

PDMS Mixing for Microchips

- Weigh out the PDMS monomer and curing agent according to the table below:

Ratio	Wafer Size (in)	PDMS Monomer (g)	Curing Agent (g)	Total Weight (g)
10:1	4	10.8	1.2	12
10:1	5	18	2	20
20:1	4	11.4	0.6	12
20:1	5	19	1	20

- Thoroughly mix the two using a glass stir rod.
 - Wipe the stir rod clean afterwards. Use IPA if necessary.
- Place the cup(s) of mixed PDMS into the vacuum desiccator.
 - Ensure that the hose barb is aligned with the hole in the top of the lid.
- Turn on the vacuum pump to degas the PDMS.
 - When the PDMS foams to near the top of the cup lid, break the vacuum using the inline valve next to the vacuum pump. Note the sign above the vacuum pump for valve orientation.
 - After the PDMS has stopped foaming, let the pump continue the degassing process for an additional ten minutes. Take this time to inspect and clean your Si wafer.
- After PDMS degassing is complete, remove the cup(s) from the desiccator and pour the PDMS onto your clean wafer(s).
 - Always pour the PDMS in the center of the wafer, regardless of the pool shape.
 - Stack the wafer onto a 3” petri dish to avoid PDMS runoff.
 - Let the PDMS cover the wafer completely before placing the wafer in the oven.
 - Cure the PDMS at 70 C for three hours.