



## Fact Sheet

### IKALLOY™ – Lead-Free RMA Soldering Paste

**Alloy Composition** IKALLOY, LFSMD's SnZnMn alloy (U.S. Patent 6936219) was designed as a lead-free alternative to SnPb alloys for use in electronics assembly. Its levels of impurities are well below those permitted by the J-STD-006 standard

Sn	Zn	Mn	Pb	Sb	Fe	Cd
Bal	8.8-8.9	0.01 max	0.002 max	0.014 max	0.012 max	-

**Alloy Specifications**

Melting point (°C)	199
Tensile strength (Mpa)	65
Total elongation (%)	45
Density (g/cc)	7.4
Electrical conductivity (% IACS)	15

**Particle Size**

IKALLOY is currently available in particle sizes 24-45µm, which is Type 3 of J-STD-005 powder.

**Metal Loading**

Typical metal loading for stencil printing applications is between 88.0% and 88.5%.

**Organic Component**

LFSMD has developed a unique flux designed specifically for its SnZnMn lead-free alloy, assuring thermal stability thus allowing reflowing under normal atmospheric conditions.

**Recommended Reflow Profile**

Stage	Peak Temperature (°C)	Rate (°C/sec)	Time (sec)
Pre Heating	150-155	2.0 – 2.5	55-60
Soaking	170-183	0.3-0.5	175-185
Reflow Zone	228-232	2.0 – 2.5	45-90
Cool Down	50-60	3.0 – 6.0	50-60

**Status as of March 2009**

Many lots of the LFSMD SnZnMn solder paste have been tested successfully on industrial assembly lines, using specifically designed PCB's with different coatings and assembled with different electronic components. The paste's shelf life exceeds 90 days.