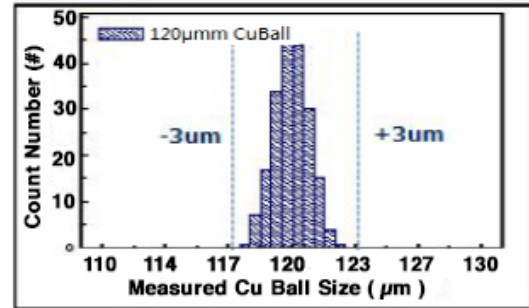


Copper core solder balls from EasySphere are non collapsible spheres used in applications where high density I/O packaging or POP process demand reliable and repeatable interconnection. With melting point of 1080 degrees C, our spheres maintain true height standoff properties under repeated reflow processes.

CROSS - SECTION

Composition

CU Core Ball	0.03 ~ 0.5mm
Ni Plating	2 - 5 μ
Sn Plating	3 - 30 μ

Thickness


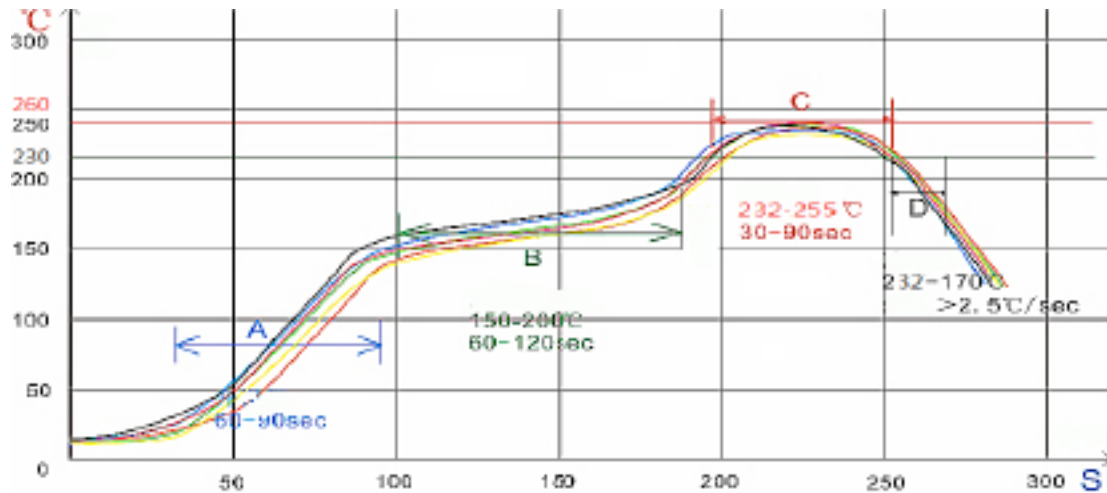
Alloy Specifications			
Alloy	Temperature	Density	Composition
Cu	1083 C	8.93	CU Content > 99.9%
Ni	1455 C	8.9	Ni Content > 99.9%
Sn	183 C	7.29	Sn Content >99.9%

EasySpheres calculates sphere diameter based on copper core size, for the purpose of determining minimum post reflow standoff height. Added barrier plating (Ni) and finish plating (Sn) (nor their tolerances) are factored into overall finished dimensions due to minute differences in thicknesses from lot to lot. Although these plating thickness differences are additive to the overall dimension of the sphere diameter, we suggest that you refer to the size specification chart found below.

Size Specifications	Core Tolerance	Barrier Tolerance	Plating Tolerance	Max Tolerance
Copper Core Diameter (mm)	(\pm) μ m (core diameter)	Barrier (Ni)	Sn Thickness	Max Accumulative Tolerances
0.030 - 0.10 mm	3-5 μ m	2-5 μ m	3 - 30 μ m	8 - 40 μ m
0.15 - 0.25 mm	5-10 μ m	2-5 μ m	3 - 30 μ m	10 - 45 μ m
0.30 - 0.55 mm	10-15 μ m	2-5 μ m	3 - 30 μ m	15 - 50 μ m
0.60 - 0.889 mm	20 μ m	2-5 μ m	3 - 30 μ m	25 - 55 μ m

Recommended Reflow Profile

Follow the reflow profile as suggested by the flux or solder paste manufacturer. A suggested Tin Lead profile is shown below. This product is used in world wide semiconductor packaging processes, which most commonly are applied in automatic ball placement machines.



Packaging and Dimensional Data

Details		Copper Core Flash Plated Spheres	
Dimensional	Sphericity Deviation < 1.5% Illuminance > 270 Lux		
Package	Package Material	Package Grade	Label
	Glass Vial or PP Bottle	Anti Static	Part Number, Description, Lot # and date of Expiry

Health

This product, during handling or use, may be hazardous to health or the environment. Read the SDS and any warning labels before using this product.