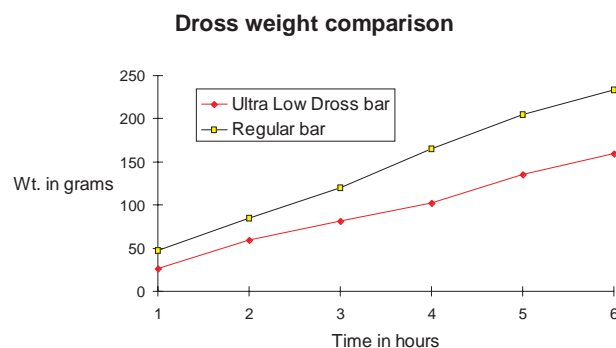


Ultra Low Dross Extruded Bar Solder Using Low Dross Technology

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 or dip solder process. Kester Ultra Low Dross is manufactured with virgin metals which meet 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 oxide or dross. This dross mixes in with the solder in the upper layer of solder in the solder pot to form a pasty solder dross mixture. 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 a very large ingot (weighing up to 250 lbs.). 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.



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

Available Alloys

Sn63Pb37

Sn96.5Ag3.0Cu0.5

Maximum Allowed Impurities

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

Element	J-STD-006	Kester E-Bar	Kester Ultrapure®	Ultra Low Dross	Ultrapure® HAL
Copper	0.080	0.020	0.015	0.015	0.001
Gold	0.050	0.002	0.002	0.002	0.001
Antimony	0.500	0.500	0.050	0.050	0.010
Cadmium	0.002	0.001	0.001	0.001	0.001
Zinc	0.003	0.001	0.001	0.001	0.001
Aluminum	0.005	0.002	0.002	0.002	0.001
Iron	0.020	0.010	0.010	0.010	0.003
Arsenic	0.030	0.020	0.020	0.020	0.001
Bismuth	0.100	0.025	0.020	0.020	0.003
Silver	0.100	0.003	0.002	0.002	0.001
Nickel	0.010	0.002	0.002	0.002	0.001
Indium	0.100	0.007	0.007	0.007	0.002
Lead	0.200	0.100	0.100	0.100	0.100

Kester Solder purchased directly or through stocking distributors will conform to these requirements. Only the highest purity virgin metals are used to make Kester Ultra Low Dross. Kester Ultra Low Dross meets or exceeds Industry Specification ASTM B32. Certain military contract reference process specifications, such as WS-6536E, require 0.2-0.5% antimony in the solder. MIL-STD-2000A, on the other hand, does not specify a minimum percentage of antimony. There is no requirement that antimony must be included in solder. Kester does not recommend the inclusion of antimony unless required by specifications. Kester Ultra Low Dross conforms to the requirements of J-STD-006 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.

Storage 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 & 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.

World Headquarters: 515 E. Touhy Avenue, Des Plaines, Illinois, 60018 USA

Phone: (+1) 847-297-1600 • **Email:** customerservice@kester.com • **Website:** www.kester.com

Asia Pacific Headquarters

500 Chai Chee Lane
Singapore 469024
(+65) 6449-1133
customerservice@kester.com.sg

European Headquarters

Ganghoferstrasse 45
D-82216 Gernlinden
Germany
(+49) 8142-47850
customerservice@kester-eu.com

Japanese Headquarters

20-11 Yokokawa 2-Chome
Sumida-Ku
Tokyo 130-0003 Japan
(+81) 3-3624-5351
jpsales@kester.com.sg