

PRODUCT DATA SHEET

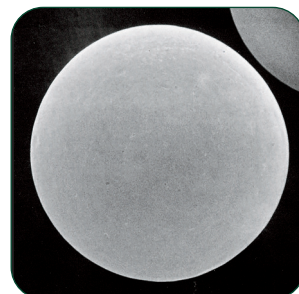
Specialty Solder Spheres

Introduction

Indium Corporation is a small- to mid-volume supplier of specialty solder spheres. We offer a very wide variety of alloys and size range capabilities from around 0.004" (100 microns) to 0.063" (1.6mm), depending on the alloy.

Specialty solder spheres are used in a variety of market segments, including medical, transportation and automotive, military and aerospace, high-end mobile, and computing. Clean manufacturing and processing ensure low-oxide levels with no organic contamination. All spheres are manufactured in IATF-16949 certified facilities.

Indium Corporation offers numerous fluxes and solder pastes designed to be compatible with the wide variety of solder alloys, die and component metallizations, and assembly processes that require solder spheres and similar engineered solder materials.



SEM Micrograph.

Typical Alloys and Diameters

Alloy Family	Typical Diameters (inches)	Typical Diameters (micron)
SAC	0.004–0.063	100–1,600
SnPb/SnPbAg	0.004–0.063	100–1,600
Indalloy®301LT	0.004–0.063	100–1,600
High-Pb	0.004–0.063	100–1,600
BiSn/BiSnAg	0.004–0.063	100–1,600
In/InAg	0.004–0.040	100–1,016
InSn/SnInAg	0.004–0.040	100–1,016
80Au/20Sn	0.004–0.040	100–1,016

- Standard tolerances for spheres are as follows:

Diameter (inches/microns)	Tolerances (inches/microns)
≥0.004 to ≤0.035 / ≥100 to ≤889	±0.001 / ±25
>0.035 to ≤0.050 / >889 to ≤1,270	±0.002 / ±51
>0.050 to ≤0.063 / >1,270 to ≤1,600	±0.003 / ±76

- Indium Corporation can supply spheres at ±0.0005" (±13µm) at customer request, depending on alloy and diameter.
- Other alloys and diameters may be available upon request.

Packaging

Typical Indium Corporation sphere packaging uses ESD-safe vials and a non-contact desiccant to ensure the spheres are kept dry; 40, 100, and 200ml jars are used. Argon purging can be carried out at customer request. Tape & reel packaging is available for 8 sphere sizes:

- 0.0157" (400µm)
- 0.020" (508µm)
- 0.022" (559µm)
- 0.024" (610µm)
- 0.028" (711µm)
- 0.030" (762µm)
- 0.035" (889µm)
- 0.062" / 0.063" (1,575µm / 1,600µm)

Shelf Life and Storage Guidelines

Sphere Alloy	Shelf Life
Au-containing	2 years
All other alloys	1 year

Solder spheres should be stored in the original container, closed securely, at or below normal room temperature (~70°F / 21°C). Ideally, store in an inert atmosphere, such as a nitrogen dry box.

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.

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.

From One Engineer To Another®

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