forAM® 625 15-45 VG

Advanced nickel superalloy for Additive Manufacturing

forAM 625 VG is a vacuum induction melted, argon gas atomized, and spherical powder for additive manufacturing. The powder is a low Carbon Nickel-Chromium based superalloy. Its exceptional corrosion resistance, high strength over a wide temperature range, and its excellent processability make the alloy first choice for the chemical processing field, aerospace, and off-shore applications

Some typical applications are, chemical process equipment, turbine engine components, marine industries, fuel and exhaust systems, natural gas industry, nuclear reactors, pollution control.

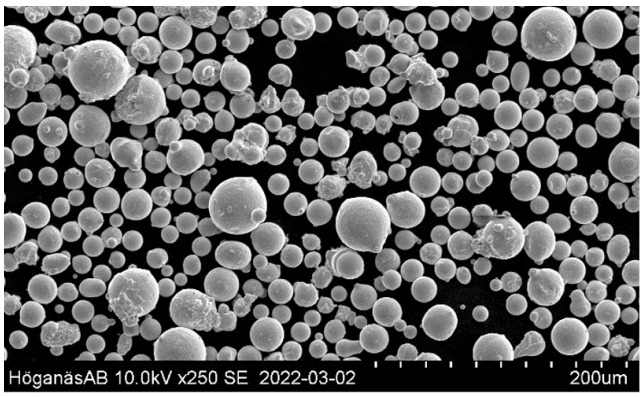
Equivalent materials:

- 2.4856
- UNS N06625
- NC22DNb
- AMS7001 (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	21
Nb	4
Mo	8.5
C	< 0.010
Ni	Balance



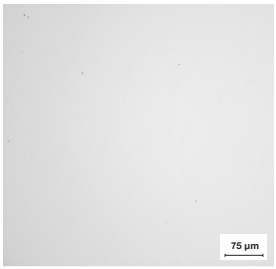
Typical powder properties		
Nominal particle range	15-45 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497
Hall flow	15 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	4.4 g/cm^3	MPIF04, ASTM B212, ISO3923/1

Mechanical properties

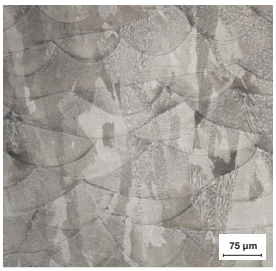
Surface condition: Machined		
Heat treatment	**As printed** (1)	**SR** (2)
Printed in Z-direction – Build direction		
UTS (MPa)	860	880
YS (MPa)	620	650
Elongation (%)	48	50
IE Notch in Y direction (J)	190	200

Heat treatment	As printed (1)	SR (2)
Printed in X/Y-direction – Perpendicular		
UTS (MPa)	970	1,010
YS (MPa)	705	680
Elongation (%)	36	38
IE Notch in Z direction (J)	160	200
Hardness (HV10)	310	300

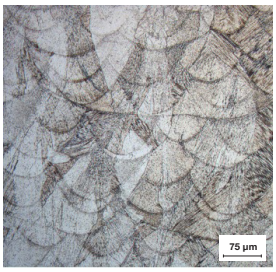
(1) No Heat treatment
(2) Stress relieved at 870 °C for 1h in Ar followed by rapid cooling in Ar



As polished



As Printed – Build direction



Stress Relived – Build direction

Standard packaging:

30 kg (6x5 kg, 2.5 L PE bottles packed in cardboard box)
200 kg / 500kg Flexbag
(Other tailored particle sizes and packaging are available under conditions)

Höganäs
www.hoganas.com

At Höganäs, we have designed our high-quality 3D printing metal powders for the special requirements of additive manufacturing. Manufacturers all over the globe achieve optimal results with our products and value them for the following characteristics: excellent flowability, good spherical shape, controlled oxygen and nitrogen content, full and high packing density and perfect reproducibility.