



15 Mercedes Drive
Montvale, NJ 07645 U.S.A.
Telephone: 201.791.4020
Fax: 201.791.1637
www.coininginc.com



DATA SHEET – 100 Indium

Physical Properties

Composition	99.99% min (weight per cent)
Melting Point	156.6°C
Density	7.31 Mg.m ⁻³
Hardness	0.9 HB
Thermal Conductivity	(0-100°C)(70-80) W.m ⁻¹ K ⁻¹
Coefficient of Thermal Expansion	24.8 .10 ⁻⁶ .K ⁻¹
Electrical Resistivity (20°C)	8.8 μΩ cm (below 3.41K, superconducting)

Mechanical Properties: Tensile Data

	<u>20°C</u>	<u>77 K</u>
Ultimate Tensile Strength (N/mm ⁻²)	2.7	14.5
Yield Stress (N/mm ⁻²)	1.4	5.0
Elastic Modulus	10.8-12.8	

Application:

Indium is the preferred solder for cryogenic applications and applications in which the soldering needs to be done at lower temperature. Soldering temperature for reflow should be minimal at or above 200°C for a minimal time of 20 seconds, or at above 190°C for a minimal time of 45 seconds. This assumes either very clean soldering surfaces (e.g. Ni-plated substrate with an Au-flash) and an inert atmosphere, or the presence of a reducing agent or flux during the soldering cycle. If and when the substrates are slightly oxidized, a combination with higher temperatures and/or longer soldering temperatures may be required. Due to its high malleability, indium is preferred for its excellent thermal fatigue properties.

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.