

# STAINLESS STEEL MIM POWDERS

## Innovative & 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.

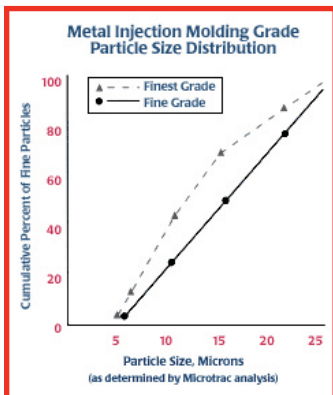


### 17-4 PH Precipitation Hardening Stainless Steel

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.



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 & Custom Grades and Sizing.

**AMETEK**<sup>®</sup>

SPECIALTY METAL PRODUCTS

*Innovative & Advanced Metallurgical Technology*

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