SCIENTIFIC ALLOYS

SPHERES IN MOTION

Technical Data Sheet

95Pb 5Sb

Physical Properties of Bulk Alloy:

Solder Alloy Composition Percentage: 95Pb-5Sb

Melting Range: 252 - 300°C

Specific Gravity: 10.95 g/cm^{-3}

Thermal Conductivity: 28 $Wm^{-1}\ K^{-1}$

Elongation (est): 29%

Coefficient of Thermal Expansion: 28 x 10^{-6}/°C

Tensile strength (est.): 30 Mpa

Hardness: 11 HB

SAC Alloy purity far exceeds typical electronic grade levels.

Application:

These spheres have very high thermal capacity and are used as packing or matrix in Regenerative Heat Exchangers/Thermal Regenerators within various types of Stirling, G-M, and Pulse Tube type cryocoolers, including second stage displacers. Their uniform shape and size provide strong geometrical arrangement in addition to precise area, volume, and porosity.

Also a semimetal, Lead Antimony is used in the semiconductor industry when reflow applications allow for ultra-clean soldering surfaces at or above 340°F (171°C).

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