ORDYL DRY FILM ALPHA 900

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Descrizione :

ALPHA 900 series of Ordyl dry – film resists are designed to be developed and stripped in mildly alkaline solutions.
It offers superior performance and resistance to leaching in all the most commonly used plating baths used in printed circuit manufacturing; Alpha 900 is highly resistant to acid etching processes.
Ordyl ALPHA 900 is extremely flexible, ensuring reliable tenting performance even on large tooling holes; good tenting performance can be achieved with resists of 40 micron and thicker.
ORDYL ALPHA 900 has excellent adhesion and definition characteristics producing very high yields on fine line technologies.

Recommended thickness for different applications:

TYPE	***THICKNESS***	***USE***
ALPHA 930	30 micron 1.2 mils	Acid Etching
ALPHA 940	40 micron 1.5 mils	Tenting, Copper, Tin. Tin/Lead Plating , Acid Etching,
ALPHA 950	50 micron 2 mils	Tenting, Copper, Tin. Tin/Lead Plating , Acid Etching,

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Packaging

	STANDARD			***JUMBO***		
	Length	Core	Box	Length	Core	Box
Alpha 930	150 m	3"Cardboard	2 Rolls	300 m	6"Cardboard	1 Roll
Alpha 940	150 m	3"Cardboard	2 Rolls	300 m	6"Cardboard	1 Roll
Alpha 950	150 m	3"Cardboard	2 Rolls	300 m	6"Cardboard	1 Roll

Width size
All sizes are available upon customer request and are slit to a ±mm tolerance..

Storage instruction
Storage should be in U.V. free conditions with temperature of 20 – 25°C (59 – 68°F) and a relative humidity of 40 – 70%.

Prelamination Cleaning
We recommend good surface cleaning in order to get optimal performance from Ordyl dry – film resist..
A well-cleaned board should be able to keep a water film for a least 20 seconds.

Mechanical methods

with pumice:
pumice grade : FFF
Concentration: 10 – 15%
A good rising is necessary to remove pumice residues.

with brush:
Brush type: lipprite S8 –S9 or equivalent to achieve regular and compact micro roughness with:
Rz 1.5 – 3.0 µm
Ra 0.10 – 0.30 µm

Chemical methods
Microetch with Etch Rate > 1.0 µm

Lamination
The panels must be thoroughly dry prior to lamination.

Preheating is recommend and should give a board temperature > 35°C (95°F).

Hot roll temperature	105 – 125°C (221 – 257°F)
Hot roll pressure	2.5 – 3.5 bar (35 – 50 Psi)
Lamination speed	1 – 3m/min (3 – 10 feet/min)
Board exit temperature	> 50°C (122°F)

Hold time
Minimum: hold time necessary to allow panels to cool down to room temperature.
Maximum: 15 days ; to maintain the best tenting performances a maximum hold time of 7 days is recommended..

Exposure
We recommend using U.V. lamps with peak emission at 360 – 380 nm.

Sensitivity/Resolution

	ALPHA 930	***ALPHA 940***	***ALPHA 950***
*SST	6 – 9	6 – 9	6 – 9
mJ	35 – 100	35 – 100	35 – 100
Lines µm	40	40	40
Space µm	40	50	60

* using a 21 step Stouffer Step Tablet, placed under a transparent area of the photographic master, exposure levels should be optimised within the above range.

Ordyl Alpha 900 has a very good printout after exposure useful for the registration of the boards.

	BEFORE EXPOSURE OPTICAL DENSITY	***AFTER EXPOSURE OPTICAL DENSITY***
Alpha 930	0.12	0.33
Alpha 940	0.14	0.35
Alpha 950	0.16	0.43

Exposure energy: 55 mJ
From light blue to dark blue**.**
The colour contrast of exposed image was determined using transmission.
Densitometer manufacte by CO.FO.ME.GRA. model DTP642.
Comparative measurements were made before and after exposure.

Hold time:
We recommend a minimum hold time after exposure of 10 minutes.
Maximum hold time 3 days.

Development:

DEVELOPER	NA_2CO_3		K_2CO_3	
CONCENTRATION	0.8 – 1.2%	Opt 0.9%	0.6 – 1.0 %	Opt 0.8%
TEMPERATURE	26 – 32°C 80 – 90°f	Opt 29°C 85°F	26 – 30 °C 80 – 86°F	Opt 28°C 82°F
SPRAY PRESSURE	1.2 – 1.8 Bar 17 – 25 Psi			Opt 1.5 bar 22 Psi
BREAK POINT	50 – 65%			
ORDYL ANTIFOAM C	500 ppm			

Developing time (B.P. 60%)

	ALPHA 930	**ALPHA 940**	**ALPHA 950**
DeV. Time	25 sec	35 sec.	45 sec.
D.F. Load	0.20 m^2/l 8 $feet^2$/gal	0.15 m^2/l 6 $feet^2$/gal	0.10 m^2/l 4 $feet^2$/gal

We recommend a rinse module with a length of a least ¾ of the developing module.
The rinse water temperature should, preferably, be above 20°C (68°F):

Tenting
The following tables refer to tests carried out using a board of 1.6 mm (0.063) thick, and measuring the pressure applied to a sphere of 2.2 mm (0.086) diameter when placed on a 6 mm hole tented with dry – film resist..

Tenting resistance

ORDYL ALPHA 940

	GRAMS	OZ
After exposure	578	20.39
After developing	525	18.52
After etching	550	19.40

ORDYL ALPHA 950

	GRAMS	OZ
After exposure	640	22.57
After developing	565	19.93
After etching	580	20.46

Stripping

STRIPPER	NAOH		KOH	
CONCENTRATION	1.5 – 3.5%	Opt 2.5%	2 – 4 %	Opt 3%
TEMPERATURE	40 – 60°C 104 – 140°F	Opt 50°C 122°F	40 – 60 °C 104 – 140°F	Opt 50°C 122°F
SPRAY PRESSURE	1.5 – 4 Bar 22 – 58 Psi			Opt 3 Bar 43 Psi
BREAK POINT	40 – 60%			
ORDYL ANTIFOAM C	500 - 1000 ppm			

Typical stripping times in optimal condition are the following:

	ALPHA 930	**ALPHA 940**	**ALPHA 950**
NaOH	70 sec.	95 sec.	120 sec.
KOH	85 sec.	110 sec.	140 sec.

Proprietary strippers
Can be used for:
Smaller flakes, higher strip speed, reduce copper oxidation and Tin or Tin/Lead attack..

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