

Materials List for:

Production of a Strain-Measuring Device with an Improved 3D Printer

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Materials

Name	Company	Catalog Number	Comments
ABS	Hengli dejian plastic electrical products factory		Used for printing 1.75 mm diameter wire for amplifying mechanism
Aluminum 6063 T83 bar			The length, width and thickness of cantilever beam are 380 mm, 51 mm, and 3.8 mm.
ANSYS	ANSYS	ANSYS 14.5	
CURA	Ultimaker	Cura 3.0	Slicing software, using with the improved 3D printer
Curing agent	Dow Corning		PDMS and curing agent are mixed with the weight ratio of 10:1
Driving device	Xinmingtian	E00	
Improved 3D printer and accessories			Made by myself. The rotary spherical lifting platform is adopted. The spherical lifting platform is equipped with a nozzle and a pipette, which can be switched and printed freely. With a rotary printing platform, the platform temperature can be freely controlled.
iPhone 6	Apple	MG4A2CH/A	8-megapixel sensor and the equivalent focus distance is 29mm
Magenetic stirrer	SCIOLOGEX	MS-H280-Pro	
Nylon	Hengli dejian plastic electrical products factory		Used for printing 1.75 mm diameter wire for amplifying mechanism
PDMS	Dow Corning	SYLGARDDC184	After the viscous mixture is heated and hardened, it can be combined with the lens amplification device of the mobile phone for image acquisition.
Shape analyzer	Gltech	SURFIEW 4000	
Solidworks	Dassault Systems	Solidworks 2017	Assist to modelling
VISHAY strain gauge	Vishay		Used to measure the strain produced in the experiment.
VISHAY strain gauge indicator	Vishay		Strain data acquisition.