

Additive Manufacturing Lab Prices

Last Updated: February 12th, 2020

For Fusion Deposition Modeling (FDM) Printers

Unless ASA is explicitly requested in the "Project Details" on the Smartsheet form, ABS may be substituted for ASA and vice versa. Choice of printer based on availability, and decided by the Additive Manufacturing Lab.

Each project requires a minimum of one build tray or sheet, 0.1 cu.in. of model material, and 0.1 cu.in. of support material.

Final values are calculated using GrabCAD Print based on the CAD models provided, and rounded to the nearest 0.1 cu.in.

Fortus 250 Tip Cost is negligible and not included.

Ultem parts do not have a soluble support material, so they will either be charged for no support required, or breakable support material in the labor rates.

Threaded Inserts will be charged at cost.

Labor Costs			
	Labor Rate:	\$27.69	per hour
	Base Time - slicing software (applies to all projects)	0.25	hour
	Tray Setup (per tray, multiple by number of trays, minimum 1 tray)	0.25	hour/tray
	Tip Change for material other than ABS/ASA	1	hour
	No Support Material Required (flat bottom part)	0	hour
	Breakable Support Material (solvent tank not needed)	0.5	hour/tray
	Support Requires Solvent Tank	1	hour/tray
	Threaded Inserts (per 10 installed)	0.5	hour/set

Material Costs						
Fortus 450 Materials						
Material	Type	Purchase Price	Purchase Amt	Unit	Price	Unit
ASA SR35 Support	Sheet	\$120.00	20	sheets	\$6.00	sheet
	Model Material	\$175.00	92	cu.in.	\$1.90	cu.in.
	Support Material	\$360.00	92	cu.in.	\$3.91	cu.in.
ABS-M30i SR35 Support	Sheet	\$120.00	20	sheets	\$6.00	sheet
	Model Material	\$175.00	92	cu.in.	\$1.90	cu.in.
	Support Material	\$360.00	92	cu.in.	\$3.91	cu.in.
Polycarbonate SR100 Support	Sheet	\$120.00	20	sheets	\$6.00	sheet
	Model Material	\$197.50	92	cu.in.	\$2.15	cu.in.
	Support Material	\$450.00	92	cu.in.	\$4.89	cu.in.

Nylon 12 SR110 Support	Sheet	\$300.00	20	sheets	\$15.00	sheet
	Model Material	\$197.50	92	cu.in.	\$2.15	cu.in.
	Support Material	\$450.00	92	cu.in.	\$4.89	cu.in.
Ultem 9085 Ultem 9085 Support	Sheet	\$572.00	20	sheets	\$28.60	sheet
	Model Material	\$342.50	92	cu.in.	\$3.72	cu.in.
	Support Material	\$342.50	92	cu.in.	\$3.72	cu.in.
Ultem 1010 CG Ultem 1010 Support	Sheet	\$572.00	20	sheets	\$28.60	sheet
	Model Material	\$788.00	92	cu.in.	\$8.57	cu.in.
	Support Material	\$342.50	92	cu.in.	\$3.72	cu.in.

Fortus 450 Model Tip Life

Material	Model Tip Type		Purchase Price	Max Life	Unit	Price	Unit
ABS-M30i	T10	0.005"	\$105.00	620	cu.in.	\$0.17	cu.in.
	T12	0.007"	\$105.00	770	cu.in.	\$0.14	cu.in.
	T16	0.010"	\$105.00	920	cu.in.	\$0.11	cu.in.
	T20	0.013"	\$105.00	920	cu.in.	\$0.11	cu.in.
ASA	T10	0.005"	\$105.00	620	cu.in.	\$0.17	cu.in.
	T12	0.007"	\$105.00	770	cu.in.	\$0.14	cu.in.
	T16	0.010"	\$105.00	920	cu.in.	\$0.11	cu.in.
	T20	0.013"	\$105.00	920	cu.in.	\$0.11	cu.in.
Nylon 12	T12	0.007"	\$105.00	491	cu.in.	\$0.21	cu.in.
	T16	0.010"	\$105.00	552	cu.in.	\$0.19	cu.in.
	T20	0.013"	\$105.00	552	cu.in.	\$0.19	cu.in.
Polycarbonate	T10	0.005"	\$105.00	620	cu.in.	\$0.17	cu.in.
	T12	0.007"	\$105.00	740	cu.in.	\$0.14	cu.in.
	T16	0.010"	\$105.00	830	cu.in.	\$0.13	cu.in.
Ultem 1010 CG	T14	0.010"	\$100.00	552	cu.in.	\$0.18	cu.in.
	T20	0.013"	\$105.00	739	cu.in.	\$0.14	cu.in.
Ultem 9085	T16	0.010"	\$105.00	550	cu.in.	\$0.19	cu.in.

Fortus 450 Support Tip Life

Material	Support Tip Type	Layer Height	Purchase Price	Max Life	Unit	Price	Unit
ABS-M30i	T12SR30	0.005"	\$105.00	270	cu.in.	\$0.39	cu.in.
	T12SR30	0.007"	\$105.00	550	cu.in.	\$0.19	cu.in.
	T12SR30	0.010"	\$105.00	640	cu.in.	\$0.16	cu.in.
	T12SR30	0.013"	\$105.00	640	cu.in.	\$0.16	cu.in.
ASA	T12SR30	0.005"	\$105.00	270	cu.in.	\$0.39	cu.in.
	T12SR30	0.007"	\$105.00	550	cu.in.	\$0.19	cu.in.
	T12SR30	0.010"	\$105.00	640	cu.in.	\$0.16	cu.in.
	T12SR30	0.013"	\$105.00	640	cu.in.	\$0.16	cu.in.
Nylon 12	T12SR100	0.007"	\$105.00	550	cu.in.	\$0.19	cu.in.
	T12SR100	0.010"	\$105.00	664	cu.in.	\$0.16	cu.in.
	T12SR100	0.013"	\$105.00	664	cu.in.	\$0.16	cu.in.
Polycarbonate	T12SR100	0.005"	\$105.00	370	cu.in.	\$0.28	cu.in.
	T12SR100	0.007"	\$105.00	550	cu.in.	\$0.19	cu.in.
	T12SR100	0.010"	\$105.00	644	cu.in.	\$0.16	cu.in.

Ultem 1010 CG	T16	0.010"	\$105.00	460	cu.in.	\$0.23	cu.in.
	T16	0.013"	\$105.00	647	cu.in.	\$0.16	cu.in.
Ultem 9085	T16	0.010"	\$105.00	460	cu.in.	\$0.23	cu.in.
Fortus 250 Materials							
Material	Type	Purchase Price	Purchase Amt	Unit	Price	Unit	
ABSplus SR30 Support	Build Plate	\$125.00	24	trays	\$5.21	tray	
	Model Material	\$130.00	56.3	cu.in.	\$2.31	cu.in.	
	Support Material	\$250.00	56.3	cu.in.	\$4.44	cu.in.	

**For StereoLithography (STL) Printers
(Formlabs Form 3)**

Labor Costs						
				Labor Rate:	\$27.69	per hour
Base Time - slicing software (applies to all projects)					1	hour
Post Processing time per tray					1	hour
Formlabs Form 3 Materials						
Material	Purchase Price	Purchase Amt	Price (\$/L)	Price (\$/mL)	Price (\$/cu.in.)	
Grey Resin	\$149.00	1 Liter	\$149.00	\$0.15	\$2.44	
Flexible Resin	\$199.00	1 Liter	\$199.00	\$0.20	\$3.26	
Elastic Resin	\$199.00	1 Liter	\$199.00	\$0.20	\$3.26	
High Temperature Resin	\$199.00	1 Liter	\$199.00	\$0.20	\$3.26	
Clear Resin	\$149.00	1 Liter	\$149.00	\$0.15	\$2.44	
Castable Wax Resin	\$299.00	1 Liter	\$299.00	\$0.30	\$4.90	

Ender 3 Print Costs

Labor Costs						
		Labor Rate:		\$27.69	per hour	
Base Time - slicing software (applies to all projects)		0.25	hour			
Tray Setup (per tray, multiple by number of trays, minimum 1 tray)		0.25	hour/tray			
Labor for material other than PLA		1	hour			
No Support Material Required (flat bottom part)		0	hour			
Breakable Support Material (solvent tank not needed)		0.5	hour/tray			
Support Requires Solvent Tank		1	hour/tray			
Threaded Inserts (per 10 installed)		0.5	hour/set			
Material Costs						
Ender Materials						
Material	Brand	Purchase Price	Purchase Amt	Unit	Price	Unit
PLA	Hatchbox	\$22.99	1000	g	\$0.0230	g
ABS	Hatchbox	\$21.99	1000	g	\$0.0220	g
PETG	Hatchbox	\$23.99	1000	g	\$0.0240	g
TPU	Ninjaflex	\$32.50	500	g	\$0.0650	g