

# ALPHA® HiFLO

## High Fluidity Bar Solder

### DESCRIPTION

HiFlo solder is manufactured with virgin metals process through Alpha's proprietary viscosity and dross lowering treatments which create the purest, lowest drossing, highest fluidity solder. HiFlo is then alloyed and cast in a closed-loop injection system under a nitrogen blanket which leaves it free of cast-in impurities and included oxides. This enhances its low drossing characteristics.

### FEATURES & BENEFITS

#### Features:

- Increases production speed
- Minimizes drossing
- Reduces icicling
- Solders at lower temperature
- Selective control of raw materials
- Unique process for pot monitoring and analysis
- Proprietary pot treatments for control of oxides & viscosity
- Reduces production cost
- Reduces bridging
- Solders densely populated boards
- Increases yield
- Nitrogen inerted molten casting process
- Proprietary control of trace elements to inhibit the formation of dross

#### Benefits:

- Decreases wetting force required to wet out pads & thru-holes
- Decreased bridging in fine pitch technology
- Smaller fillets yield more joints per pound
- Lowers dross generation
- Easier inspection & less rework / touch-up due to brighter solder joints
- Significantly improves throughput
- Better peel off at wave exit
- Compensates for board design that causes shadowing & reduces solder skips
- True parabolic shaped fillets
- Extends pot life by allowing lower operating temperature
- Decreases solder defects
- Reduces surface tension in nitrogen blanket soldering equipment

### APPLICATION

HiFlo is the ideal companion product for all wave soldering systems including inert atmosphere equipment. When used to solder Surface Mount Technology (SMT), fine pitch, or densely populated boards, the lowest defect rates and highest number of solder joints per pound possible are achieved. HiFlo's high purity and fluidity reduces rework by minimizing bridging, icicling, and other causes of defective joints and can be used at lower operating temperatures.

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# ALPHA<sup>®</sup> HiFLO<sup>®</sup>

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## TECHNICAL SPECIFICATIONS

The following indicates the alloy and impurity specification limits for HiFlo solder in relation to J-STD-006 and ASTM B-32-89. The values are maximum limits unless otherwise indicated.

ELEMENT	J-STD-006	ASTM B-32-89	HiFLO
Sn	62.5-63.5	62.5-63.5	63.0 Normal
Pb	Balance	Balance	Balance
Sb	0.5 max	0.5	**
Cu	0.08 max	0.08	.001
Au	0.05 max	N/A	.001
Ag	0.10 max	0.015	.001
Al	0.005 max	0.005	.001
As	0.03 max	0.03	.001
Bi	0.10 max	0.25	.001
Cd	0.002 max	0.001	.001
In	0.10 max	N/A	.001
Fe	0.02 max	0.02	.001
Ni	0.01 max	N/A	.001
Zn	0.003 max	0.005	.001
S	N/A	0.0050	.001
P	N/A	0.010	.001
Oxides	N/A	N/A	***

\*\*QQS-571/ASTM B-32-89 or customer specification

\*\*\* Passes Alpha Dross Inclusion Test

## AVAILABILITY

HiFlo is provided as Sn63 in a 1.75 lb bar that is readily identified by its special shape and markings, in 50 lb cartons. This allows easy material segregation and identification.