



## forAM<sup>®</sup> 17-4PH 15-63 VG

Precipitation hardening stainless steel powder  
for additive manufacturing

### General material description

Höganäs forAM 17-4PH VG is a vacuum induction melted, argon gas atomized, and spherical powder for additive manufacturing. It is a martensitic precipitation hardening stainless steel with high strength and hardness, and good corrosion resistance.

Typical applications in chemical process and oil equipment like flanges, valves and pumps, as well as aircraft parts.

### Equivalent materials:

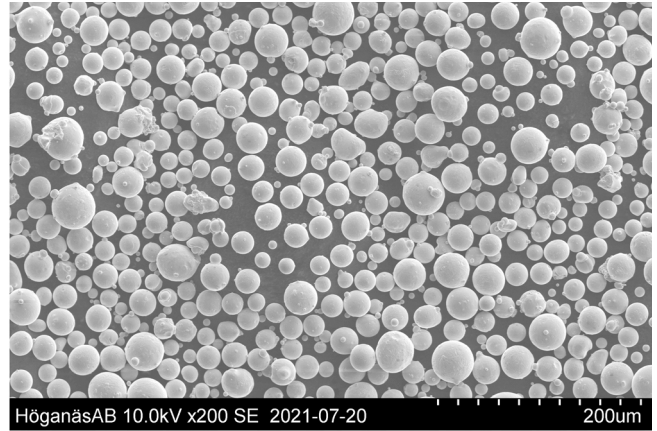
- » X5CrNiCuNb17-4
- » UNS17400
- » 1.4542
- » SAE630

Scan the QR code to learn more about  
the forAM product line and other  
Höganäs products.



## Powder properties

Chemical composition, (typical values)	
Element	Content, %
Cr	16
Ni	4
Cu	4
Mn	0.06
Nb+Ta	0.3
Si	0.1
C	0.01
Fe	Balance



Typical powder properties		
Nominal particle range	15-63 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497
Hall flow	16 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	4.2 g/cm³	MPIF04, ASTM B212, ISO3923/1

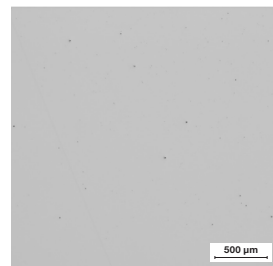
## Mechanical properties

Surface condition is machined		
Heat treatment	As built <sup>(1)</sup>	H860 <sup>(2)</sup>
Printed in Z-direction – Build direction		
UTS (MPa)	945	1 340
YS (MPa)	880	1 235
Elongation (%)	18.3	13.6

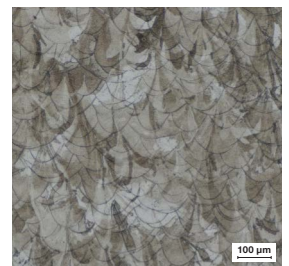
Heat treatment	As built <sup>(1)</sup>	H860 <sup>(2)</sup>
Printed in X/Y-direction – Perpendicular		
UTS (MPa)	955	1 330
YS (MPa)	890	1 220
Elongation (%)	18.5	14.0
Hardness (HRC)	32	42

(1) No Heat Treatment

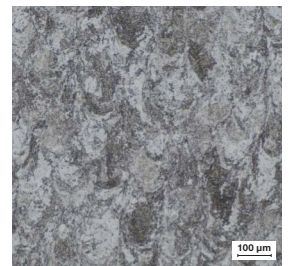
(2) Solution Annealed at 1040 °C for 1h in Ar followed by gas quench,  
Precipitation hardened at 460 °C in Ar



As polished



As Printed – Build direction



Heat Treated – Build direction

## Standard packaging:

30 kg (6x5 kg, 2.5 L PE bottles packed in cardboard box).

Other tailored particle sizes and packaging are available under conditions.