



Lab Policies & Procedures

University of Wisconsin-Milwaukee
Rapid Prototyping Lab

Rapid Prototyping Services

The rapid prototyping lab at the UWM School of Architecture offers students and professionals access to a number of tools and resources aimed at computer-aided prototyping and model making. Laser cutting, plastic & powder 3D printing, die cutting, and vacuum forming are all services available in the Rapid Prototyping Lab.

Pricing and Payment:

Laser cutters (amount due on pick up)

\$/min	SARUP Student	SARUP Faculty	UWM Campus	Professional
Price	\$0.70	\$0.70	\$1.00	\$1.50

Die cutter (amount due on pick up)

\$/ft ²	SARUP Student	SARUP Faculty	UWM Campus	Professional
Vinyl	\$0.50	\$0.70	\$1.00	\$1.50
Transfer Tape	\$0.50	\$0.70	\$1.00	\$1.50

*Powder 3D Printers (amount due **BEFORE** printing)*

\$/in ³	SARUP Student	SARUP Faculty	UWM Campus	Professional
Black/White	\$3.00	\$4.00	\$4.00	\$10.00
Color	\$4.00	\$5.00	\$8.00	\$15.00

*Plastic 3D Printers (amount due **BEFORE** printing)*

\$/Print	SARUP Student	SARUP Faculty	UWM Campus	Professional
Setup Fee	\$2.00	\$2.00	\$2.00	\$2.00

File Types and Software:

Laser Cutters:

The lab only accepts laser cut submissions that are on the AutoCAD template available on the SARUP webpage and the R Drive. Submissions that are not on the template will not be accepted. There are two different templates for the different sized laser cutters. Please only use the 24" x 48" laser cutter if you need the large bed size. During a rush when projects are due, you will get your files back faster if they are formatted for the small laser cutters. Curved designs will cut at a slower speed than a design with only straight lines. Dashed lines also take much longer to cut. Requests with large amounts of etching will take a substantial amount of time leading to a high cost. Please ask for a quote if considering large amounts of etching.



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File Types and Software:

Die Cutter:

The die cutter accepts PDF and Illustrator files to be cut. The machine does not work with AutoCAD. Please format the file to the size of what you are cutting. The maximum width of the file is 23 inches and can be as long as the available vinyl is.

Powder 3D Printer:

The lab accepts STL and ZPR files. STL files do not contain color so if you would like your model to have color you will need to edit the file in Z Edit Pro and save it as a ZPR file. If your file has errors in it you can run it through the **Microsoft STL Repair Tool**.

Plastic 3D Printer:

The lab accepts STL files for the plastic 3D printers. If your file has errors in it you can run it through the **Microsoft STL Repair Tool**. The plastic printers hollow the models on their own so there is no need to shell or hollow a model before plastic printing.

General Policies

- Placement in the queue for the laser cutter is determined by when materials are brought into the lab - not when the email with the Job Request Form is sent.
- Placement in the queue for the 3D printer is determined by when the model is verified and paid for - not when the email with the Job Request Form is sent.
- Files that are not submitted in the correct file format or layout will not be processed and client will be asked to resubmit.
- The lab does not provide cost or time estimates on laser or 3D print submissions. Please do not ask for one as this is against policy.
- The lab techs can tape material after it is laser cut to keep the pieces in place if tape is provided when the material is dropped off.
- All equipment in the lab may only be operated by a lab tech.
- If a piece of material was cut incorrectly, either due to a technical error or by the fault of the tech, the lab will recut only the pieces of material affected at no charge. Additional material must be provided.
- In the event that a refund is needed due to an accidental over charge, or a canceled 3D print, a refund request must be submitted to the lab via email and processed accordingly.



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Request Submission:

Laser Cut Submission:

- Download the Job Request Form (found on the SARUP website and the R Drive).
- Fill out the Job Request Form and save it to your computer. **Do not save back to the R Drive.**

Send an email with the subject *FIRSTNAME_LASTNAME_LASERCUT* to uwmrplab@uwm.edu and attach the following files to the email:

- The completed and saved Job Request Form
- Your RP Lab AutoCAD template

- Bring the physical material to 179, print off the Laser Request form and then place the material and the form on the white wire rack to the left of the front desk.

The lab will send a response email when the cut materials are ready to be picked up and with the final charge amount.

Die Cut Submission:

Download the Job Request Form (found on the SARUP website and the R Drive).

Fill out the Job Request Form and save it to your computer. **Do not save back to the R Drive.**

Send an email with the subject *FIRSTNAME_LASTNAME_DIECUT* to uwmrplab@uwm.edu and attach the following files to the email:

- The completed and saved Job Request Form
- Your PDF or Illustrator file

Wait for email for completion of cut to pick up or to come to 179 to remove excess vinyl you do not want so transfer tape can be applied. Email will include final charge amount.

Powder 3D Print Submission:

Download the Job Request Form (found on the SARUP website and the R Drive).

Fill out the Job Request Form and save it to your computer. **Do not save back to the R Drive.**

Send an email with the subject *FIRSTNAME_LASTNAME_POWDER* to uwmrplab@uwm.edu and attach the following files to the email:

- The completed and saved Job Request Form
- Your STL or ZPR file(s)

Immediately come to 179 to verify dimensions and pay for your print.

Machines are run overnight or when build is full. Builds can take over 24 hours so allow multiple days to get your print back for your project.



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Request Submission:

Plastic 3D Print Submission:

Download the Job Request Form (found on the SARUP website and the R Drive).

Fill out the Job Request Form and save it to your computer. **Do not save back to the R Drive.**

Send an email with the subject *FIRSTNAME_LASTNAME_PLASTIC* to uwmrplab@uwm.edu and attach the following files to the email:

The completed and saved Job Request Form
Your STL file(s)

Immediately come to 179 to verify dimensions and pay for your print. Plastic printers require you to bring your own material and have a print setup fee.

Machines are run in order that prints are paid for on the various plastic printers. Printers are first come first serve so plan accordingly. You will be emailed when your print is completed

Vacuum Former:

Bring the physical model or item that you would like to be vacuum formed down to the lab along with the vacuum form plastic.

Ask a technician for help to get you model vacuum formed. Please be patient if the lab is busy, the technician will be with you as soon as all the other machines are taken care of in the lab.

Allow about 10-15 minutes to get a form made.

3D Laser Scanner:

All 3D scanning is to be done by appointment only. You can set up an appointment with Matt Mabee or Will Krueger.

Allow at least 1 hour to scan small items and even longer for objects larger than 2' x 2'.

Files that come out of scanning are not perfect and are not immediately ready to print. Files will take some post production to reach that point.