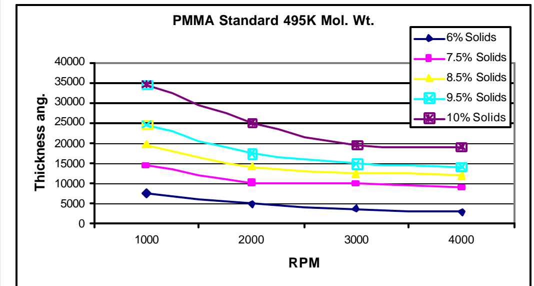
TECHNICAL PRODUCT INFORMATION

FUJIFILM

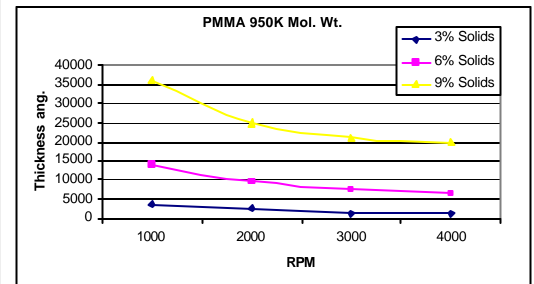
PMMA (Polymethylmethacrylate)

- One component high resolution positive working resist
- Wide process latitude and excellent film forming characteristics
- High aspect ratios, (7:1), are achievable in sub-micron images in DUV
- Available in 2 molecular weights; standard 495K, and 950K
- Available in solids content from 4 to 9%
- Available with co polymer methacrylic acid in 5 and 11 % solids
- Six week lead time on new orders



Baseline Process (4 inch wafer)

- Priming – clean dehydration bake and apply HMDS
- Coating – dispense ~ 4 ml of resist and spin for 30-40 seconds per the attached spin speed charts
- Prebake – oven bake @ 160°C - 180°C for ~ 30 minutes
- Exposure – main chain scission occurs at DUV exposures below 300nm and by electron beam
  - Electron beam exposure has been demonstrated as follows:
    - 10 KeV 50µc/CM²
    - 15 KeV 40µc/CM²
    - 20 KeV 30µc/CM²



- Developing – develop by spray or immersion process
- Spray Process
  - Spin wafer at 500 RPM
  - Dispense PMMA Developer for 30-40 seconds @ 25°C @ 500 RPM
  - Dispense PMMA Rinse for 30-40 seconds @ 25°C @ 500 RPM
  - Spin dry at 5000 RPM for 30 seconds
- Spray-Puddle Process
  - Spin wafer at 500 RPM
  - Dispense PMMA Developer for 3-4 seconds @ 25°C @ 500 RPM
  - Stop wafer from spinning but continue to dispense PMMA Developer for 4 seconds
  - Allow wafer to remain static for 25 – 40 seconds
  - Dispense PMMA Rinse for 30-40 seconds @ 25°C @ 500 RPM
  - Spin dry at 5000 RPM for 30 seconds
- Immersion Process
  - Immerse wafer in PMMA Developer for 30 seconds @ 25°C
  - Immerse wafer in PMMA Rinse for 30 seconds @ 25°C
  - Blow dry with Nitrogen
- Postbake – oven bake at 110° - 120°C for 30 minutes
- Stripping – FUJIFILM Microstrip strippers are compatible with PMMA resists.