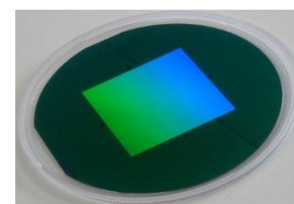


PHOTONIC NANOIMPRINT TEMPLATES

Eulitha's photonic templates are made with its revolutionary PHABLE™ technology, which guarantees highest quality at an affordable price. Optimized silicon and quartz etching yields hole and pillar patterns with a slight positive slope that facilitates the imprint process. Standard templates with periodic structures on square and hexagonal lattices over large areas are available.

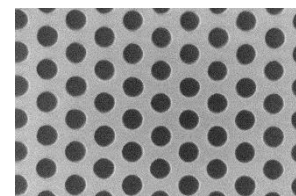
- LED Light extraction layers
- Templates for crystal growth
- Nanoimprint process development
- Sensor arrays
- Diffraction gratings
- Laser Bragg gratings
- Nanoparticle production



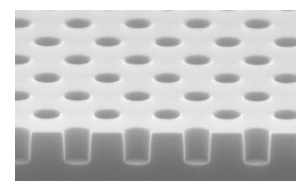
Hexagonal array – 600 nm pitch

Holes on Hexagonal Lattice

Product	Period	Area	Max. Etch depth (Si/quartz)
P350h_h_100d	350nm	100mm dia.	200nm / 100nm
P450h_h_50d	450nm	50mm dia.	350nm / 150nm
P520h_h_20w20	520nm	20x20mm ²	450nm / 200nm
P600h_h_46w46	600nm	46x46mm ²	450nm / 200nm
P600h_h_100d	600nm	100mm dia.	450nm / 200nm
P750h_h_51w51	750nm	51x51mm ²	450nm / 200nm
P780h_h_20w20	780nm	20x20mm ²	450nm / 200nm
P780h_h_50d	780nm	50mm dia.	450nm / 200nm
P1000h_h_20w20	1000nm	20x20mm ²	600nm / 300nm
P1000h_h_51w51	1000nm	51x51mm ²	600nm / 300nm
P1000h_h_100d	1000nm	100mm dia.	600nm / 300nm
P1500h_h_20w20	1500nm	20x20mm ²	600nm / 300nm
P1500h_h_51w51	1500nm	51x51mm ²	600nm / 300nm
P1700h_h_100	1700nm	100mm dia.	600nm / 300nm
P2000h_h_100d	2000nm	100mm dia.	800nm / 400nm
P3000h_h_100d	3000nm	100mm dia.	1000nm / 400nm
P3500h_h_100d	3500nm	100mm dia.	1200nm / 500nm
P5200h_h_100d	5200nm	100mm dia.	1200nm / 500nm



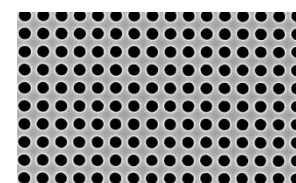
Hexagonal array – 350 nm pitch



Hexagonal array – 600 nm pitch

Holes on Square Lattice

Product	Period	Area	Max. Etch depth (Si/quartz)
P350s_h_20w20	350nm	20x20mm.	300nm / 150nm
P350s_h_100d	350nm	100mm dia.	300nm / 150nm

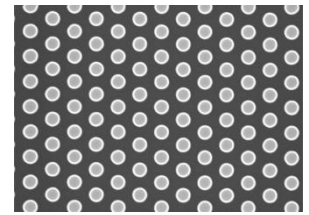


Square array – 350 nm pitch

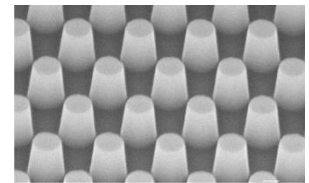
PHOTONIC NANOIMPRINT TEMPLATES

Pillars on Hexagonal Lattice

Product	Period	Area	Max. Etch depth (Si/quartz)
P450h_p_50d	450nm	50mm dia.	350nm / 150nm
P600h_p_46w46	600nm	46x46mm ²	450nm / 200nm
P600h_p_100d	600nm	100mm dia.	450nm / 200nm
P750h_p_51w51	750nm	51x51mm ²	450nm / 200nm
P780h_p_20w20	780nm	20x20mm ²	450nm / 200nm
P780h_p_50d	780nm	50mm dia.	450nm / 200nm
P1000h_p_20w20	1000nm	20x20mm ²	600nm / 300nm
P1000h_p_51w51	1000nm	51x51mm ²	600nm / 300nm
P1000h_p_100d	1000nm	100mm dia.	600nm / 300nm
P1500h_p_20w20	1500nm	20x20mm ²	600nm / 300nm
P1500h_p_51w51	1500nm	51x51mm ²	600nm / 300nm
P1700h_p_100d	1700nm	100mm dia.	800nm / 400nm
P2000h_p_100d	2000nm	100mm dia.	800nm / 400nm
P3000h_p_100d	3000nm	100mm dia.	1000nm / 400nm
P3500h_p_100d	3500nm	100mm dia.	1200nm / 500nm
P5200h_p_100d	5200nm	100mm dia.	1200nm / 500nm



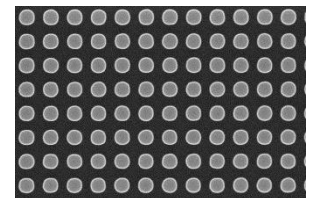
Hexagonal array – 600 nm pitch



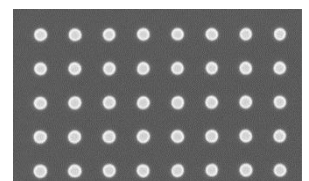
Hexagonal array – 600 nm pitch

Pillars on Square Lattice

Product	Period	Area	Max. Etch depth (Si/quartz)
P140s_p_80d	140nm	80mm dia.	75nm / -
P150s_p_30w30	150nm	30x30mm ²	75nm / -
P200s_p_90d	200nm	90mm dia.	200nm / -
P250s_p_30w30	250nm	30x30mm ²	200nm / 100nm
P250s_p_100d	250nm	100mm dia.	200nm / 100nm
P280s_p_80d	280nm	80mm dia.	200nm / 100nm
P300s_p_30w30	300nm	30x30mm ²	200nm / 100nm
P300s_p_100d	300nm	100mm dia.	200nm / 100nm
P400s_p_30w30	400nm	30x30mm ²	300nm / 100nm
P400s_p_100d	400nm	100mm dia.	300nm / 100nm
P500s_p_30w30	500nm	30x30mm ²	400nm / 150nm
P500s_p_100d	500nm	100mm dia.	400nm / 150nm
P560s_p_80d	560nm	80mm dia.	400nm / 150nm
P600s_p_100d	600nm	100mm dia.	500nm / 250nm
P800s_p_100d	800nm	100mm dia.	500nm / 200nm



Square array – 500 nm pitch

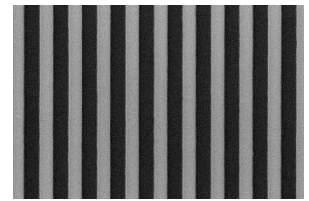


Square array – 300 nm pitch

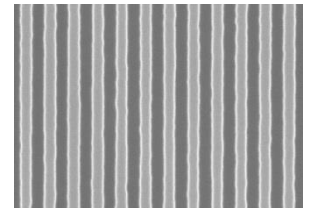
PHOTONIC NANOIMPRINT TEMPLATES

Linear Gratings

Product	Period	Area	Max. Etch depth (Si/quartz)
P125L_80d	125nm	80mm dia.	100nm / -
P140L_80d	140nm	80mm dia.	100nm / -
P150L_30w30	150nm	30x30mm ²	75nm / -
P150L_90d	150nm	90mm dia.	75nm / -
P200L_90d	200nm	90mm dia.	150nm / -
P250L_30w30	250nm	30x30mm ²	200nm / 100nm
P250L_100d	250nm	100mm dia.	200nm / 100nm
P280L_80d	280nm	80mm dia.	200nm / 100nm
P300L_30w30	300nm	30x30mm ²	300nm / 100nm
P300L_100d	300nm	100mm dia.	300nm / 100
P400L_30w30	400nm	30x30mm ²	300nm / 150nm
P400L_100d	400nm	100mm dia.	300nm / 150nm
P500L_30w30	500nm	30x30mm ²	400nm / 200nm
P500L_100d	500nm	100mm dia.	400nm / 200nm
P560L_80d	560nm	80mm dia.	400nm / 200nm
P600L_100d	600nm	100mm dia.	500nm / 250nm
P800L_100d	800nm	100mm dia.	600nm / 300nm
P1000L_100d	1000nm	100mm dia.	800nm / 400nm
P1300L_75w55	1300nm	75x55mm ²	1000nm/ 500nm



Linear grating – 600 nm pitch



Linear grating – 150 nm pitch

Notes

Photonic templates are provided on 4" Silicon or Fused Silica substrates as standard. Dicing to smaller substrate size or other substrate sizes are available upon request.

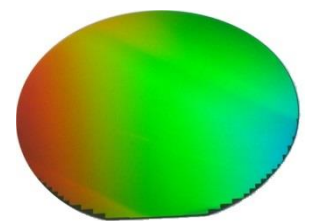
Feature (hole or pillar) diameter is about half of the pattern pitch.

Please inquire, if other duty-cycles, e.g. small pillars or holes are required.

Templates are manufactured upon order according to the feature height requested by the customer. Inquire for different feature heights that exceed the maximum indicated in the product tables.

In most cases these standard patterns can be produced on customer's own wafers, e.g. as photoresist patterns on GaN or sapphire wafers.

Anti-adhesion coating is available as an option on all NIL stamps.



Hexagonal hole array on 4" wafer – 600 nm pitch