

# STAINLESS STEEL MIM POWDERS

## Innovative and Advanced Metallurgical Technology

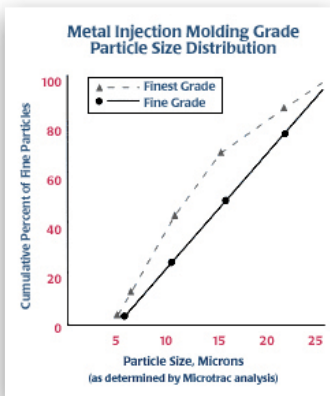
Recognizing the need for superfine powders for injection molding and other industry requirements, AMETEK has developed a proprietary method of producing and processing fine metal powders down to 10 microns. Special size distributions are available on a custom basis.

### AUSTENITIC STAINLESS STEEL

316L used in applications which require good corrosion resistance, strength and ductility. Also available 304L, 310L and 347L.

### FERRITIC STAINLESS STEEL

430L ferritic stainless steel combines good magnetic response and some corrosion resistance. Also available P410L, P434L, P409 and P420.



### 17-4 PH PRECIPITATION HARDENING STAINLESS STEEL

This precipitation hardening grade stainless is used to obtain strength and hardness. It offers better corrosion resistance than 400 series stainless steel. A range of properties and hardness can be achieved through heat treatment.

### NICKEL ALLOYS

Used in a variety of applications from alloying addition to high temperature and corrosion resistance. This family of alloys has significant application through MIM technology.

*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.*

AMETEK GRADE	NOMINAL CHEMICAL COMPOSITION (%)								
	Fe	Ni	Cr	Mo	C (max)	Cu	Cb	Mn (max)	Si (max)
316L	Bal.	10-14	16-18	2-3	0.03	-	-	0.5	1.0
430L	Bal.	-	16-18	-	0.05	-	-	1.0	1.0
17-4 PH	Bal.	3-5	15.5-17.5	-	0.07	3-5	0.15-0.45	0.5	1.0
PI600	6-10	Bal.	14-17		0.15	-	-	-	1.0
80/20 NiCr	-	80	20	-	-	-	-	-	-
70/30 FeCr	70	-	30	-	-	-	-	-	-

Other elements: total by difference may not exceed 1.0% combined.

## PROPERTIES FOR MIM COMPONENTS

MATERIAL CODE	PHYSICAL PROPERTIES				HARDNESS
	Ultimate Strength 10 <sup>3</sup> psi	Yield Strengths 10 <sup>3</sup> psi	Elongation %	Density g/cm <sup>3</sup>	Rockwell
316L	60-75	20-25	35-50	7.6	57 HRB
430L	50-60	30-35	20-25	7.5	65 HRB
17-4 PH	150-172	120-158	4.0-6.0	7.5	33 HRC

## AMETEK FINE POWDERS

**Metal Injection Molding  
Plastics Compounding and Other Applications**

### Grades:

17-4 PH  
316L  
70/30 FeCr  
80/20 NiCr  
PI 600  
P430L  
P410L  
Iron Aluminide  
Custom Alloys  
We Do Special Grades

### Advanced Testing:

Microtrac  
Tap Density  
Pycnometric Density

**Sizing** – Each order is processed per customer specifications.

-400 Mesh  
-500 Mesh  
-20µm D50 = 20 microns  
-15µm D50 = 15 microns  
-10µm D50 = 13 microns

**We have process alternatives to match your binder systems.**

**Call us to discuss options for custom formulation  
and custom grades and sizing.**



1085 Route 519 • Eighty Four, PA 15330 USA • Tel: 724-225-8400 • Fax: 724-225-6622  
E-mail: EF.Sales@ametek.com

[www.powerclad.com](http://www.powerclad.com)

© 2018 by AMETEK, Inc. All rights reserved.