

Heidelberg Laser Writer

20mm Write Head Specs/Limitations

- The 20mm head minimum feature size specification is 5 μ m. This spec also applies to spacing between features. Due to the larger pixel size and Gaussian energy profile for each exposure pixel:
 - 90° corners are always rounded.
 - Feature size tolerance is +/- 0.3 μ m with proper spot size correction i.e. size calibration for your substrate and photoresist.
 - Resist sidewall profiles are also significantly sloped. This is OK for wet etch such as chrome mask etch but will cause issues for low selectivity plasma etching. It works well for deep Si etching to <80 μ m.
 - There is some cumulative or proximity exposure effect on adjacent pixels.
- Laser intensity is relatively low for a single exposure. Positive resist thickness is limited to 0.8 μ m for a single exposure pass. Thicker photoresist films may be exposed but with multiple exposure passes.

20mm Write Head - Chrome Mask with bottom illumination

5 μ m and 10 μ m Boxes
rounded corners

