

Aqueous Processable Dry Film Photoresist

ALPHO NIT240

(FOR ETCHING APPLICATIONS)

Nichigo - Morton Co., Ltd.

CONDITION / CHARACTERISTICS

PROCESS	PROCESSING CONDITION	CHARACTERISTICS
LAMINATION	Preheating : 50 ~ 60 °C Temperature : 100 ~ 120 °C Pressure : 0.2 ~ 0.4 MPa Speed : 1.0 ~ 2.5 m / min	Resist thickness : 40 μm (Polyester carrier : 16 μm) film thickness
	☆It is necessary to leave the panel for at least 15minutes after lamination.	
EXPOSURE	HV or UHV mercury lamp Exposure Energy : 80 ~ 120 mJ / cm ² ☆It is necessary to leave the panel for at least 15minutes after Exposure.	Sensitivity : Resist 6 ~ 7 ※1) Resolution : 20 μm Adhesion of fine line : 25 μm (After Development)
DEVELOPING	Solution : 0.7 ~ 1.0%Na ₂ CO ₃ aq. Temperature : 28 ~ 30 °C Spray pressure : 0.15 ~ 0.2 MPa	Developing time : 40 ~ 50 sec ※2)
ETCHING	Condition : CuCl ₂ / 2.5N-HCl 45 ~ 50 °C FeCl ₃ / 2.5N-HCl 40 °C Time : 60 ~ 150 sec	Etching time depends on the Thickness of copper foil.
STRIPPING	Solution : 2 ~ 3%NaOHaq. Temperature : 40 ~ 50°C Spray pressure : 0.15 ~ 0.25 MPa	Stripping time : 100 ~ 140 sec. ※2)

※1)Sensitivity : Stouffer 21 step sensitivity Guide

※2)Developing and Stripping time : Break point 2/3 (~ 1/2)

TECHNICAL DATA

FOR ALPHONIT240

1 . SENSITIVITY

Exposure Energy(mJ/cm ²)	8 0	1 2 0	1 6 0
Sensitivity (step)	6	7	8

1) Developing condition : 1%Na₂CO₃aq., 30°C, Spray pressure 0.15MPa, 40sec.

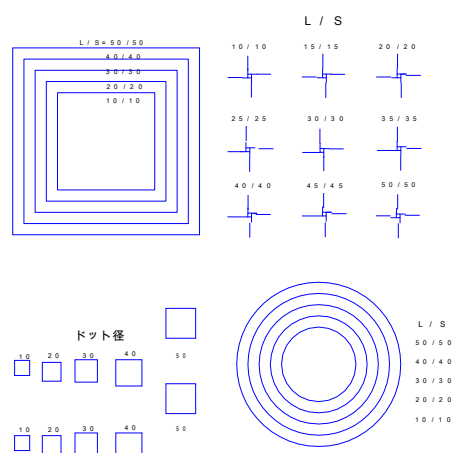
2) Sensitivity : Stouffer 21 step sensitivity Guide

2 . RESOLUTION

Exposure Energy (mJ/cm ²)	8 0	1 2 0	1 6 0
Sensitivity (step)	6	7	8
Resolution (μm)	2 0	2 5	2 5

1) Pattern mask : ALPHO Glass Pattern Mask G-100

2) Developing Condition : 1%Na₂CO₃aq., 30°C, Spray pressure 0.15MPa, 40sec. (Break point 2/3)



(μ m)

ALPHO Glass Pattern Mask G-100

3 . ADHESION OF FINE LINE

Exposure Energy (mJ / cm ²)	Sensitivity (step)	Adhesion of fine line (μm)
8 0	6	2 5
1 2 0	7	2 5
1 6 0	8	2 0

1) Pattern mask : ALPHO Glass Pattern Mask G-100

2) Developing Condition : 1%Na₂CO₃aq., 30°C, Spray pressure 0.15MPa, 40sec. (Break point 1/2)

4 . FLEXIBILITY

1) Evaluation : Laminated on copper and Capton sides (polyimide)of FPC board

Exposure Energy : 80mJ / cm² on the whole surface

180°Bend

2) Result : No crack on both sides

5 . CONTRAST(COLOUR DIFFERENCE)

ΔE : 22.0 (Hold time : 15minutes after exposure)

(Exposure Energy : 80mJ / cm²)

6 . STRIPPING

NaOH(wt%)	2%	3%	4%
Stripping TIME (sec.)	98	68	61
Stripped Particle size	Large	Large	Large

1) Test piece : 10 × 20 cm Substrate, Exposure done on the whole surface

(Exposure Energy : 80mJ / cm²)

2) Stripping Condition : Temperature 50°C, Spray pressure 0.15MPa