

## File Exchange NEU

Template Monitors only accept files that use the NEU\_LASER TEMPLATE.dwg file. The laser will not recognize self-made files.

Download template here:

[https://www.dropbox.com/s/uc3i4azj3fiep0z/NEU\\_template\\_24X32.dwg?dl=0](https://www.dropbox.com/s/uc3i4azj3fiep0z/NEU_template_24X32.dwg?dl=0)

Rename the file: **Your Name\_NEU\_LASER TEMPLATE**

Save the file you wish to use to a USB flash drive and bring it with you to your appointment along with your precut material and masking tape. Monitors only accept files from students on USB drives.

Convert linework from other programs such as Rhino to Cad and then copy it into the template. Within the template, copy as many artboards as needed in model space, and then copy + paste your linework into the NEU\_LASER TEMPLATE.

Rename the file: **Your Name\_NEU\_LASER TEMPLATE.**

**KEEP LINEWORK JOINED AS POLYLINES** with a 0.0 mm thickness.

*Why?* The laser stops and starts at the beginning and end of a line segment and **ONLY PRINTS** 0.0 mm lines.

**REMOVE DOUBLE/EXTRA LINES.**

*Why?* The laser cuts every line, and will recut the same path multiple times if there are multiple lines on the same path -thereby extending the time it takes to cut your boards, as the laser will cut. All line work must fit within the Art Board and its 1/4" Margin.

Use the **OVERKILL** Command in AutoCad to delete any double lines, as the laser cutter will cut them twice.

## **RED-CUT**

Place line work in this layer if you want to cut through the material

## **BLUE-SCORE**

Place line work in this layer to apply a finer grain surface detail line work or to aid with creases and folds. The laser will not penetrate the material

## **MAGENTA-ART BOARD**

The provided art board represents your 18" x 32" trimmed material. Copy and past this as many times as needed within the laser template file. The laser does not cut, score or burn on this layer

## Acceptable Materials

Cut larger sheet material down to 17 3/4" x 31 3/4" so that they fit easily within the laser bed. Boards may not exceed the Laser Bed Dimensions of 18" x 32" Materials will warp if they sit out so keep them flat underneath heavy objects. Warped boards prevent the laser from cutting through the material accurately. Boards even slightly larger than 18"x32" will bow in the bed and distort the capacity of the laser to cut cleanly.

Chipboard	1/32" .03125
Chipboard	1/16" .0625
Bainbridge	1/16" .0625
Museum Board	1/16" .0625
Cardboard	1/8" .125
Basswood	1/16" .0625
Bsswood	1/8" .125

## Prohibited Materials

Foamcore  
Plexiglas  
Acrylic  
1/8" Chip Board

## Scaling Your Line Work

Only AutoCAD files are accepted. Students should only copy and paste line work that needs to be cut into the NEU Laser Template. Scale work to fit within the limits of the laser bed to both conserve material and ensure that your drawing is not truncated (cut off because it doesn't fit within the artboards dashed margin, and/or is not scaled correctly). Note: A very simple way to do this is to draw a rectangle in model space that translates the size of the laser bed to the scale you desire.

NOTE That the minimum dimension that the laser cuts depends on the thickness of the material you are using. For extra fine laser work, we suggest you test the settings prior to final cut. When planning for a laser cut model, you know its pieces must fit within the Laser Cutter's bed and therefore you must choose an appropriate scale. In Model Space use the Laser Cutter Bed size of 18" x 32" and multiply 18 and 32 by the scale you desire.

At a 1/4" = 1' scale: Multiply 18 x 4 = 72 Multiply 32 x 4 = 128

This will produce a rectangle that is 72' x 128' in model space. Any portion of your drawing that fits into this rectangle will be at 1/4" scale. Once you've compiled your draft art boards, copy them to the NEU Laser Template and scale down to 18" x 32"

At 1:200 scale:

Multiply 18 x 200 = 3600

Multiply 32 x 200 = 6400

This will produce a rectangle that is 3600' x 6400' in model space. Any portion of your drawing that fits into this rectangle will be at 1:200 scale. Once you've compiled your draft art boards, copy them to the NEU Laser Template and scale down to 18" x 32"

### Scaling in AutoCad is simple

Select all the boards, but use one to scale them all. Either with Reference Points or, as you know the desired dimensions, reference one board's length and input the desired length (from 3600' to 18").