

SN42/BI58 LEAD-FREE SOLDER ALLOY

FEATURES

- Lead-Free Alloy
- Eutectic Alloy
- Low Melting Point 138°C (280°F)
- High Purity

DESCRIPTION

Sn42/Bi58 is composed of 42% tin and 58% bismuth. Typical applications include second-solder reflow for circuit board assembly, as well as other low temperature soldering requirements. This alloy is available in solder paste, solid and cored wire, foil, powder, bar, ingot and anode. Sn42/Bi58 has a eutectic melting point of 138°C (280°F).

IMPURITY LEVELS TO IPC-J-STD-006 IN PERCENT

Impurity Levels To IPC-J-STD-006 In Percent			
Ag: 0.05	Pb: 0.10	Cu: 0.08	In: 0.10
Al: 0.005	Au: 0.05	Sb: 0.05	Ni: 0.01
As: 0.03	Cd: 0.08	Fe: 0.02	Zn: 0.003

MAJOR ALLOY INGREDIENTS IN PERCENT

Sn	Bi
Sn: 42 ± 0.5	Bi: 58 ± 0.5

PROPERTIES

Properties	Results
Electrical Conductivity (1.72 μΩ-cm) % of IACS	4.5
Thermal Conductivity @ 85° C W/cm-° C	0.19
Coefficient of Thermal Expansion @ 20° C PPM/° C	15
Tensile Strength PSI	8,000
Shear Strength PSI	500
Elongation %	55
Brinell Hardness	23
Latent Heat of Fusion J/g	44.8
Density g/cc	8.72

HANDLING & STORAGE

If this alloy is used in water soluble cored wire, the product will have a shelf life of 3 years. All other cored wire, solid wire, and bar solder products have an indefinite shelf life. Consult the Safety Data Sheet for specific handling procedures.

FLUX COMPATIBILITY

Sn42/Bi58 solder is compatible with most electronic grade fluxes on the market today.

CLEANING

Refer to data sheets provided by flux manufacturer.

SAFETY

Use with adequate ventilation and proper personal protective equipment. Refer to the accompanying Safety Data Sheet for any specific emergency information. Do not dispose of any hazardous materials in non-approved containers.