

CYTOP pattern processing method

Precautions for handling

Please be sure to read MSDS before using this product to ensure safe handling.

When applying a micro-pattern on the CYTOP during the LSI drying process, pay attention to the following:

1 Example of surface modification conditions for resist application

CYTOP is a perfluoropolymer. The surface is water and oil repellent and a normal photoresist is repelled by CYTOP. It cannot be coated directly. To apply a general resist on CYTOP, it is effective to modify the surface with plasma processing. (Corona discharge is not recommended because wetness is not sufficient.)

Example of equipment conditions: Parallel substrate plasma etcher (cathode couple)

Example of distance between substrates: 48 mm

Example of plasma conditions: Pressure 0.6 Torr, Rf power 300 W (0.42 W/cm²)

Example of resist: Novolac-based photoresist OFPR-800, 60TSMR-8900, 50 cp product (Tokyo Ohka Kogyo Co., Ltd.)

[Current the product number is obsolete.]

Test results

Plasma processing conditions	CYTOP film reduction (nm)	Ease of resist application
None	—	Repellence occurs. It is difficult to apply.
N ₂ 0.5 min.	30	Good.
N ₂ 1 min.	60	Good.
Ar 1 min.	15	Good.
O ₂ 1 min.	100	Good.

As described above, resist can be applied after processing for a short time with any gas.

2 Etching conditions

As shown below, the selection ratio with resist only for O₂ is about 2.

Etching conditions: Parallel substrate (cathode couple), Distance between substrates = 48 mm,
 O₂ flow rate = 180 sccm, Pressure = 0.6 Torr, Rf power = 300 W (0.42 W/cm²)

