



## Lead-Free Solder Spheres – SAC 405

EasySpheres Sn95.5Ag4.0Cu0.5 Solder Balls are manufactured and designed to support optimized ball-attach applications of ball grid array (BGA) and chip scale package (CSP) components. EasySpheres are packaged to resist surface darkening induced by transit tumbling which offers reduced machine vision faults in ball placement systems. We package your product in medical grade ESD Safe containers. Our solder balls are compliant to J-STD-006 and are QR coded for lot conformance traceability and shipping accuracy.



### Product Quality

All EasySpheres conform to rigorous quality inspection requirements to include, sphere size and tolerance uniformity, sphericity, alloy purity (per IPC JST006C), manufacturing date to shelf viability and storage history. Our quality initiatives include full product lot traceability for all products sold worldwide. Certificates of Conformance are shipped with every product sold at EasySpheres. We maintain that our spheres conform to all specified manufacturing standards of IPC JSTD006C and comply to ROHS, Reach and Conflict Free Mineral Directives.

Sn95.5Ag4.0Cu0.5 Alloy Standards per JSTD-006C

Alloy Composition Analysis: Wt%															
Item per JSTD-006	Physical Property			Main Component Value						Impurities					
	Solidus	Liquidus	Specific Weight	Sn	Ag	Cu	Sb	Pb	Bi	Zn	Fe	Al	As	Cd	Other
Standard Limits	217	220	7.40	95.5±0.5	4.0±0.5	0.5±0.5	0.2000	0.0700	0.1000	0.0030	0.0200	0.0050	0.0300	0.0020	



### Product Availability

EasySpheres SAC 405 solder spheres are sold in MOQ of 10,000 spheres and we can accommodate 100's of millions of spheres as you require. Stock sizes range from .002" to .035" (0.050mm – 0.889mm) with tight industry standard dimensional tolerances.

### Dimensional Tolerances

Size Range in mm	MAX Dimensional Tolerance	Typical / Actual Measured Tolerance	Sphericity Deviation	Illuminance
0.050mm to 0.450mm	±4%	±0.50%	< 1.5%	> 270 Lux
0.500mm to 0.550mm	±4%	±1%	< 1.5%	> 270 Lux
0.600mm to 0.889mm	±4%	±.83%	< 1.5%	> 270 Lux



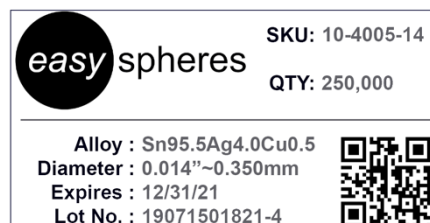
### ROHS Compliance

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive, 2011/65/EU for the stated banned substances. (Applies only if this solder sphere is combined with a lead-free alloy)



### Product Packaging

EasySpheres stores and packages all spheres in anti-static, polypropylene Jars with color coded screw top lids. Each jar holds a moisture desiccant barrier to protect against relative humidity fluctuations. Product labels include: Part Number, Quantity per Jar, Alloy, Diameter for inches and mm Date of Expiry and Lot Code Number and scannable QR code.



### Storage | Handling and Shelf Life

Shelf life is 2 years from date of purchase. Refrigeration is not recommended and does not extend shelf life. The container should remain unopened and not agitated when stored. Normal fluctuations in room temperature will not affect shelf life. Avoid contamination of spheres from contact with foreign objects such as fingers or moisture.



### Reflow Profile | Placement

Follow the reflow profile as recommended by the flux or solder paste manufacturer. This product is used in world-wide semiconductor packaging processes, which is most commonly applied in automatic ball placement machines.



### Health and Safety

This product, during handling or use, may be hazardous to health or the environment. Read the corresponding Safety Data Sheet and in adherence to all safety procedures specified before using this product.