AMDAP™ Series

AMDAP™ SUS316L

The metal powder with high flowability suitable for additive manufacturing by SLM

Characteristics

AMDAP™ SUS316L is an austenitic stainless steel with excellent ductility and toughness. It is suitable for prototype modeling, because of its high corrosion resistance and excellent formability.

Major applications

General machinery parts

Typical chemical composition

Typical chemical composition (mass%)					
C	Si	Mn	Ni	Cr	Mo
0.02	0.8	0.2	12	17	2.5

Particle size

Particle size (μm)
-53/+25

Physical properties*1

Density (g/cm³)	Specific heat (J/(kg・K)) [cal/g・K]				Linear expansion coefficient (×10⁻⁶/K)				Thermal conductivity (W/(m・K))			
	24℃	100℃	200℃	300℃	28~100℃	28~200℃	28~300℃	28~400℃	24℃	100℃	200℃	300℃
7.86	559 [0.134]	604 [0.144]	608 [0.145]	600 [0.143]	15.0	16.4	17.1	17.7	16.0	18.1	19.5	20.4

*1 Specimen heat treatment ST:1050℃/1h, WQ

Mechanical properties

	Status	YS*2 (MPa)	TS*2 (MPa)	Elongation*2 (%)	Reduction of area*2 (%)
AMDAP™ SUS316L	As 3D-printed	573	674	34	60
	Solution treated*3	377	614	43	62
ASTM A182	Solution treated*4	≧170	≧485	≧30	≧50

*2 Tested temperature : RT, Tested specimen : JIS No.14A, Point distance : 25mm, Parallel area diameter : 5mm, Testing method : JIS Z 2241-2011 Standard

*3 Additive manufacturing-Removing from base plate-ST(1050℃/1h, WQ)-Machining-tensile test

*4 ST: Water-cooled after holding at 1040℃

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