

# Metal 3D print Manufacturing



SOLIZE Products Corporation

www.solize-products.com

Material Name			Maraging Steel		Stainless Steel		Aluminium Alloy		Nickel Alloy	
Material Code			1.2709		17-4PH		AISI12		Inconel 718	
Material Composition			Chemical Composition	Content (%)	Chemical Composition	Content (%)	Chemical Composition	Content (%)	Chemical Composition	Content (%)
			Iron	Residual	Iron	Residual	Aluminium	Residual	Nickel	50~55
Nickel	17.0~19.0	Chromium	15.0~17.5	Silicon	11.0~13.0	Iron	Bal			
Cobalt	9.0~11.0	Nickel	3.0~5.0	Residual	< 0.6	Molybdenum	2.80~3.30			
Molybdenum	4.0~6.0	Copper	3.0~5.0			Manganese	≤0.35			
Titanium	0.9~1.0	Silicon	< 1.0			Silicon	≤0.35			
Silicon	≤1.0	Manganese	< 1.0			Chromium	17.0~21.0			
Manganese	≤1.0	Niobium	0.15~0.45			Carbon	≤0.08			
Carbon	≤0.03									
Inspection Items	Inspection Method	Unit	As Built	After post heat treatment	As Built	After post heat treatment	As Built	After post heat treatment	As Built	After post heat treatment
Hardness	Rockwell Hardness	HRC	37±2	55±2	(30) converted value	(41) converted value	—	—	—	47
	Vickers hardness	HV	(360) converted value	(600) converted value	300±20	400±20	—	—	—	(471) converted value
	Brinell hardness	HB	(340) converted value	—	(286) converted value	(380) converted value	137±1.5	90~95	—	(442) converted value
Ultimate Tensile Strength	ASTM E8	MPa	1100±50	—	1100±50	1300±50	480±20	240±20	—	1450
Elongation at Break	ASTM E8	%	11±3	—	16±2.0	10±2.0	5.5	20±4.0	—	18
Yield Strength	ASTM E8	MPa	860±50	—	620±30	1100±50	270±20	180±20	—	1250
Density		-	Approx 100%		Approx 100%		Approx 100%		Approx 100%	
Equivalent Material			Special Steel		SUS630		ADC1		Special Steel	

※Mechanical properties shown on the table are for reference purposes only, and do not guarantee its product specs. Please consider these figures to be your benchmark for selecting the suitable grade material for your desired development.

Ver1.01