TruForm™ Metal Powders for Additive Manufacturing

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28 Ni

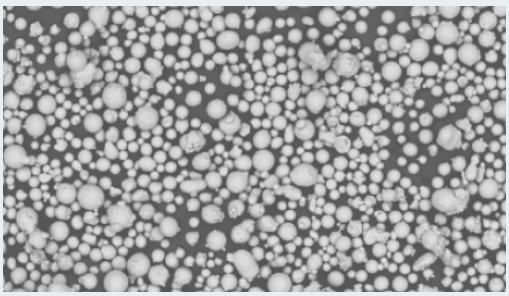
TruForm™ Metal Powders

TruForm™ 625 Metal Powder

TruForm™ 625 is a nickel-chromium alloy with excellent properties for strength, toughness, and corrosion and oxidation resistance up to 1800°F (982°C). TruForm™ 625 is a high volume production alloy for high temperature applications such as aircraft engines and gas turbines, and severe corrosive environments like sea water applications and chemical plants.

Particle Size Distribution

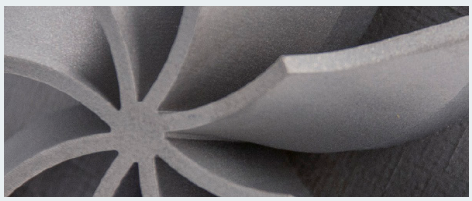
Powders are available in a wide variety of particle size distributions and can be customized for your applications.



Representative SEM Image - TruForm™ 625

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)
- Laser Powder Bed Fusion (LPBF)



Typical Mechanical Properties (contact us for additional property data)

ROOM TEMPERATURE	AS BUILT	STRESS RELIEVED	STRESS RELIEVED + HIP SOLUTION HEAT TREAT	MINIMUM AMS 5666J
Tensile Strength (XY)	1080 ± 50 MPa 157 ± 7 ksi	1050 ± 50 MPa 152 ± 7 ksi	875 ± 50 MPa 127 ± 7 ksi	758 MPa 110 ksi
Tensile Strength (Z)	960 ± 50 MPa 139 ± 7 ksi	950 ± 50 MPa 139 ± 7 ksi	850 ± 50 MPa 122 ± 7 ksi	
Yield Strength (XY)	740 ± 50 MPa 107 ± 7 ksi	740 ± 50 MPa 107 ± 7 ksi	390 ± 50 MPa 57 ± 7 ksi	345 MPa 50 ksi
Yield Strength (Z)	600 ± 50 MPa 87 ± 7 ksi	600 ± 50 MPa 87 ± 7 ksi	378 ± 50 MPa 54 ± 7 ksi	
Elongation (XY)	34 ± 5%	35 ± 5%	60 ± 5%	30%
Elongation (Z)	42 ± 5%	45 ± 5%	60 ± 5%	

ELEMENT	TYPICAL COMPOSITION
Ni	Bal
Cr	20.00-23.00
Mo	8.0 - 10.0
Nb+Ta	3.15 - 4.15
Fe	5.00 Max
Co	1.00 Max
Ti	0.40 Max
Al	0.40 Max
Si	0.50 Max
Mn	0.50 Max
C	0.10 Max
Cu	0.05 Max
Ta	0.05 Max
P	0.015 Max
S	0.015 Max
B	0.010 Max

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Powder Atomization Capabilities

Praxair Surface Technologies 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 numerous vacuum induction melt units with Argon gas atomization and pour more than 5+ million lbs of powder each year.

AM Quality Lab

Our quality laboratory is NADCAP accredited and registered as an ISO-9001:2008 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. This ensures your printed products meet your performance and surface finish specifications.

Additive Manufacturing Lab

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

Contact Us Today

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