

ECP 1810 Lead Free Solder Dispensers

The solder used on these ECP dispensers have been developed to provide lead free soldering for the electronics and electrical industries.

- Lead Free
- Choice of fluxes for no clean, low residue, standard electronics assembly and repair and difficult surfaces
- Compatible with existing surface finishes and processes
- Smooth shiny joints
- Cost effective alloy

Technical Specification

Alloy	
Composition	99% Tin
	0.45-0.85% Copper
Solidus temperature °C	227
Liquidus temperature °C	227
Density	7.31
Copper lead through hole joint properties	
Shear strength Nmm²	
20°C	28
100°C	21
Stress to rupture, hours (est.)	
5 Nmm² 20°C	4300
2 Nmm² 100°C	1460
Mechanical fatigue, cycles (est.)	
+/- 15 Nmm² at 20°C	1100
+/- 10 Nmm² at 100°C	900

Recommended Operating Conditions

The melting point of ECP 1810 lead free solder is 227°C, approximately 45°C higher than the 60/40 lead alloy commonly used for electronics soldering. It is therefore essential to use a higher soldering iron tip temperature than is normally used with a 60/40 alloy. A minimum soldering iron tip temperature of 300°C is required, an optimum tip temperature would be in the range of 350-370°C, though this will depend on factors such as the thermal mass of the work being soldered.

It is possible to produce joints at least comparable in quality to joints obtained using lead free solder, by use of the appropriate flux core and tip temperature.

With ECP 1810 lead free solder it is possible to solder all common finishes used on the solderable surfaces of electronic components and PCB's including tin/lead alloy finishes. However, if tin/lead coatings are soldered, the resulting joint will be

contaminated with lead and the melting temperature of the fillet will be reduced to that of eutectic tin/lead alloy.

Cored Solder Wire Fluxes

- Lead Free
- General Purpose or difficult surface versions available
- Non corrosive
- Fast Soldering
- Rosin Based
- Halide activated.

Typical flux content on ECP 1810 series lead free solder is approximately 3%.

A wide range of wire diameters are available.

General purpose flux leaves dry and non-sticky residue. In use its odour is typically that of rosin fluxes.

Flux Properties

Acid Value	170mgKOH/g
Halide	<0.5%
SIR Test (without cleaning)	Pass
J-STD-004 Classification	
J-STD-004	ROL1
EN29451-1	1.1.2

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