CNSI Microfluidics Laser Cutting Data

Material Vendors

Acrylic sheet, optically clear, from McMaster Carr: part number 8560K239
http://www.mcmaster.com/#catalog/119/3558/=molz4w

Cutting Parameters

Acrylic Sheet

Cutting 1/8”, 100% power, 0.4 ipm, 2000 Hz, (Dave Bothman, 5/5/13 - clean cut)

Cutting 1/4”, 100% power, 0.15 ipm, 1000 Hz, z offset -.125, (Dave Bothman, 5/5/13 - clean cut)

PDMS

250um PDMS with mylar backing on back side and removed from front

Cutting 42% power, 2.0 1ps, 5000Hz (Peter Mage, 5/9/13 - some flash and soot - recipe needs to be refined)

Double Sticky Tape

25% power, 3 ips

Gore Teflon Foam 1/16“ 15% power, 0.5% speed, 1000 Hz (DB 7/9/15)

Silicone Rubber sheet, 1/8” 100% power, 0.1% speed, 2000 Hz - use Nitrogen gas (DB 7/9/15)

Guideline Cutting Recipes

Acrylic

1. 1/8 acrylic

	Color	Power	Speed	PPI/Hz	Passes	Air Assist	Correction	Z-Offset
Engrave	Black	25	20	PPI	-	on	0	0

	Color	Power	Speed	PPI/Hz	Passes	Air Assist	Correction	Z-Offset
Cut	Red	25	0.4	Hz	1	on	10	0
Cut	Blue	100	0.4	PPI	1	on	10	0

-1/10 acrylic

	Color	Power	Speed	PPI/Hz	Passes	Air Assist	Correction	Z-Offset
Skip	Black	-	-	-	-	on	-	-
Cut	Red	2	0.1	Hz	1	Hz	1	0
Cut	Blue	15	0.5	Hz	5	Gas 1	0	0

	Color	Power	Speed	PPI/Hz	Passes	Air Assist	Correction	Z-Offset
Engrave	Row 1 Col 2	Row 1 Col 3						
Cut	no colspan this time							
Cut	Row 2 Col 2	Row 2 Col 3						

- Recipes from Vincent

	Heading 1	Heading 2
Heading 3	Row 1 Col 2	Row 1 Col 3
Heading 4	no colspan this time	
Heading 5	Row 2 Col 2	Row 2 Col 3

- Recipes from Rachel

	Heading 1	Heading 2
Heading 3	Row 1 Col 2	Row 1 Col 3
Heading 4	no colspan this time	
Heading 5	Row 2 Col 2	Row 2 Col 3

- Recipes from Ola

	Heading 1	Heading 2
Heading 3	Row 1 Col 2	Row 1 Col 3
Heading 4	no colspan this time	
Heading 5	Row 2 Col 2	Row 2 Col 3

- Recipes from Beach

Scribing microscope slides for breaking -Dave Bothman - 16 Dec. 2015

- Recipe: 100% power, 3% speed, 1000 Hz, 1 pass
- Focus on top of slide
- Place a paper towel wetted with wateron glass in area to be cut
- Cut through the paper
- Break on scribed line