Aqueous Processable Dry Film Photoresist

ALPHO NIT250

(FOR PLATING AND ETCHING APPLICATIONS)

Nichigo－Morton Co., LTD.

CONDITION／CHARACTERISTICS

PROCESS	PROCESSING CONDITION	CHARACTERISTICS
LAMINATION	Preheating : 50 ～ 60 ℃ Temperature : 100 ～ 120 ℃ Pressure : 2 ～ 4 kg／cm^2 Speed : 1.0 ～ 2.5 m／min	Resist thickness : 50 μm (Polyester carrier film thickness : 16 μm)
	☆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 : 30 μm Adhesion of fine line : 30 μm (After Development)
DEVELOPING	Solution : 0.7 ～ 1.0%Na_2CO_3aq. Temperature : 28 ～ 30 ℃ Spray pressure : 1.5 ～ 2.0 kg／cm^2	Developing time : 45～70 sec ※2)
ETCHING	Condition : $CuCl_2$／2.5N-HCl 45～50 ℃ $FeCl_3$／2.5N-HCl 40 ℃ Time : 60 ～ 150 sec	Etching time depends on the thickness of copper foil.
STRIPPING	Solution : 2 ～ 3%NaOHaq. Temperature : 40 ～ 50℃ Spray pressure : 1.5 ～ 2.5 kg／cm^2	Stripping time : 3 ～ 5 min. ※2)

※1)Sensitivity : Stouffer 21 step sensitivity Guide

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

TECHNICAL DATA

FOR ALPHO NIT250

1. SENSITIVITY

Exposure Energy(mJ/cm^2)	80	120	160
Sensitivity (step)	6	7	8

1) Developing condition : 1%Na_2CO_3aq., 30℃, Spray pressure 1.5kg／cm^2, 50sec.

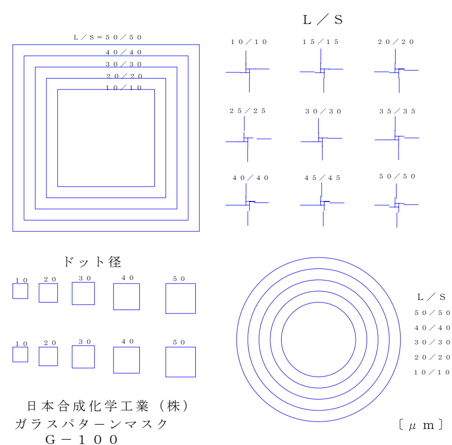
2) Sensitivity : Stouffer 21 step sensifivity Guide

2. RESOLUTION

Exposure Energy (mJ/cm^2)	80	120	160
Sensitivity (step)	6	7	8
Resolution (μm)	30	35	35

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

2) Developing Condition : 1%Na_2CO_3aq., 30℃, Spray pressure 1.5kg／cm^2, 50sec. (Break point 2/3)



ALPHO Glass Pattern Mask G-100

３．ADHESION OF FINE LINE

Exposure Energy (mJ／cm^2)	Sensitivity (step)	Adhesion of fine line （μm)
８０	6	３０
１２０	7	３０
１６０	8	２５

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

２）Developing Condition : 1%Na_2CO_3aq., 30℃, Spray pressure 1.5kg／cm^2, 70sec. (Break point 1/2)

４．FLEXIBILITY

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

Exposure Energy : 80mJ／cm^2 on the whole surface

180° Bend

２）Result : No crack on both sides

５．CONTRAST(COLOUR DIFFERENCE)

ΔE : 25 (Hold time : 15minutes after exposure)

(Exposure Energy : 80mJ／cm^2)

６．STRIPPING

ＮａＯＨ (wt%)	２．５％	３％	４％
Stripping TIME (sec.)	１２３	９７	８７
Stripped Particle size	Midium	Sheet	Sheet

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

(Exposure Energy : 80mJ／cm^2)

２）Stripping Condition : 50℃, Spray pressure 1.5㎏／cm^2