

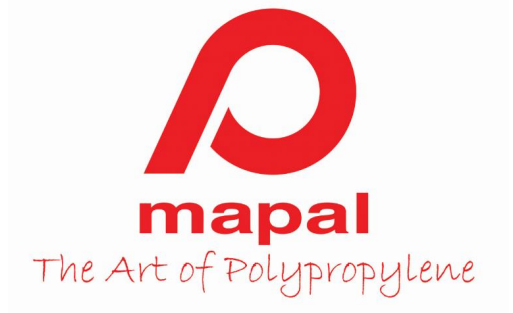


PolyCraft Fabrication Guide

2018

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# Panel Saw

- Schelling or Hendrick
- Blade: 100-120 teeth
- Speed: 3500 RPM
- Saw Forwarding: 60-40ft per minute
- Max # of sheets to cut: 4"-5" in total



good cutting ->

not good cutting ->



# CNC Router



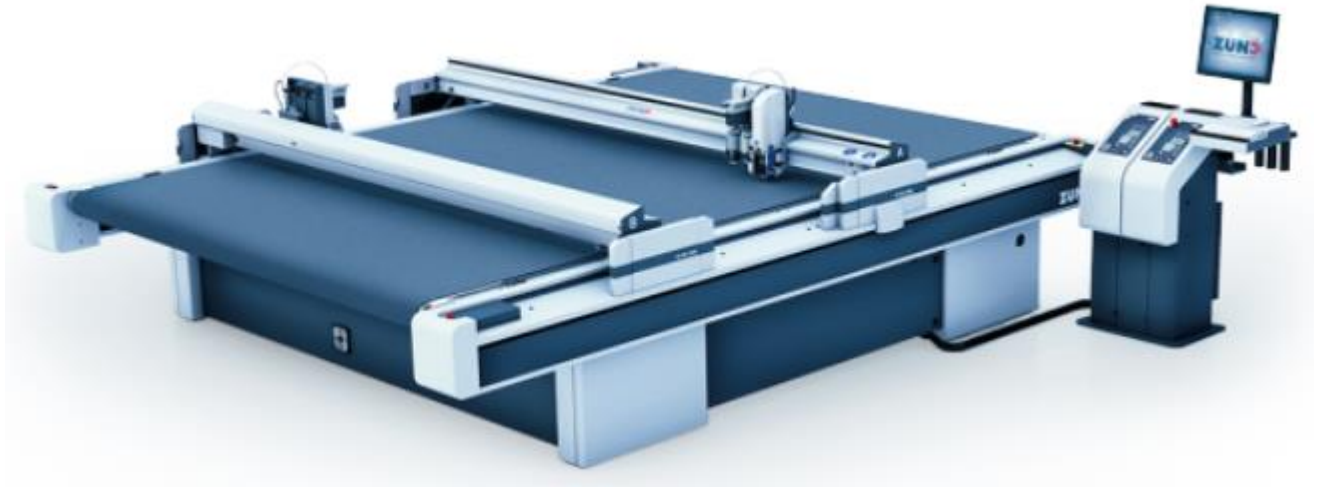
- Recommended Tool: 1/8" or 1/4" Vertical or Straight bot
- Speed Rate: 60 -75 rpm
- Feed Rate:
- Recommendations: The material can be routed using either a .118 or .25 bit but it has to be a vertical or straight bit. We recommend .118 for thinner pieces and .25 for thicker. The speed can be move up and down from 60 to 75 RPM. On straight routed lines, you can elevate the speed to 75 rpm and the edges will come smoother since you won't let the piece to heat up. On cursive corners or holes, it would be more recommendable to lower the speed. We used the Hendricks which I our oldest router and I can guarantee you that if you use a thermwood or a zund router the outcome will be more lucrative. In the picture, you will noticed we use a mechanical drawing and in my opinion it looks great.



# Zund Router



- Recommended tools – hard Knifes
- HTZ-011
- HTZ-013
- HTZ-017
  
- Same as PVC knives

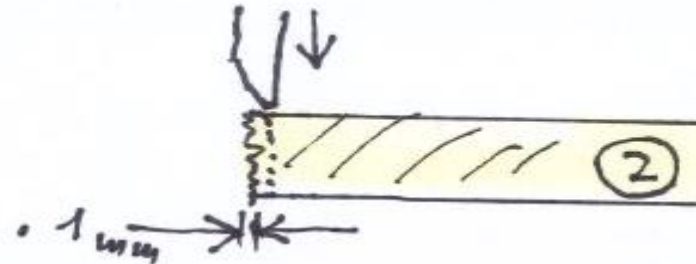


# Guillotine

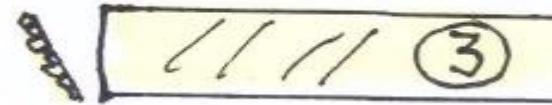
1<sup>st</sup> cutting →



2<sup>nd</sup> cutting →



Results is nice clean edge →



- To provide a clean cut, please make two cuts. The first should be ~1mm longer than the desired final length. The second cut removing the 1mm is to clean up the edges

# Die-Cutting

- Use good knives
- Strong knives
- Heated Die cut is the best for PolyCraft



# Laser



## Our technical equipment:

System:	eurolaser M-800		
Working area:	1.330 x 750 mm	Gas consumption:	Air
Laser:	Synrad CO <sub>2</sub> Sealed-Off	Exhaust:	under the material
Software:	LaserScout	Controlling:	HPGL-data format

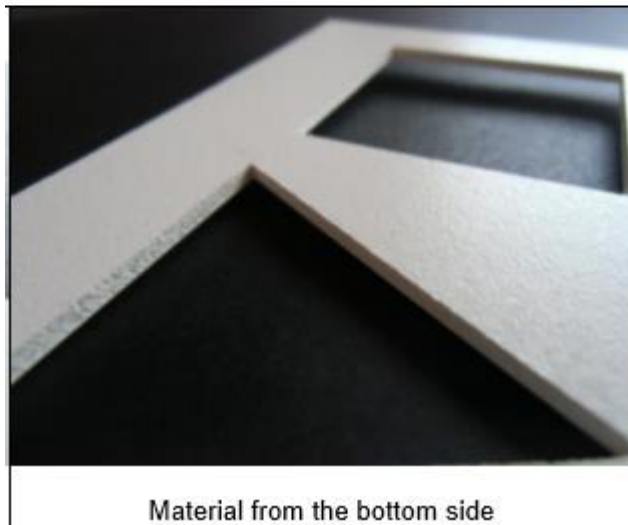
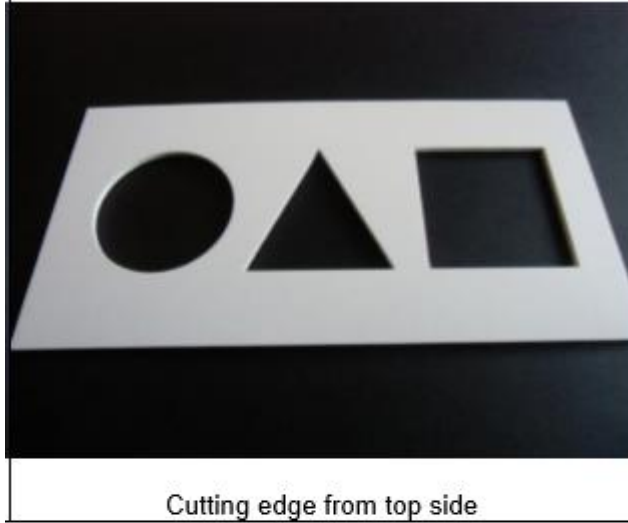
## Determined process parameters:

Laser power:	100 watts		
Dimension/cut:	150 x 75 mm	Production time/cut:	Look at table.
Dimension/engraving:	without	Production time/engraving:	without
Emissions:	Not defined	Cutting ability in your material:	<input checked="" type="checkbox"/> 😊 excellent
			<input type="checkbox"/> 😐 average
			<input type="checkbox"/> 😞 inappropriate

Material	Drawing	Processing speed (mm/s)	Laser power (Watt)	Processing time (mm:ss)	Thickness (mm)
PP blue sheet	○ △ □	180	100	0:07	0.3
PP white sheet	○ △ □	150	100	0:08	0.4
PP clear sheet	○ △ □	150	100	0:08	0.4
PP total opaque white sheet	○ △ □	150	100	0:08	0.4
PP foam sheet	○ △ □	25	100	0:38	2.0



# Laser



## Conclusion:

The material can be cut perfectly by laser. Filigree contours will be reproduced in high quality.

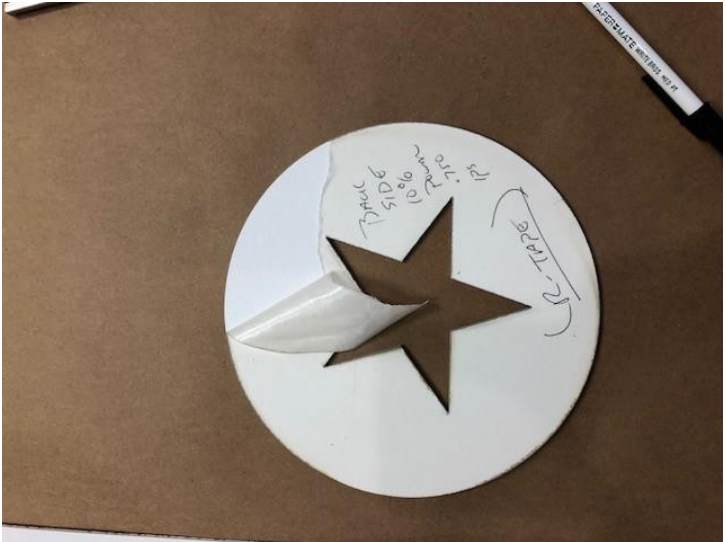
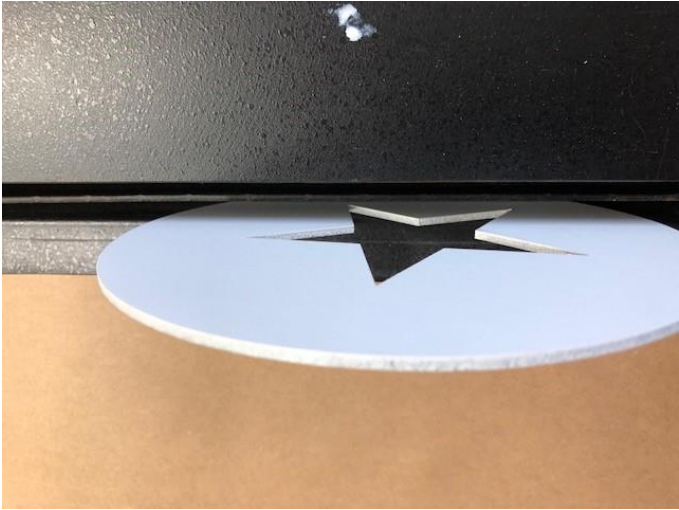
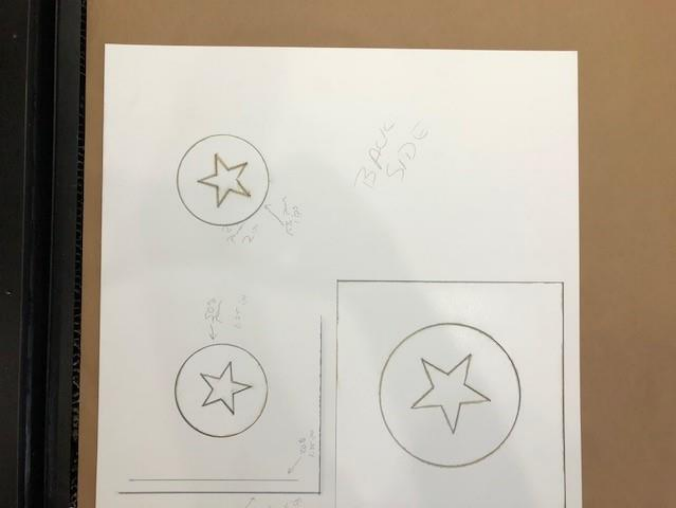
Due to the contact-free cutting with the laser, mechanical clamping or fixing of the material is not necessary.

We used compressed air to have a clean cutting edge without any smoke residue and for the 2mm material application tape to around the gap.

Under the material we used a template to have no reflection marks from the honeycomb for each material.

# Laser – 2<sup>nd</sup> Test results

I've attached some pics. etc.... Material laser cuts fine.  
I'm using a 450 watt c02 laser. Best results was with R-Tape  
on the backside and 10% power at .750ips



Thank You for your interest in Mapal

