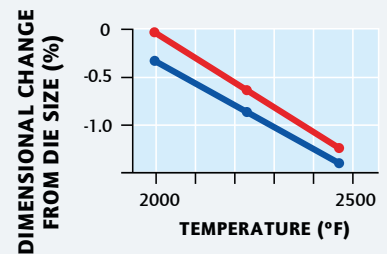
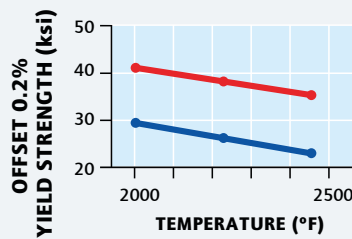
Sintered properties were determined using test specimens that were sintered for 45 minutes in dissociated ammonia with a -40°F dew point.



The Influence of Sintering Temperature and Atmosphere on Mechanical Properties of 316L Stainless Steel

(Samples compacted to 6.85 gm/cm³ and sintered for 30 minutes)

■ DISSOCIATE AMMONIA
■ HYDROGEN



EIGHTY FOUR / **AMETEK**
SPECIALTY METAL PRODUCTS

1085 Route 519, Eighty Four, PA 15330, United States

E: EF.sales@ametek.com | T: (+1) 724-225-8400

www.powderclad.com

The data herein are subject to revision without notice. Since AMETEK products, and the information given and recommendations made herein, may be used under conditions beyond our control, AMETEK makes no guarantee, either express or implied, concerning the sustainability of our products, or the applicability and accuracy of the information, or recommendations, in any specific situation. User is solely responsible for determining the suitability of AMETEK products of any specific purpose.