

MAKERBOT (prices are per gram)

\$0.09 / gram (black / white)

\$0.12 / gram (color)

Material: PLA plastic 1.75mm

Maximum build: 11" x 6"x 6"

Minimum thickness: 1mm (1/32")

Resolution: 100 micron

GOOD FOR PRINTING SMALL PARTS, TOYS, GEARS, JEWELRY, SIMPLE FORMS & SHAPES.

PROS

- Models are fully cured, no finish required.
- Prints in solid colors throughout the entire model (single colors only)
- Small parts print quickly.
- Models can be sanded, drilled, cut, melted, painted, air-brushed, etc.
- Models are semi-flexible, can twist & bend slightly.

CONS

- Simple shapes & forms only
- Fine detail is lost/melted in small parts
- Parts can wear down quickly. Thin areas can crack, break, or snap easily.
- Complicated forms (i.e. overhangs) require support structures.

FORM1 (prices are per milileter)

\$ 0.30 / ml standard resin (black, white, clear)

\$ 0.35 / ml tough resinn

\$ 0.40 / ml flexible resin

\$ 0.60 / ml castable resin

Materials: Liquid photopolymer resins. Includes: black, clear and white standard resins, castable and flexible functional resins (for moving parts)

Maximum build: 4.9" x 4.9" x 6.5"

Minimum thickness: 0.3 mm

Resolution: Up to 25 micron

GOOD FOR PRINTING SMALL, THIN OR HIGHLY DETAILED MODELS WITH FUNCTIONAL MOVING PARTS.

PROS

- High resoluion prints
- Aesthetically pleasing look, clean precise print

CONS

- Long build time and limited build size.
- Removing support material from complicated forms is time consuming.
- Thin parts can be brittle.

PROJET 660 (prices are per milileter/cubic inch)

\$0.37 / ml binder (black / white)

\$0.45 / ml binder (cyan, magenta, yellow)

\$0.26 / cubic inch core material

\$35.00 / 16 oz starbond infiltrant

Material: Visijet PXL

Maximum build: 10" x 15" x 8"

Minimum thickness: 0.1 mm

Resolution: 600dpi x 540 dpi

GOOD FOR PRINTING LARGE OBJECTS, MOLDS & FORMS, HIGH QUALITY & HD COLOR MODEL.

PROS

- Support material can be reused.
- Models can be printed in fine detail.
- Models can be multi-colored.
- Models can be sanded, painted, and airbrushed after being fully cured *
- Mimics feel of ceramic/plaster/stone.

CONS

- Models are fragile and must be cured/hardened with either infiltrant or resin to ensure they dont break and shatter when handled.
- Hardened models are strong but edges are brittle, prone to chipping.
- Models are heavy & inflexible.

OBJET 24 (prices are per gram)

\$0.30 / gram for build material

\$0.15 / gram for support material

Material: VeroWhite

Maximum build: 5" x 7" x 9"

Minimum thickness: 1/2mm (1/64")

Resolution: Up to 28 micron

GOOD FOR PRINTING SMALL, THIN OR HIGHLY DETAILED MODELS WITH FUNCTIONAL MOVING PARTS.

PROS

- Models are fully cured, no finish required.
- Can print complex shapes, forms, and geometries.
- Prints in paper-thin layers for detailed prototypes.
- Prototypes can be designed with multiple moving parts and joints.

CONS

- Support material cannot be reused, increases print cost.
- Removing support material from complicated forms is time consuming.
- Prints only in white plastic. Strong but brittle and inflexible.
- Heat sensitive, will melt/warp in temperatures above 40°C/104°F.

ULTIMAKER

\$0.15 / gram

Materials: PLA plastic 2.85mm
Maximum build: 8" x 8" x 12"
Minimum thickness: 1mm
Resolution: Up to 20 micron

**GOOD FOR PRINTING SMALL PARTS, TOYS,
GEARS, JEWELRY, SIMPLE FORMS & SHAPES.**

PROS

- Prints in solid colors throughout the entire model (single colors only)
- Small parts print quickly.
- Models can be sanded, drilled, cut, melted, painted, air-brushed, and etc.
- Models are semi-flexible, can twist & bend slightly.

CONS

- Simple shapes & forms only
- Fine detail is lost/melted in small parts
- Parts can wear down quickly. Thin areas can crack, break, or snap easily.
- Complicated forms (i.e. overhangs) require support structures.

uPRINT

\$0.30 / gram for build material
\$0.50 / gram for support material

Material: ABSplus
Maximum build: 8" x 6" x 6"
Minimum thickness: .254 mm (.010 in)
Resolution: 100 micron

**GOOD FOR SMALL TO MEDIUM SIZED PROTOTYPES THAT
NEED SUPPORTS**

PROS

- ABS material can be smoothed with acetone to remove print lines and achieve a glossy finish
- Water soluble supports for easy removal
- Models can be sanded, drilled, cut, melted, painted, air-brushed, etc.
- ABS is stronger than PLA

CONS

- Cannot print without supports
- Parts can wear down quickly. Thin areas can crack, break, or snap easily.
- Cant print as large as Ultimaker or MakerBot

OBJET260 CONNEX3

\$ Prices vary with material

Materials: Multi-material print. Includes: rubber, rigid plastic, polypropoline
Maximum build: 10" x 9.9" x 7.9"
Minimum thickness: 16 microns (0.0006 in.)
Resolution: 16 micron (X axis: 600dpi, Y axis: 600dpi, Z axis: 1600dpi)

**GOOD FOR PRINTING MULTI-MATERIAL OBJECTS &
MODELS WITH FUNCTIONAL MOVING PARTS.**

PROS

- Multiple materials can be printed at the same time, no assembly needed.
- Models are fully curated, no finishing required.
- Can print complex shapes, forms, and geometries.
- Prints in paper-thin layers for detailed prototypes.
- Prototypes can be designed with multiple moving parts and joints.

CONS

- Support material cannot be reused, increases print cost.
- Removing support material from complicated forms is time consuming.
- Most expensive 3D printer.

