Technical Data Sheet for 80au/20sn Solder Alloy

Product Name:	80Au/20Sn Solder Alloy
Composition:	80% Gold (Au), 20% Tin (Sn)
Melting Point:	Approximately 280-290°C (536-554°F)
Density:	15.9 g/cm^3
Tensile Strength:	15-25 MPa
Electrical Conductivity:	3.1 × 10^6 S/m
Thermal Conductivity:	69 W/m·K
Coefficient of Thermal Expansion:	24 × 10^-6 /°C (25-150°C)
Flux Compatibility:	Good with most common flux types
RoHS Compliance:	RoHS compliant, lead-free alloy

Product Description

80Au/20Sn is a lead-free solder alloy composed of 80% gold and 20% tin. It is commonly used in high-precision applications that require reliable joints and excellent electrical conductivity. This alloy offers a high melting point, making it suitable for applications where elevated temperatures are encountered.

Physical Properties

Melting Point: The melting point of 80Au/20Sn solder alloy ranges from approximately 280 to 290°C (536-554°F), providing a high-temperature range suitable for specific soldering operations.

Mechanical Properties

Tensile Strength: The typical tensile strength of 80Au/20Sn solder alloy ranges from 15 to 25 MPa, indicating its ability to form solder joints with moderate mechanical strength.

Electrical Conductivity: 80Au/20Sn exhibits an electrical conductivity of 3.1 × 10^6 S/m, making it suitable for applications that require excellent electrical conductivity.

Thermal Conductivity: The thermal conductivity of this solder alloy is approximately 69 W/m·K, allowing for efficient heat transfer during soldering processes.

Coefficient of Thermal Expansion: 80Au/20Sn has a coefficient of thermal expansion of 24 × 10^-6 /°C (25-150°C), ensuring compatibility with various materials and reducing the risk of thermal stress-induced damage.

Flux Compatibility

80Au/20Sn solder alloy demonstrates good compatibility with most common flux types. It readily interacts with fluxes to remove oxide layers and facilitate the wetting and bonding of solder joints.

Safety and Compliance

80Au/20Sn solder alloy is RoHS compliant, meeting the requirements of the Restriction of Hazardous Substances directive. It is a lead-free alternative to traditional tin-lead alloys, making it environmentally friendly and suitable for applications that demand compliance with RoHS regulations.

Note:

This technical data sheet is provided for informational purposes only and should not replace specific product documentation or testing. Users should consult the manufacturer's guidelines and perform their own evaluations to ensure suitability for their intended applications.