

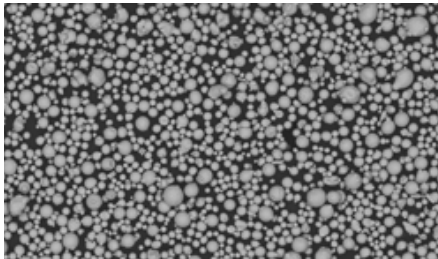
# TruForm™ Metal Powders for Additive Manufacturing

## TruForm™ 718 Metal Powder

TruForm™ 718 is a precipitation-hardenable nickel-chromium alloy with excellent properties for strength, fatigue, creep, and rupture strength up to 1300°F (704°C). IN718 is a high volume production alloy for high temperature applications such as aircraft engines and gas turbines.

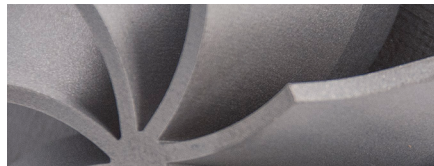
### Particle Size Distribution

Powders are available in a wide variety of particle size distributions and can be customized for your applications.



### TruForm™ Metal Powders for All Additive Manufacturing Processes Including:

- Direct Metal Deposition (DED)
- Direct Metal Laser Sintering (DMLS)
- Electron Beam Melting (EBM)
- Laser Metal Deposition (LMD)
- Selective Laser Melting (SLM)



### Typical Mechanical Properties (contact us for additional property data)

Room Temperature		As Built	As Built Min. ASTM F3055-14	Heat Treat per AMS 5662	HT Min. ASTM F3055-14
Tensile Strength	(XY)	1080 ± 50 MPa 157 ± 7 ksi	980 MPa 142 ksi	1450 ± 100 MPa 210 ± 15 ksi	1240 MPa 180 ksi
	(Z)	960 ± 50 MPa 139 ± 7 ksi	920 MPa 133 ksi	1380 ± 100 MPa 200 ± 15 ksi	1240 MPa 180 ksi
Yield Strength	(XY)	800 ± 50 MPa 116 ± 7 ksi	635 MPa 92 ksi	1265 ± 100 MPa 184 ± 15 ksi	940 MPa 136 ksi
	(Z)	625 ± 50 MPa 91 ± 7 ksi	600 MPa 87 ksi	1205 ± 100 MPa 175 ± 15 ksi	920 MPa 133 ksi
Elongation	(XY)	31 ± 5%	27%	20 ± 5%	12%
	(Z)	35 ± 5%	27%	20 ± 5%	12%

Element	Typical Composition
Ni	50.00 - 55.00
Cr	17.00 - 21.00
Fe	15.00 - 21.00
Nb+Ta	4.75 - 5.50
Mo	2.80 - 3.30
Ti	0.65 - 1.15
Al	0.20 - 0.80
Co	1.00 Max
Mn	0.35 Max
Si	0.35 Max
Cu	0.30 Max
C	0.08 Max
Ta	0.05 Max
P	0.015 Max
S	0.015 Max
B	0.006 Max



#### Powder Atomization Capabilities

Praxair is a worldwide resource for fine and spherical, gas-atomized powders and a leader in vacuum induction melt argon gas atomization (VIM-AGA) technology. We operate 5 VIM AGA units and pour more than 3 million lbs of powder each year.

#### AM Quality Lab

Our quality laboratory is registered as an ISO-9001:2008, Nadcap AS7101, and AS9100 facility. We offer 100 percent lot inspection along with a certificate of analysis that details the variety of quality tests we conduct from our state-of-the-art facility to ensure your printed products meet your performance and surface finish specifications.



#### Additive Manufacturing Lab

We are printing parts every day with our AM metal powder to ensure that layer by layer, you are getting a premium product that can produce products to your exacting specifications.



A global leader in metal powders for 50 years, aerospace—grade is our benchmark.

With five powder atomizers, a fully-outfitted AM quality lab, an R&D lab complete with a metal 3D printer, and a staff of credentialed experts...

Praxair is the only partner you need to deliver on the promise of metal AM

**TruForm™**  
Metal Powders



#### CONTACT US

Contact our technical sales team for guidance in selecting a material, requesting an alloy not listed here, or for additional details.

[praxairsurfacetechologies.com/am](http://praxairsurfacetechologies.com/am)

Contact us at: 1-317-240-2650 or  
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