

# Ultrapure High-Reliability Extruded Solder for Lead-bearing and Lead-free Alloys



## Product Description

For soldering applications which require maximum reliability of solder joints, especially for surface mounted components, only solder of the highest purity is acceptable. Kester does not make any vague claims of outstanding solder purity. Complete analysis of Kester bar and wire solders prove that every batch conforms to the strictest quality control standards in the solder industry.

## Maximum Allowed Impurities

Ultrapure meets the requirements of current industry standards for allowable impurity requirements.

Element	J-STD-006C	Kester Ultrapure (lead-free)	Kester Ultrapure (lead)
Tin	Component	Balance	63.500
Lead	0.070 or Component	0.070	Balance
Antimony	0.200 or Component	0.200	0.200
Copper	0.080 or Component	0.080	0.080
Gold	0.050	0.050	0.050
Aluminum	0.005	0.005	0.005
Cadmium	0.002	0.002	0.002
Zinc	0.003	0.003	0.003
Silver	0.100 or Component	0.100	0.100
Bismuth	0.100	0.100	0.100
Arsenic	0.030	0.030	0.030
Iron	0.020	0.020	0.020
Indium	0.100	0.100	0.100
Nickel	0.010	0.010	0.010

Ultrapure will conform to these requirements when purchased directly or through stocking distributors. Kester is the only manufacturer of Ultrapure quality solder. Ultrapure conforms to the requirements of J-STD-006C formerly QQ-S-571F. DOD-STD-2000-1A (Soldering Technology, High Quality/High Reliability) states that it is the responsibility of the manufacturer to select those materials and processes that will produce acceptable high quality/high reliability products. Except where otherwise indicated, the component elements in each alloy shall deviate from their nominal mass percentage by not > 0.10% of the alloy mass when their nominal percentage is ≤ 1.0%; by not > 0.20% of the alloy mass when their nominal percentage is > 1.0% to ≤ 5.0% or by not > 0.50% when their nominal percentage is > 5.0%.

## Available Alloys

Ultrasure meets the requirements of current industry standards for allowable impurity requirements. Below is a list of typical leaded and lead-free alloys produced by Kester in bar and wire form. Other alloys can be produced and follow the same requirements.

Leaded Alloys	Melting Point
Sn62Pb36Ag2	179-183°C (354-361°F)
Sn63Pb37	183°C (361°F)
Sn60Pb40	183-190°C (361-374°F)
Sn10Pb88Ag2	268-299°C (514-570°F)
Sn5Pb92.5Ag2.5	280°C (536°F)

Lead-Free Alloys	Melting Point
Sn96.5Ag3.0Cu0.5	217-220°C (423-428°F)
Sn96.5Ag3.5	221°C (430°F)
Sn97Ag3	221-224°C (430-435°F)
K100LD	~227°C (441°F)
Sn99.3Cu0.7	227°C (441°F)
Sn100	232°C (450°F)
Sn95Sb5	232-240°C (450-464°F)

## Storage, Handling and Shelf Life

Kester bar and wire solder has an indefinite shelf life when stored in a dry, non-corrosive environment. The surface may lose its shine and appear a dull shade of gray. This is a surface phenomenon and is not detrimental to product functionality.

Flux-cored solder wires with alloys containing more than 70% lead have a 2 year warranty from the date of manufacture. All other alloys have a 3 year warranty from the date of manufacture.

## Health and Safety

This product, during handling or use, may be hazardous to your health or the environment. Read the Safety Data Sheet (SDS) and warning label before using this product.