

System HOQ

Project: Metal 3D Printer
Date: 4/8/2025

Engineering Requirements											
Materials Tested											
Final Print Material		+9									
Final Print Volume		-1	-1								
Power											
Inert Gas		+9	+9								
Young's Modulus Tested		+9	+3		+1	+1					
Dog Bone Size		+1		+9							
Airtight Gas Supply				+1	+1	9					
Build Plate Alignment				+1			+3	+1			
Printed Part Tolerance		+1	+1	+1						+9	
Engineering Requirements											
Customer Needs	QFD	Materials Tested	Final Print Material	Final Print Volume	Power	Inert Gas	Young's Modulus Tested	Dog Bone Size	Airtight Gas Supply	Build Plate Alignment	Printed Part Tolerance
Ease of Use	3	3	3								
Safety	5	9	3		3	3			3		
Time	4	1	1	1	3	3		1		1	
Successful Installation	5	9	1	1	9	9			9	9	3
Tensile Test Results	2	3	9				9	3			3
Final Part and Assembly	4		9	9	9	9	3			9	3
Instruction Manual	5	3					3				3
Engineering Requirement Units		Al, SS 316L, Ti, Bronze	Al, SS 316L, Ti, Bronze	mm^3	V, A	N, Ar, bar, purity	Gpa	mm	N/A	N/A	mm
Engineering Requirement Targets		One	SS 316L	<90x90x80	240V, 16A	2 bar N, Ar, purity >=2.5	193	N/A	No audible leak	Even material distribution	±0.2mm
Absolute Technical Importance		124	87	45	108	108	45	10	60	85	48
Relative Technical Importance		12.412412	8.7087087	4.5045045	10.810811	10.810811	4.5045045	1.001001	6.006006	8.5085085	4.8048048