Standart settings for 3D printer (Prusa MK4S)

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Tags: AE 3D print
Category: Protocol
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Goal

Overview of standart setting of 3D printer Equipment - 3D printer - PRUSA MK4S - CEEC I Lab 208

Prerequisites and preparation

Equipment - 3D printer - PRUSA MK4S - CEEC I Lab 208

Protocol - Using of 3D printer (Prusa MK4S)

Note: Settings, which cannot be edited with standart settings are not shown in tables below

Settings on main page

Name	Choosen state / value
/	Normal mode (yellow hexagon)
Filament	Generic PLA
Printer	Original Prusa MK4S HF0.4 nozzle
Supports	Support on build plate only
Infill	15 %
Brim	leave empty

Print settings - Layers and perimeters

Name	Choosen state / value
Layer height	0.2 mm
First layer height	0.2 mm
Perimeters	2
Spiral vase	leave empty
Solid layers Top	5
Solid layers Bottom	3
Minimum shell thickness Top	0.7 mm
Minimum shell thickness Bottom	0.5 mm

Ensure vertical shell thickness	Enabled
Thick bridges	leave empty
Betect bridging parameters	✔
seam position	Aligned
Seam gap distance	15 %
Staggered inner seams	leave empty
Scarf joint placment	Nowhere
Fill gaps	✔
Perimeter generator	Arachne
Fuzzy Skin	none
Fuzzy skin thickness	0.3 mm
Fuzzy skin point distance	0.8 mm

Print settings - Infill

Name	Choosen state / value
Fill density	15 %
Fill pattern	Grid
Length of the infill anchor	2 mm
Maximum length of the infill anchor	12 mm or %
Top fill pattern	Monotonic lines
Bottom fill pattern	Monotonic
Enable ironing	leave empty
Automatic infill combination	leave empty
Combine infill every	1 layers
Fill angle	45 °
Bridging angle	0 °

Print settings - Skirt and brim

Name	Choosen state / value

Loops (minimum)	0
Brim type	Outer brim only
Brim width	0 mm
Brim separation gap	0.1 mm

Print settings - Support material

Name	Choosen state / value
Generate support material	✔
Auto generate supports	✔
Overhang threshold	40 °
Raft layers	0 layers
Style	orgnaic
Top contact Z distance	0.2 (detachable) mm
Bottom contact Z distance	same as top mm
Pattern	rectiliniear
Pattern spacing	2
Top interface layers	3 (heavy) layers
Bottom interface layers	0 layers
Interface pattern	default
Interface pattern spacing	0.2 mm
Support on build plate only	✔
XY sparation between an object and its support	80 %
Don´t support bridges	leave empty
Maximum Branch angle	40 °
Preferred Branch angle	25 °
Branch diameter	2 mm

Branch diamter angle	5 °
Branch diamter with double walls	3 mm
Tip diamter	0.8 mm
Branch Distance	1
Branch Density	30 %

Print settings - Speed

Name	Choosen state / value
perimeters	250 mm/s
small perimeters	170 mm/s
external perimeters	200 mm/s
infill	250 mm/s
solid infill	250 mm/s
top solid infill	100 mm/s
support material	120 mm/s
support material interface	50 %
bridges	50 mm/s
over bridges	35 %
gap fill	120 mm/s
travel	300 mm/s
z travel	12 mm/s
first layer speed	40 mm/s
first layer solid infill speed	100 mm/s

Print settings - Multiple extruders

Name	Choosen state / value
perimeter extruder	1
infill extruder	1
solid infill extruder	1
support material/raft/skirt extruder	0

support material/raft/skirt interface extruder	0
wipe tower extruder	0
Bed temperature by extruder	0
enable	✔
width	60 mm
wipe tower brim width	2 mm
maximal bridging distance	10 mm
stabilization cone apex angle	25 °
No sparse layers (Experiemtnal)	leave empty
Prime all printing exturders	leave empty
Use beam interlocking	leave empty

Print settings - Advanced

Name	**Choosen state / value**
Default extrusion width	0.45 mm
First layer	0.5 mm
Periemters	0.45 mm
External perimeters	0.45 mm
Infill	0.45 mm
solid infill	0.45 mm
Top solid infill	0.42 mm
Support material	0.4 mm
automatic extrusion widhts calculation	leave empty
Brdge flow ratio	1
slice gap closing radius	0.049 mm
slicing mode	regular

arc fitting	Enabled: G2/3 I J
elephant foot compensation	0.2 mm

Print settings - Advanced

Name	Choosen state / value
Complete individual objects	leave empty
label objects	Firmeware specific

Print settings - Notes

Name	Choosen state / value
	leave empty

Print settings - Dependencies

Name	Choosen state / value
Compatile printes	✔all

Linked experiments

Photoreactor - AE-367: Setup of advanced irradiation setup V1.0

Photoreactor - AE-594: Design and printing of 2nd generation of holder for power measurment

Linked resources

Archived - Determining power output in the Advanced irradiaiton setup V1.0

Equipment - Advanced power measurment setup V1.0 I

Equipment - 3D printer - PRUSA MK4S - CEEC I Lab 208

Protocol - Using of 3D printer (Prusa MK4S)

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