



## forAM<sup>®</sup> Haynes<sup>®</sup> 282<sup>®</sup> 15-45 VG

Advanced nickel superalloy for Additive Manufacturing

**forAM Haynes 282 VG** is a vacuum induction melted, argon gas atomized, and spherical powder for additive manufacturing. The powder is produced under license from Haynes International, Inc. The alloy is a gamma-prime strengthened nickel-chromium-cobalt superalloy for high temperature applications and shows a good balance of creep strength up to 930 °C, thermal stability, weldability and fabricability.

Some typical applications of the alloy are the combustors, turbines and nozzle components of gas turbines or turbocharger parts for automotive.

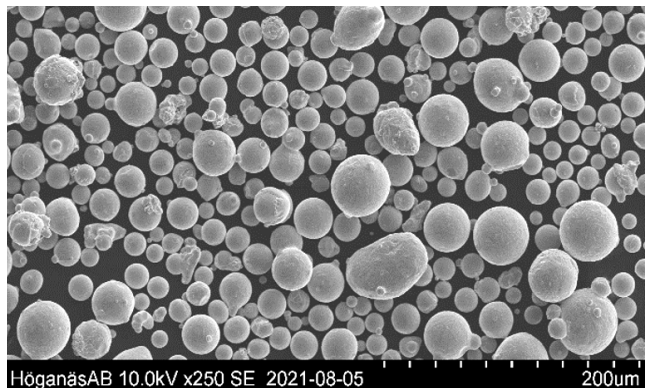
### Equivalent materials:

- » UNS N07208
- » AMS5951 (chemical composition)

**For more information on forAM product line and other of Höganäs products, please contact your local sales representative.**

## Powder properties

Chemical composition, (typical values)	
Element	Content, %
Cr	19.5
Co	10
Mo	8.5
Ti	2.1
Al	1.5
C	0.05
Ni	Balance



Typical powder properties		
Nominal particle range	15-45 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497
Hall flow	15 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	4.6 g/cm <sup>3</sup>	MPIF04, ASTM B212, ISO3923/1

## Mechanical properties

Surface condition is machined		
Heat treatment	As printed <sup>(1)</sup>	Heat treated <sup>(2)</sup>
Printed in Z-direction – Build direction		
UTS (MPa)	870	1,110
YS (MPa)	580	775
Elongation (%)	44	32

Heat treatment	As printed <sup>(1)</sup>	Heat treated <sup>(2)</sup>
Printed in X/Y-direction – Perpendicular		
UTS (MPa)	950	1,205
YS (MPa)	670	820
Elongation (%)	35	25
Hardness (HV10)	310	380

(1) No Heat Treatment

(2) Solutionizing at 1,135°C, Quenched at >110°C/min to room temperature  
Aged at 1,010°C for 2h in Ar + 788°C for 8h in Ar

## Standard packaging:

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

200 kg / 500 kg Flexbag

(Other tailored particle sizes and packaging are available under conditions)