



## Copper Anodes for Plating

Luvata produces high quality copper anodes as balls, slugs, minislugs, plates and profiles in a range of sizes. These high-purity anodes are available in phosphorous or oxygen-free copper, or in different brass alloys. Our production process is both flexible and efficient, guaranteeing reliable delivery and quick turnaround.

The benefits of using Luvata anodes are:

- ◆ The high purity of the anodes means they can be used repeatedly with no loss of consistency
- ◆ Their unique surface shape ensures even dissolution
- ◆ They are not sensitive to passivation
- ◆ They tolerate higher chloride contents
- ◆ Fewer additives are needed
- ◆ The high purity levels and the uniform shape mean that less sludge is produced, and what is produced is less likely to build up



### About Luvata

Luvata is a world-leader in metal fabrication, component manufacturing and related engineering and design services. We are committed to partnering with our customers to help them increase their competitiveness. Our products and services enable our customers to improve operational efficiency, improve products and reduce tied-up capital. This focus on our customers' results, backed by our unfailing reliability, makes us a partner on which our customers base their future development.

**Phosphorous Copper Anodes**

Luvata's Phosphorous Copper Anodes have high quality plating properties and are widely used for demanding plating Printed Circuit Boards (PCB). The oxygen-free melt in the Luvata casting process gives the anodes a phosphorous content of P 0.04 – 0.06% that remains consistent from bath to bath. Phosphorous Copper Anodes are used in Acid Copper Plating Baths.

Balls	Slugs	Plates/ DogboneS	Ovals/ Hexagonals
dia	dia	Plates:	Ovals:
15, 25, 28	12x10, 12x20	100x10xlenght	51x76xlenght
40, 42, 45, 50 and 60	14x10, 14x20	100x15xlenght	with hooks
	12x8, 8x20	152x19xlenght	Hexagonals:
	25x30-40	Dogbones:	39x78xlenght
	25x25	94x34xlenght	
		with hooks	
			all dimensions mm; ask for other shapes and sizes

Typical analysis:		
Copper content:	minimum	99.99%
Phosphorous content:		0.04%-0.06%
Impurities:		
Bi, Mn	less than	1 ppm
Al, As, Ni, Se	less than	5 ppm
S	less than	10 ppm
Sb, Sn, Te	less than	5 ppm
Zn	less than	10 ppm
Ag	less than	15 ppm
Fe, Pb	less than	10 ppm



**Oxygen-Free Copper Anodes**

Our Oxygen-Free Copper Anodes are made specifically for electroplating and melting purposes. They have a high purity level (99.99% minimum) and are free of grease. Because of their cast crystal structure and even particle size, these anodes are easily dissolved and melted, and their free-flowing material allows ease of handling.

Balls	Slugs	Plates	Ovals
dia	dia	80x15xlenght	48x65xlenght
15, 25, 40 and 50	12x10, 12x20	100x10xlenght	with hooks
	14x10, 14x20	100x15xlenght	
	12x8, 8x20	152x19xlenght	
	25x30-40	152x15xlenght	
	25x25	200x10xlenght	
		200x12xlenght	
			all dimensions mm; ask for other shapes and sizes

Typical analysis:		
Copper content:	minimum	99.99%
Oxygen content:	less than	5 ppm
Impurities:		
Bi, Mn	less than	1 ppm
Al, As, Ni, Se	less than	1 ppm
S	less than	5 ppm
Sb, Sn, Te	less than	2 ppm
Zn	less than	1 ppm
Ag	less than	12 ppm
Fe, Pb	less than	2 ppm



**Brass Anodes**

Luvata's Pure Brass Anodes are made from virgin copper cathodes and zinc to guarantee purity.

Available Sizes:

Slug: 14x20 mm or 25x30-40 mm

Ball: 15 mm or 25 mm

Each delivery from Luvata is 100% traceable from order to delivery.

**Packing types all anodes**

Balls and slugs:	Plates and profiles:
in 25kg carton boxes	in 500/1000kg bundles
in 10kg plastic bags	in 500/1000 kg wooden cases
in 1000kg big bags	all packed on pallets

