

TECHNICAL DATA SHEET

TAIYO FOC-800 USA (UL NAME: FOC-800GA)

UV CURABLE FLEXIBLE SOLDER MASK

- ③ **Designed for Flexible Printed Circuit Boards**
- ③ **Screen Print Application**
- ③ **Excellent Printing Characteristics**
- ③ **Compatible with Lead-Free Processing**
- ③ **Excellent Flexibility**
- ③ **RoHS Compliant**
- ③ **Green and Black Gloss Finish**
- ③ **Low Warpage**



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Always on your side.

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PROCESSING PARAMETERS FOR FOC-800 USA

FOC-800 USA is a one-component, gloss Green or Black, UV Curable solder mask for flood screen printing. **FOC-800 USA** has been specifically designed for flexible printed circuit boards. All Taiyo America products comply with the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the Restriction of the use of certain Hazardous Substances (RoHS) in electrical and electronic equipment.

FOC-800

LIQUID PROPERTIES OF FOC-800 USA

Color	Green or Black
Viscosity	70 dpa·s (E Type viscometer 5 min ⁻¹ /25°C)
Specific Gravity	1.4

MIXING

FOC-800 USA is a one-component system that only requires a quick hand mix prior to screen printing. **FOC-800 USA** can be mixed by hand with a mixing spatula for 5 minutes.

PRE-CLEANING

Prior to solder mask application, the flexible printed circuit board surface needs to be cleaned. Various cleaning methods include Pumice, Aluminum Oxide, Mechanical Brush, and Chemical Clean. All of these methods will provide a clean surface for the application of **FOC-800 USA**. Hold time after cleaning the printed circuit board should be held to a minimum to reduce the oxidation of the copper surfaces.

SCREEN PRINTING

Method: Single Sided and Double Sided Screening

- Screen Mesh: 225 – 250 threads/inch
- Screen Mesh Angle: 22.5° Bias
- Screen Tension: 20 - 28 Newtons
- Squeegee: 60 – 80 durometer
- Squeegee Angle: 27 – 35°
- Printing Mode: Flood / Print / Print

UV CURE

FOC-800 USA requires a UV cure to insure optimal final property performance. The recommended process for UV curing is as follows:

- UV Energy: 3000 mJ / cm² (as measured by an IL 390C)
- Lamps: High Pressure Mercury Lamps

For Process Optimization please contact your local Taiyo America Representative



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FINAL PROPERTIES FOR FOC-800 USA

Test Item	Test Condition	Results
Adhesion	Taiyo internal method Standard Cross-cut tape stripping test	100 / 100
Pencil hardness	Taiyo internal method Standard No scratch on ink surface	4H
Solder Heat Resistance	Rosin based flux. 250°C/ 5seconds, 1cycle	Pass
Solvent Resistance	PGM-Ac, 20°C / 30min, Scotch tape stripping	Pass
Acid Resistance	10 vol.% HCl, 20°C / 30min, Scotch tape stripping	Pass
Alkaline Resistance	10 vol.% NaOH, 20°C 30min, Scotch tape stripping	Pass
Insulation Resistance	IPC Comb type (B-pattern) Humidification: 25~65°C cycle 90%RH DC100V loading for 7 days. Measurement: After the above treatment, loading DC500V for 1 minute at room temperature	Initial $5.4 \times 10^{12} \Omega$ Conditioned $5.5 \times 10^{11} \Omega$
Dielectric Constant	Taiyo internal method , 1MHz Condition: 25-65°C cycle 90%RH, 7days Measurement: Room temperature	Initial 7.2 Conditioned 8.2
Dissipation Factor	Taiyo internal method , 1MHz Condition: 25-65°C cycle 90%RH, 7days Measurement: Room temperature	Initial 0.03 Conditioned 0.03

Taiyo America, Inc. (TAIYO) warrants its products to be free from defects in materials and workmanship for the specified warranty period (**FOC-800 USA Warranty period is 6 Months**) provided the customer has, at all times, stored the ink at a temperature of 68°F or less. TAIYO accepts no responsibility or liability for damages, whether direct, indirect, or consequential, resulting from failure in the performance of its products. If a TAIYO product is found to be defective in material or workmanship, its liability is limited to the purchase price of the product found to be defective. TAIYO MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE. TAIYO'S obligation under this warranty shall not include any transportation charges or costs of installation or any liability for direct, indirect, or consequential damages or delay. If requested by TAIYO, products for which a warranty claim is made are to be returned transportation prepaid to TAIYO'S factory. Any improper use or any alteration of TAIYO'S product by the customer, as in TAIYO'S judgment affects the product materially and adversely, shall void this limited warranty.

