



ADDIPOWDER

Advanced Powders for Next-
Generation Manufacturing

MATERIAL DATA SHEET

High-Performance 17-4PH Stainless Steel Powder

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17-4PH

MATERIAL

AddiPowder's 17-4PH stainless steel powder is tailored for high-strength performance in additive manufacturing, powder metallurgy, and precision engineering. Combining excellent mechanical strength, hardness, and corrosion resistance, it is ideal for structural components in aerospace, defense, and high-stress industrial environments.

CHEMICAL COMPOSITION (wt%)

Fe	C	Cr	Ni	Cu	Nb	Si	Mn	S	P	O
Bal	≤0.03	15.50-17.50	3.00-5.00	3.00-5.00	0.15-0.45	≤1.00	≤1.00	≤0.03	≤0.03	≤0.03

PHYSICAL PROPERTIES

Particle Size	15–53 μm
Size distribution	D10: ≥15 μm, D50: 30-40 μm, D90: ≤60 μm
Hall Flow Rate	≤25 s / 50 g
Bulk Density	≥4.0 g/cm ³
Tap Density	≥4.4 g/cm ³

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MECHANICAL PROPERTIES

Hardness (HRC)	32-42
Tensile Strength (σ_b /MPa)	≥ 1310
Yield Strength ($\sigma_{p0.2}$ /MPa)	≥ 1175
Elongation at break (δ_5 /%)	≥ 13

HEAT TREATMENT RECOMMENDATION

1040°C / 2h + 480°C / 4h

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