



DuPont *i*Technologies

VACREL® 8100

Dry Film Solder Mask

Quick Reference Processing Guide

Roll Length on 152.5mm (6") cores	121 m (400 ft.) - US Only 91 m (300 ft.) - Europe and Japan
Roll Width	15-61 cm (6" to 24" in .25" increments)
Product Thickness	8120 - 2 mils thick 8130 - 3 mils thick 8140 - 4 mils thick
Color (Initial) (After Cure)	Matte Medium Green (Transparent) Matte Green for Bake/UV Cure, and Yellow Green for UV/Bake
Spectral Sensitivity	320-700 μm
Exposure Range	350-450 μm
Resolution	= 125 μm (= 5 mils)
Artwork Reproduction of 1.27 mm (50 mil) pad openings with recommended exposure	1.24-1.27mm (49-50 mils)
Material Storage (Unused Rolls) (Partially Used Rolls)	5-21°C (40-70°F) & 50 \pm 20% RH Last Lap Must Be Taped to Keep Roll Integrity

PROCESS STEPS AND REQUIRED RANGES

Dry Panels (After Prelamination Cleaning)	15-20 mins @ 110 ±5°C (230 ±10°F)	
Vacuum Lamination Cycle Time Board Exit Temperature	<u>TYPICAL RANGE</u> 50-70 seconds 60-77°C (140-170°F)	<u>TYPICAL</u> 60 sec. 68°C (155°F)
Post Lamination Hold Time	1 Hr., but < 3 days	Recommended < 4hrs
Exposure (with DuPont PC-130) Stouffer Step (last step with >50% coverage) Energy* Time	<u>RANGE</u> 10-12 150-300 mJ/cm ² 18-40 secs.	<u>OPTIMUM</u> 11 Equipment Dependent
Post-Exposure Hold Time	=10 min., but < 3 days	Recommended < 8hrs.**
Development Breakpoint Temperature and Pressure Chemistry	40-60% of Developing Chamber 40 ±2°C (105 ±5°F) & > 1.4 Bar (20psi) 0.85% Anhydrous Sodium Carbonate (Soda Ash) or 1% Sodium Carbonate Monohydrate	
Cure (Sequence can be either Bake followed by UV, or UV first) 1. Bake 2. UV	140 -150°C (285-300°F) for 1 hour at temperature 4 ±1 Joules/cm ²	

*The mJ/cm² is measured under the phototool, with an International Light type radiometer.

** The **TOTAL** time between lamination and development is recommended to be less than 8 hours



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