Shipley SPR220 Photoresist

General-purpose broadband (365 nm - 436 nm) resist, suitable for use on the Steppers and Contact Aligners.

Available as SPR220-3.0 and SPR220-7.0 (3 or 7 µm @3500 rpm).

1.a. (Optional) Dehydration bake at 150°C for 30 minutes.

1.b. Liquid prime with P-20 (20% HMDS) primer. Apply primer over entire wafer, allow to remain for 10 seconds, then spin dry (3000-5000 RPM, 30 sec.)

-or-

1. Vapor prime wafer with YES Oven HMDS process.

2. Dispense photoresist in middle of wafer. Spin immediately at desired speed, 20 - 30 seconds (thicker films may take a longer time to reach uniformity). You may wish to ramp up to the desired speed for better coverage over topography.

3. Solvent removal bake at 115°C for 90 seconds on the hot plate or 45 minutes in the 90°C oven. For films greater than 4.0 µm, first use a 30-second ramp in temperature to 115°C or bake in the convection oven for 30 minutes at 90°C

4. Expose. Time will vary depending on resist thickness, bake time, substrate reflectivity, intermediate film thickness, etc. See Sample Processes page for approximate exposure times.

5. Post-exposure bake 115°C for 90 seconds on hotplate. For films greater than 4.0 µm, a hold time of at least 35 minutes is required to allow water to diffuse back into the film. A post exposure bake in the convection oven for 30 minutes at 90°C may be required.
6. Develop for 1 minute in AZ 300MIF, use double-puddle for thicker films.

7. (Optional) Hard bake at 115°C - 125°C for 1 - 2 minutes on the hot plate, or 20 - 30 minutes in the oven. The hard bake serves to promote adhesion during wet etching or increase selectivity during dry etching.