Printing Scale Ratio Test

Test Purpose: Since different materials have different shrinkage coefficients, this test aims to verify the optimal scale ratio for printing specific material.

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/Issuing Person

Test Specifications Nil

Test Period: 04/09/23 to 05/09/23

1. Printing Setting

Machine and Operation			
Printer Model:	MAGIC-HT-L	Nozzle Size:	0.4mm
Initial Layer Printing Temperature	410℃	Printing: Temperature	410℃
Printing Material			
Test Material:	PEEK	Batch Number:	Nil
New Unsealing:	No	Bake or not:	Yes
Material Type: /Diameter	Filament / 1.74mm	Bake Temperature: /Time	110℃ / 3hrs

Slicing Parameters					
First Layer Height:	0.25mm	Layer Height:	0.2mm	Solid Layers:	1.2mm
Initial Fan Speed:	0%	Perimeters:	0.8mm / 2Loops	Fan Speed:	100%
Fill Density:	30%	Support or not:	No	Travel Speed:	70mm/s
Infill Overlap: Percentage	5%	Perimeters: Speed	40mm/s	Outer Wall: Speed	40mm/s
Fill Pattern:	Grid	Flow:	100%		

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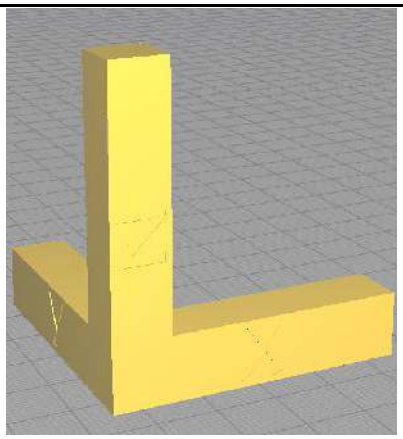
2. Sample

Test Sample Shape


3. Printing Result

Group	Design Size（mm）								
	X=100	Y=100	Z=100	X=200	Y=200	Z=200	X=300	Y=300	Z=300
Actual Size（mm）	99.31	99.66	99.98	198.93	199.39	200.00	298.44	298.90	299.42
Scale Ratio（%）	100.69	100.37	100.01	100.60	100.27	100.00	100.41	100.22	100.17

Result Analysis： From printing the size result, it can be concluded that the optimal scale ratio of PEEK is the values in red above.