

Ultra Low Dross

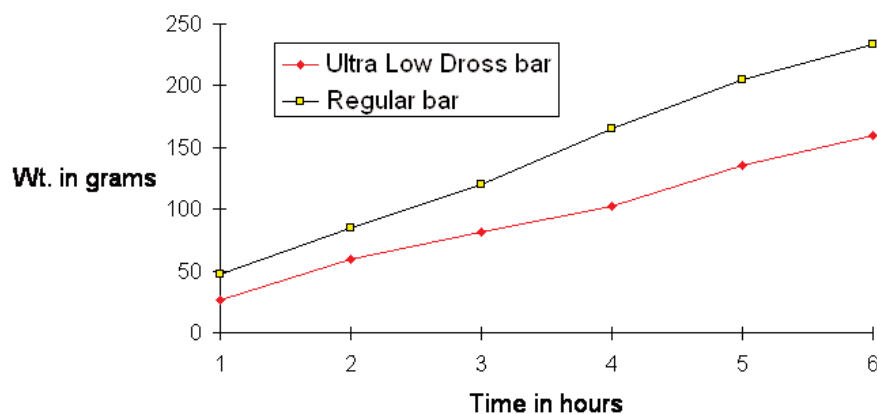
Extruded Bar Solder Using Low Dross Technology

Product Description

Kester Ultra Low Dross Bar Solder is a high quality solder developed by Kester. Kester Ultra Low Dross is designed to decrease the amount of dross generated in a wave solder, selective solder or dip solder process. Kester Ultra Low Dross is manufactured to meet and exceed the high standards of Kester Ultrapure[®] line of bar solders. In addition, Kester incorporates low dross technology to greatly reduce the amount of dross generated while in use.

When molten solder comes in contact with air, it forms a solid metal oxide or dross. These solid dross particles mix in with the solder in the upper layer of solder in the solder pot to form a pasty solder dross mixture which results in increased soldering defects. Many solder impurities have been known to contribute to dross formation. Aluminum, cadmium, iron and zinc are the most common impurities that contribute to dross formation. Kester Ultra Low Dross exceeds the requirements of current industry standards for allowable impurity levels thus eliminating any dross build up due to alloy purity. The exclusive Kester Ultra Low Dross manufacturing process goes one step further to provide a special low dross alloy. Kester Ultra Low Dross integrates low dross technology with Kester's extruded bar manufacturing process. To minimize oxidation and alloy segregation, Kester pours and quick chills ingots of solder alloy. The ingot is inserted into an airtight hydraulic press which then extrudes bars in a highly efficient and automated manner. Personnel handling Ultra Low Dross wear gloves to prevent contamination from body salts and oils. Old-fashioned methods of pouring individual small bars lacks protection from the atmosphere in the molten state and exposes more surface area which produces correspondingly more oxide. Kester Ultra Low Dross yields less dross, brighter joints, more connections per pound of solder and reduces need for touch-up.

Dross weight comparison



Results are based on an "in-house" experiment using an aerated 2000 gram solder pot at 260°C (500°F).

Available Alloys with Low Dross Properties
Sn63Pb37

Process Information

Kester Ultra Low Dross substantially exceeds the requirements of current industry standards for allowable impurity requirements.

Kester Ultra Low Dross solder will conform to these requirements when purchased directly or through stocking distributors. Kester Ultra Low Dross conforms to the requirements of J-STD-006 formerly QQ-S-571F. DODSTD- 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.

Maximum Allowed Impurities

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

| Element | J-STD-006C | Kester Ultrapure | Ultra Low Dross |
|----------|------------|------------------|-----------------|
| Tin | Component | 63.500 | 63.500 |
| Lead | Component | Balance | Balance |
| Antimony | 0.200 | 0.200 | 0.050 |
| Copper | 0.080 | 0.080 | 0.015 |
| Gold | 0.050 | 0.050 | 0.002 |
| Aluminum | 0.005 | 0.005 | 0.002 |
| Cadmium | 0.002 | 0.002 | 0.001 |
| Zinc | 0.003 | 0.003 | 0.001 |
| Silver | 0.100 | 0.100 | 0.050 |
| Bismuth | 0.100 | 0.100 | 0.020 |
| Arsenic | 0.030 | 0.030 | 0.020 |
| Iron | 0.020 | 0.020 | 0.010 |
| Indium | 0.100 | 0.100 | 0.007 |
| Nickel | 0.010 | 0.010 | 0.002 |

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 $\leq 1.0\%$; by not > 0.20% of the alloy mass when their nominal percentage is > 1.0% to $\leq 5.0\%$ or by not > 0.50% when their nominal percentage is > 5.0%.

Storage, Handling and Shelf Life

Kester Ultra Low Dross solder has no limited shelf life when handled properly. Storage must be in a dry, non-corrosive environment. The solder surface may lose its shine and appear a dull shade of gray. This is a surface phenomenon and is not detrimental to product functionality.

Health and Safety

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