

NFC MASK MAKING DESIGN RULES

FY10 Mask Charge Rates (valid until 6-30-10)

Academic rate: **darkfield mask** \$260 (add \$0.0012/flash over 30,000 flashes).

Academic rate: **lightfield mask** \$295 (add \$0.0012/flash over 30,000 flashes).

Non-Academic rate: \$500 **darkfield mask** (add \$0.0019/flash over 30,000 flashes).

Non-Academic rate: \$525 **lightfield mask** (add \$0.0019/flash over 30,000 flashes).

10% surcharge on mask cost for any features (including spaces) smaller than 2.5µm.

Design Rules

- Scale in microns, 1:1. One unit on the design is equal to 1µm.
- Acceptable design snaps are 1.0µm, 0.5µm, or 0.1µm, nothing smaller (0.05µm and 0.001µm are not acceptable).
- Acceptable design resolutions are 1.0 µm, 0.5µm or 0.1µm, nothing smaller.
- All features (lines, spaces, rectangles, etc.) 1.3µm or larger.
- Do not use triangle shapes.
- One gds or dxf layer per mask.
- Do not overlap features. Design features line to line. This is very important when designing a light field mask. If you overlap an area, it will be exposed twice, thus increasing the size of the feature.
- Maximum useable area for a 4"x4" mask is 3.5"x3.5".
- Maximum useable area for 5"x5" mask is 4.5"x4.5".
- Text size 10µm or larger.
- Polygons must be closed.
- No circles with diameters smaller than 6µm. See the table below for restrictions on number of sides for circles.

Circle diameter (µm)	Max number of sides
6 to 8	12
8 to 12	16
12 to 16	24
16 to 20	32
20 to 35	48
35 to 50	64
50 to 75	80
75 to 100	96
100 or more	199