MIMETE® V 625

FOMAS Group's metal powder plant has been specifically designed to serve the additive manufacturing market. A VIGA, Vacuum Induction melting Inert Gas (argon or nitrogen) Atomization, ensures high purity and spherical powders.

FOMAS Group's guarantees the properties of the standard powder "V 625" set forth in the datasheet included in this page, which is available on stock.

PRODUCT	MIMETE® V 625	*According to UNS N06625*
Nickel-chromium alloy characterized by oxidation and corrosion resistance, excellent mechanical properties also at high temperature.		
Production process	*Vacuum Inert Gas Atomization*	
Packaging	*10 kg plastic sealed bottle or 100 kg steel drum, with silica bags*	

CHEMICAL PROPERTIES [1,2]											
MIMETE® V 625	Al	C	Co	Cr	Fe	Mn	Mo	Nb	Ni	Si	Ti
MIN	*0*	*0*	*0*	*20,0*	*0*	*0*	*8,0*	*3,15*	*bal*	*0*	*0*
MAX	*0,40*	*0,10*	*0,099*	*23,0*	*5,0*	*0,60*	*10,0*	*4,15*		*0,60*	*0,40*

[1] *Minor element ranges, even if not explicitly listed in the table, comply with both UNS and EN standards.*
[2] *MIMETE® powders are supplied to a tighter specification to minimise batch-to-batch variations.*

PHYSICAL PROPERTIES [3]		Sampling / Analysis Methods
Nominal particle range	*15-45 (max 5% over and under size)*	*ASTM B215 / ASTM B822 / B214*

[3] *Other standard particle ranges (i.e. 0-20, 50-100 and 50-150 µm) available on request.*

The production plant has also a testing laboratory accredited by ACCREDIA in compliance with the requirements of the ISO/IEC 17025 international standard.

Unless provided otherwise hereto, terms and conditions ruling the offer of MIMETE® apply.

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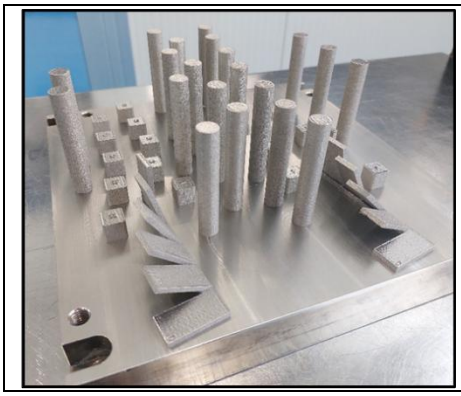
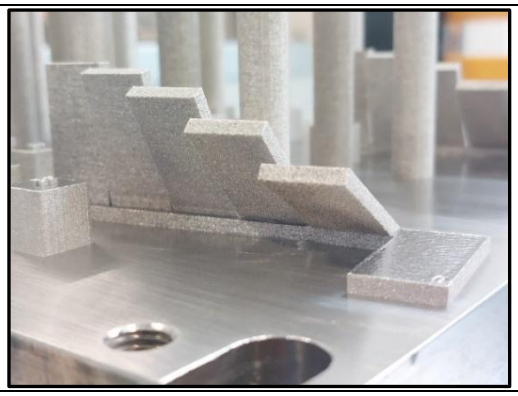
MIMETE® V 625

LEGAL DISCLAIMER

All data included in following pages are for reference purposes only. They are not sufficient for designing or certifying components and no warranties or guarantees are expressed against these results. However, psd and chemical composition of the powder lot 8250085S003 are compliant to allowable limits reported on page 1.

INSPECTION CERTIFICATE TYPE 3.1 ACCORDING TO EN10204.

POWDER LOT	*8250085S003*
PRINTER - SOFTWARE	*EOS M290 – EOSPrint 2.13 (IN625_Performance M291 2.01)*
INERT GAS	*Argon*
RECOATER BLADE	*HSS*
LAYER THICKNESS	*40 µm*
VOLUME RATE	*4.2 mm^3/s (15.2 cm^3/h)*

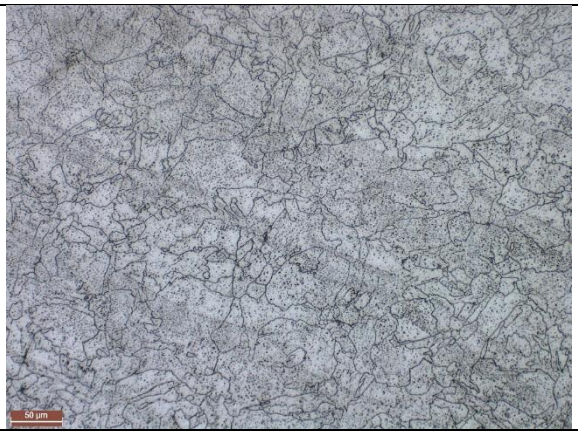

PROPERTIES (as built, AVG)	*Test Standard*	F3056-14e1	**V 625**
Hardness HRC	*UNI EN ISO 6508-1*	NA	31
Hardness HBW	*UNI EN ISO 6506-1*	NA	261
Yield strength (vertical) [MPa]	*ISO 6892-1:2019*	NA	655
Tensile strength (vertical) [MPa]		NA	936
Elongation at break (vertical) [%]		NA	35,0
Reduction of area (vertical) [%]		NA	52,8

HEAT TREATMENT	According to AMS 2774H
Solution annealing: in vacuum at 1038°C (±14°C) for 1h - Air cool (AC)	

PROPERTIES (heat treated, AVG)	*Test Standard*	F3056-14e1	**V 625**
Hardness HRC	*UNI EN ISO 6508-1*	NA	25
Hardness HBW	*UNI EN ISO 6506-1*	NA	258
Yield strength (vertical) [MPa]	*ISO 6892-1:2019*	≥ 275	550
Tensile strength (vertical) [MPa]		≥ 485	884
Elongation at break (vertical) [%]		≥ 30	42,9
Reduction of area (vertical) [%]		≥ 30	60,7

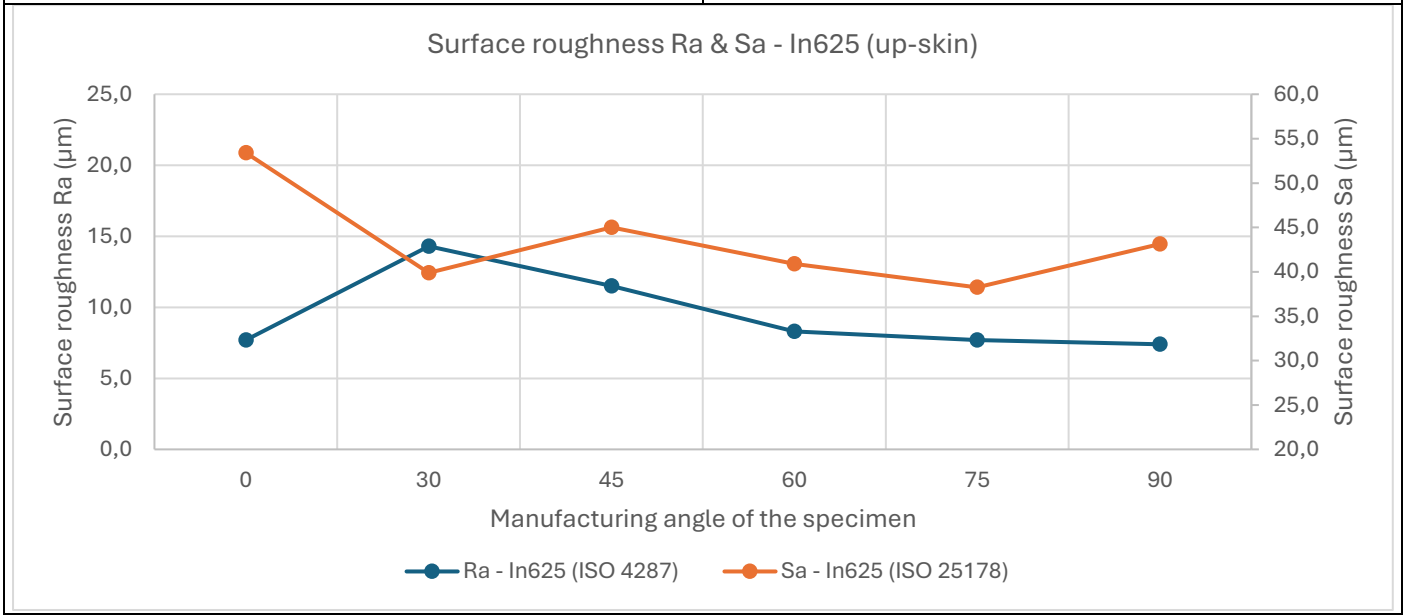
ASTM F3056-14e1:Standard Specification for Additive Manufacturing Nickel Alloy (UNS N06625) with Powder Bed Fusion (Table 3)

MIMETE® V 625

HEAT TREATED MICROSTRUCTURE	*Etched according to ASTM E407-23 with Aqua regia reagent.*
	
SECTION_XY_200x	*Section_YZ_200x*

PROPERTIES	*Test Standard*	**V 625**
Density [g/cm^3]	*UNI EN ISO 3369-2010*	8,44
Avg. Defects [%]	*ASTM E3-11(2025)*	0,09

SURFACE ROUGHNESS	*Ra according to ISO 4287. Sa according to ISO 25178*



Manufacturing angle: 0° is the horizontal printing plane.

COEFFICIENT OF THERMAL EXPANSION (avg α_m) (as built)	*According to ASTM E228-22 [*10-6/K]*
25-100 °C	12,24
25-200 °C	12,52
25-300 °C	12,97
25-400 °C	13,36
25-500 °C	13,69
25-600 °C	14,25
25-700 °C	14,92