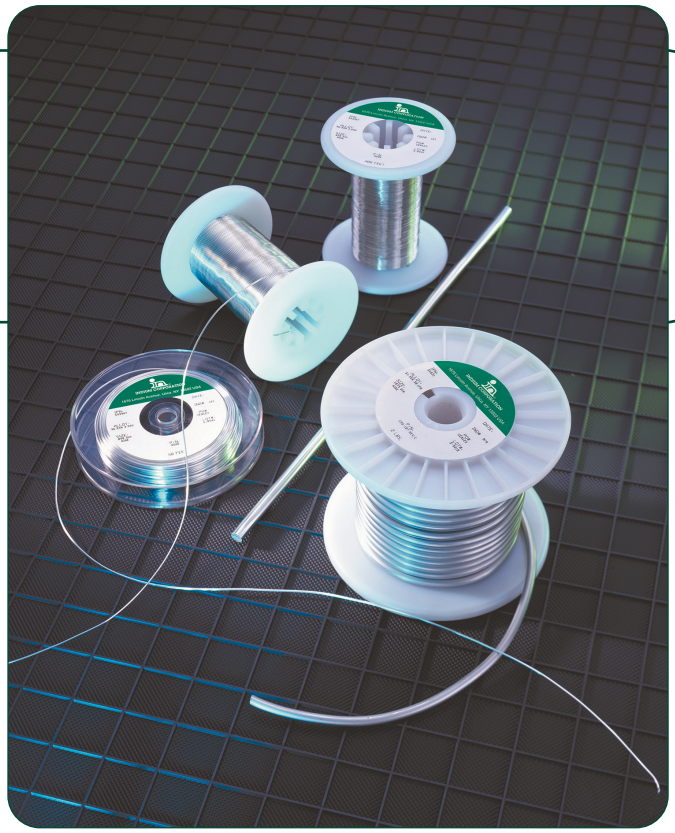
PRODUCT DATA SHEET

Solder Wire

Introduction

Solder wire from Indium Corporation is manufactured to demanding quality standards. All solder wire complies with the requirements of ASTM B-32, J-STD-006 (formerly QQS-571F), and JIS-Z-3282. Our flexible manufacturing process allows us to fulfill orders from evaluation and research quantities to full-scale production volumes.



Wire Diameters

Capabilities range from .001" (0.025mm) diameter to .250" (6.35mm) and larger. Actual dimensions achievable are subject to the properties of each metal.

We have developed standard tolerances but can work with you to accommodate any special requirements. Standard tolerances are:

Diameter	Standard Tolerance
Up to .002" (.050mm)	± .0005" (.0127mm)
>.002" (.050mm) to .010" (.254mm)	± .002" (.050mm)*
>.010" (.254mm) to .060" (1.52mm)	± .002" (.050mm)
>.060" (1.52mm) to .250" (6.35mm)	± .003" (.076mm)
>.250" (6.35mm)	± 2.5%

** Certain alloys can be manufactured with tighter tolerances by request. To learn more about tighter tolerances, please contact your Indium Corporation representative.*

Available Materials

Over 100 alloys can be made into wire, including pure indium and indium alloys, lead-free alloys, gold-tin, tin-lead, and bismuth alloys, as well as many other combinations. Melting temperatures range from 47°C (117°F) to over 364°C (687°F). We can also custom design alloys for your application. On the back of this data sheet is a table of properties for the more common alloys. For more information about our *Solder Alloy Directory*, please contact us.

Packaging

Solder wire is packaged on spools. We can create specialized packaging to meet specific needs, such as spool size, quantity per spool, or other requirements.

Storage

The shelf life of **solder wire** is determined by the alloy and its resistance to oxidation, as well as the storage container and the conditions in which it is stored.

To increase storage time and to keep surface oxidation to a minimum, store wire tightly closed in the original container at 55% RH or less, and at temperatures below 22°C. Wire can also be stored in an inert atmosphere, such as a nitrogen dry box.

Delivery

Short lead times enable you to get your order in time to meet your production schedule.

Each order can be shipped with a Certificate of Analysis, which includes information on metallic impurities. We can also provide a Certificate of Conformance when wire is made to customer specifications.

From One Engineer To Another®

PRODUCT DATA SHEET

Solder Wire

Technical and Customer Support

Indium Corporation's internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Materials Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder properties, alloy compatibility and selection of solder preforms, wire, ribbon, and paste. Indium Corporation's Technical Support Engineers provide rapid response to all technical inquiries.

Safety Data Sheets

Please refer to the SDS document within the product shipment or contact our local team to receive a copy.

Some Physical Properties of Common Solder Wire Alloys

Liquidus (°C/°F)	Solidus (°C/°F)	Indalloy® Number	Composition	Plastic Range (°C/°F)	Mass Density (gm/cm³)	Electrical Conductivity (% of Cu)	Thermal Conductivity W/cm°C @ 85°C	Thermal Coefficient of Expansion µ in/in/°C @ 20°C	Tensile Strength (psi)	Bond Holding Strength (Shear) (psi)
118/244	118/244	1E	52In/48Sn	Eutectic	7.30	11.70	0.34	20.0	1,720	1,630
138/281	138/281	281	58Bi/42Sn	Eutectic	8.56	4.50	0.19	15.0	8,000	500
143/290	143/290	290	97In/3Ag	Eutectic	7.38	23.00	0.73	22.0	800	—
154/309	149/300	2	80In/15Pb/5Ag	5/9	7.85	13.00	0.43	28.0	2,550	2,150
157/315	157/315	4	100In	Melting Point	7.31	24.00	0.86	29.0	273	890
167/333	154/309	9	70Sn/18Pb/12In	13/24	7.79	12.20	0.45	24.0	5,320	4,190
175/347	165/329	204	70In/30Pb	10/18	8.19	8.80	0.38	28.0	3,450	—
179/354	179/354	Sn62	62Sn/36Pb/2Ag	Eutectic	8.41	11.90	0.50	27.0	7,000	7,540
181/358	173/343	205	60In/40Pb	8/15	8.52	7.00	0.29	27.0	4,150	—
183/361	183/361	Sn63	63Sn/37Pb	Eutectic	8.40	11.50	0.50	25.0	7,500	6,200
210/410	184/363	7	50In/50Pb	26/47	8.86	6.00	0.22	27.0	4,670	2,680
220	217	241	95.5Sn/3.8Ag/0.7Cu	—	7.38	13.6	—	—	6,990	3,916
220/428	217/423	256	96.5Sn/3.0Ag/0.5Cu	—	7.35	13.2	—	—	5,740	—
221/430	221/430	121	96.5Sn/3.5Ag	Eutectic	7.36	16.00	0.33	30.2	5,620	—
227/441	217/423	263	99.0Sn/0.3Ag/0.7Cu	—	7.31	—	—	—	—	—
232/450	232/450	128	100Sn	Melting Point	7.28	15.60	0.73	24.0	1,900	—
260/500	240/464	10	75Pb/25In	20/36	9.97	4.60	0.18	26.0	5,450	3,520
280/536	280/536	182	80Au/20Sn	Eutectic	14.51	—	0.57	16.0	40,000	40,000
240/464	221/430	132	95Sn/5Ag	—	7.39	6.8	—	23	5,570	3,540

This product data sheet is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices. All Indium Corporation's products and solutions are designed to be commercially available unless specifically stated otherwise.

All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified.
Indium Corporation is an ISO 9001:2015 registered company.

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