



QUALITEK

QUALITEK® Q-PEARL SOLDER SPHERES

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Description

Qualitek® Solder Spheres are designed for higher I/O and performance-driven applications. Newer integrated circuits contain ball grid array (BGA) and chip-scale packaging (CSP) formats where solder spheres replace I/O pins. Qualitek Solder Spheres are manufactured using alloys with very low oxide levels that meet IPC-J-STD-006C requirements. Both leaded and lead-free alloys are available in several diameters.

Main Features

- ❑ Standard alloys and diameters are readily available
- ❑ Use technology that provides consistent diameters and highly spherical shapes of the spheres
- ❑ Manufactured using pure metals

ALLOY INFORMATION

	Alloy	Melting Point (°C)	Tensile Strength (kgf/mm)	Tensile Elongation (%)
Tin-Lead	Sn63/Pb37	183	4.32	32
	Sn62/Pb36/Ag2	179 - 189	4.50	48
	Sn10/Pb88/Ag2	268 - 290	3.94	15.9
	Sn10/Pb90	275 - 302	3.53	18.3
Lead-Free	LF965-30 (SAC305)	217 - 219	5.30	47
	Sn96.5/Ag3.5	221	4.18	58

BALL DIAMETER & TOLERANCE

Ball Diameter (mm/inches)	Standard Tolerance (mm)	Sphericity
0.250 / 0.010"	± 0.010	<1.50%
0.305 / 0.012"	± 0.010	
0.355 / 0.014"	± 0.015	
0.380 / 0.015"	± 0.020	
0.457 / 0.018"	± 0.020	
0.508 / 0.020"	± 0.015	
0.635 / 0.025"	± 0.015	
0.762 / 0.030"	± 0.015	
CPK	>1.33	

Application Methods

Reflow profiles are dependent on both alloy type and process. Typical lead-free or tin-lead profiles may be used as starting points for most BGA or CSP applications. Reflow profile must be optimized for each specific application. Qualitek offers both no clean and water soluble paste fluxes to hold the spheres in place during the attachment process. We recommend PF600 and PF700 for leaded and PF608 and PF708 for lead-free applications.

Packaging & Storage

Q-Pearl Solder Spheres are available in 50K per vial or in bulk quantities upon request. Recommended storage is in a clean, dry environment. Shelf life is indefinite.

Disposal

Q-Pearl Solder Spheres should be disposed of in accordance with federal, state and local authority requirements.

Qualitek® is a brand of Qualitek International, Inc. For Health and Safety Information, refer to Safety Data Sheet.