

Technical Product Information

ELFLUX 3003 SW-1 Flux for Solar Industries

General Description

To meet the special requirements in manufacturing of solar modules special fluxes have been developed for applications in the solar industries. The fluxes are halide-free and optimised with regard to flux residues after soldering. Fluxes leave very low amounts of residue with no discoloration.

ELFLUX 3003 SW-1 is a water-based VOC-free flux. It is effective on lead containing as well as on lead-free platings. ELFLUX 3003 SW-1 leaves virtually no residues and no discoloration on the modules.

Following technology steps in the manufacturing process of solar modules are not affected negatively.

Areas of Use

ELFLUX 3003 SW-1 has been developed especially for soldering of strings and connectors to the solar cells. It is equally suitable for lead and lead-free metallic coatings.

Classification

ELFLUX 3003 SW-1 is classified as ORLO per DIN EN 61190-1-1 and per IPC ANSI/J-STD-004.

Technical Specification

ELFLUX 3003 SW-1	
Appearance	Clear, transparent liquid
Smell	Mild
Density [g/cm ³] (20 °C)	1.005 ± 0.003
Solids content [%] (per IPC-TM-650 2.3.34)	2.3
VOC content [%]	Water-based
Acid number [mg KOH/gFlux]	20 ± 2
Halides [%]	Nil
pH value (20 °C)	3 – 4
Flash point [°C]	None
Ignition temperature [°C]	None

Application

ELFLUX 3003 SW-1 can be applied by spraying, brushing or dipping. The activator package used for this flux can tolerate higher process temperatures for lead-free soldering without major impact on its performance.

When selecting the appropriate process parameters respect the guidelines of the equipment maker and the requirements of the product to be soldered. Optimum preheat temperatures are in the range of 90 – 150 °C as

measured at the top side. However, the thermal stability of 3003 SW-1 flux allows for higher temperatures without any loss of activity.

Process Control

No special control is required in case of closed flux control systems.

In case of open systems the monitoring and control during use is important for solvent based fluxes to assure a consistent and uniform flux distribution on the circuit boards. This not so critical for water based 3003 SW-1.

Cleaning

ELFLUX 3003 SW-1 is a no clean flux. In general cleaning is not required.

General Safety Precautions

ELFLUX 3003 SW-1 should be used according to industrial standards of practice. For safety advice, please refer to the material safety data sheet.

Packing Sizes

ELFLUX 3003 SW-1 is available in 10 L and 20 L containers.

Storage

ELFLUX 3003 SW-1 is not a flammable liquid. No special measure for storage required.

Shelf Life

Under adequate conditions ELFLUX 3003 SW-1 can be stored in original unopened containers for a minimum of 12 months.

The information contained herein is based on technical data that we believe to be reliable and is intended for use by persons having technical skill, at their own risk. Users of our products should make their own tests to determine the suitability of each product for their particular process. TAMURA ELSOLD will assume no liability for results obtained or damages incurred through the application of the data presented.