# SPR220-3.0 Profiles using Contact Aligner

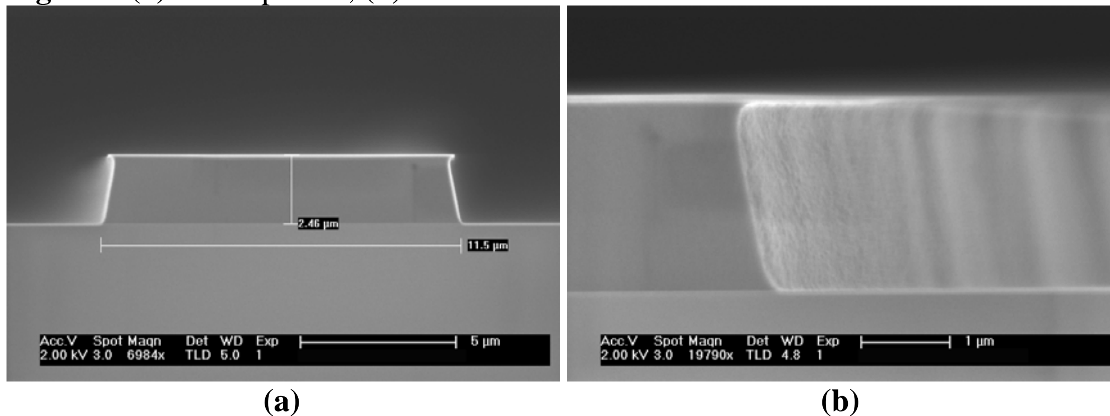
## 1) SPR220-3.0 (Positive Tone)

**Process:**

- Clean a Si wafer piece: Acetone (2') + Methanol (1') in ultrasonic cleaner; DI water resin and $N_2$ blow dry.
- Dehydration bake @ 110 $^0$C for 5 minutes.
- Spin-on HMDS @ 3500 rpm for 30 seconds.
- Spin-on SPR220-3.0 resist @ 3500 rpm for 30 seconds.
- Soft bake @ 115 $^0$C for 90 seconds.
- Resist edge bead removal: exposure time=60 seconds, development time=30 seconds in MF-701 developer.
- Expose resist for 25 seconds without a filter (7.5 mW/cm$^2$ using 405-nm detector).
- Post exposure bake @ 115 $^0$C for 60 seconds.
- Develop the exposed resist pattern for 50 seconds in MF-701 developer.

**Result:**

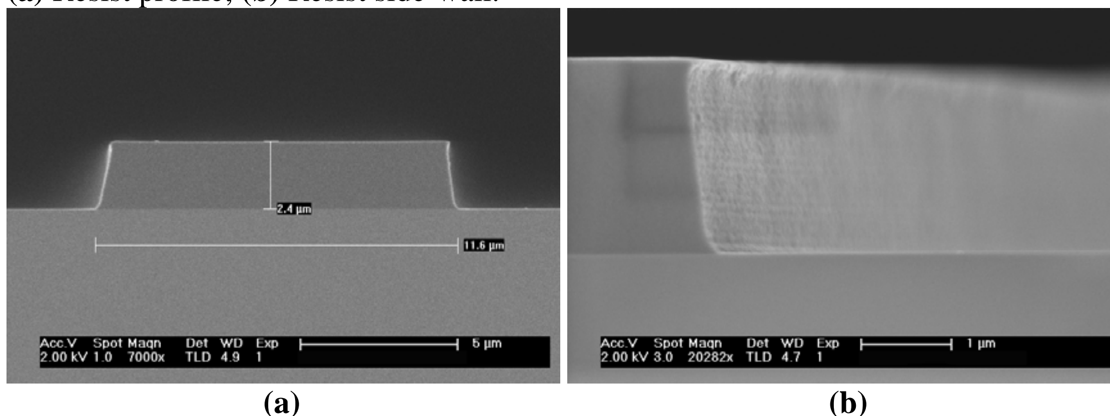
**Figure 1 (a)** Resist profile; **(b)** Resist side-wall.




**(a)** **(b)**

**Note**: Resist Thickness=2.46 µm.

**Figure 2** Same as above except no post-exposure bake and development time=40 seconds **(a)** Resist profile; **(b)** Resist side-wall.




**(a)** **(b)**

**Note:** Resist thickness=2.4 µm.