

Material Description

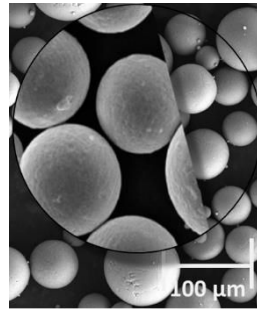
GMP 15-5PH metal powders have been specifically designed and optimised for use in Additive Manufacturing (AM).

GMP 15-5PH metal powders are widely used and successfully proven in AM. **GMP 15-5PH** processes well across the broad spectrum of AM machines and technologies and offers good machinability.

GMP 15-5PH is a martensitic precipitation hardening stainless steel, often used for surgical components, tooling, and prototyping. After solution annealing and ageing, **GMP 15-5PH** delivers excellent mechanical properties including high strength and excellent corrosion resistance.

Powder Images

Typical microscopy image of **GMP 15-5PH**



Powders are supplied in a variety of standard and custom sizes.

Part Example

Awaiting part image

Material Properties

- Excellent corrosion resistance
- High strength
- Good ductility
- High wear resistance
- Good machinability

Typical Applications

- Corrosion resistant components
- Surgical instruments
- Tooling
- Valves

Relevant Sectors

- Oil & Gas
- Medical
- Aerospace
- Industrial

Powder Properties

item no.	GMP 15-5PH -45+15		
PSD	15-45µm	Application	PBF
item no.	GMP 15-5PH -53+20		
PSD	20-53µm	Application	PBF
item no.	GMP 15-5PH -53+15		
PSD	15-53µm	Application	PBF
item no.	GMP 15-5PH -150+45		
PSD	45-150µm	Application	DED
item no.	GMP 15-5PH -106+45		
PSD	45-106µm	Application	EBM
item no.	GMP 15-5PH -300		
PSD	<300µm	Application	HIP
General Properties			
PSD	d10, d50, d90 reported		
Apparent Density	Measured and reported		
Flow	Measured and reported		

Chemical Composition

Fe	bal.
Cr	14.0 – 15.5
Cu	2.5 – 4.5
Ni	3.5 – 5.5
Mn	≤1.0
Si	≤1.0
Mo	≤0.5
Nb	0.15 – 0.45
C	≤0.07
O	≤0.03
P	≤0.03
N	≤0.10
S	≤0.015

• wt%

Industry Powder Names

Generic name	15-5PH
Generic name	1.4540
Colibrium (GE)	15-5PH
Additive	
SLM Solutions	15-5PH / 1.4540
Renishaw	Stainless Steel 15-5
EOS	Stainless Steel 15-5PH

Atomisation Process

- Vacuum inert gas atomisation
- Anti-Satellite technology
- Argon gas atomised

Powder Quality

- Highly Spherical
- Very few satellites
- Excellent flowability

Applicable Specification

- AMS5659
- Other specification: AMS5862, UNS S15500

Mechanical Properties*

Awaiting mechanical test data.

Physical Properties*

Density	7.8 g/cm ³
Thermal Conductivity @150°C	17.8 W/mK
Melting Point	1405°C - 1440°C
Coefficient of thermal expansion	10.8 10 ⁻⁶ K ⁻¹

*typical data

Heat Treatment

Information on heat treatment and stress relieving can be provided by our technical experts by contacting: gmp@globusmetalpowders.com

Contact

Globus Metal Powders is committed to providing our global customers with world-beating customer service through direct support, metallurgy and AM experts, and a family of authorised distribution partners.

Globus Metal Powders offers a diverse range of metal powders and alloys for Additive Manufacturing (AM) and Hot Isostatic Pressing (PM-HIP), along with next generation alloy development maximising the potential benefits and solutions that AM and PM-HIP can deliver.

Our core range of metal powders includes steel, stainless steel, nickel, cobalt and bespoke alloys.

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Further information available at www.globusmetalpowders.com

Mechanical and physical properties are provided for guidance only and depict typically achievable properties and are not provided as guaranteed values or design data.

Results achieved can vary significantly depending on AM processes, parameters, and part design/geometry.

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