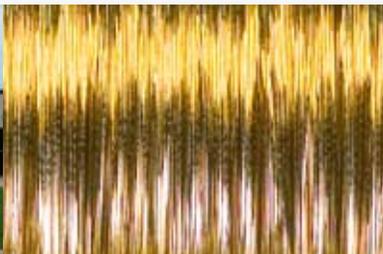




Copper alloy wire for alkaline battery applications

With unsurpassed quality and service, Luvata Appleton has become the world's leading producer of copper alloy wire for the Alkaline Battery Market. Luvata Appleton's plating capabilities are unequaled in the world and provide consistent tin-coatings produced to the strictest specifications. Luvata's processes have been developed to provide oxide-free surfaces for both pre and post plating.

In addition to comprehensive product expertise, Luvata's fully integrated processing gives our customers the added advantages of improved logistics and quicker cycle times. Luvata offers the full product range of alloys and diameters used in the manufacture of alkaline batteries with packaging options capable of fulfilling all customer requirements.



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. Because we focus on our customers' results and are unfailingly reliable, we are the partner on which our customers base their future development.

Specifications

	Alloy Designation	
		CuZn30
	H70	H65
Characteristics	C260	C270
Density	8.53 gm/cc	8.47 gm/cc
Electrical Conductivity	28% IACS	27% IACS
Ability to Cold Worked	Excellent	Good
Mechanical Properties		
Ultimate Tensile Strength	520-620 MPa	520-620 MPa
Elongation	2-12%	2-12%

IEC Battery Designation	Size	Nail Wire Diameter	
		Typical Size	Available Range (Plated Wire)
LR03	AAA	1.35 mm	0.8-2.3 mm
LR6	AA	1.50 mm	0.8-2.3 mm
LR14	C	2.00 mm	0.8-2.3 mm
LR20	D	2.25 mm	0.8-2.3 mm
LR61	9V	1.35 mm	0.8-2.3 mm

Plating: Luvata typically provides battery nail wire to the market 'pre-plated'. Plating is typically in the range of 0.5-2.0 microns of Bright Tin. Other plating thicknesses, coatings and the option of an under coat may be available upon request. Bare wire (to be post plated by the customer after nail forming) is also available.

Dimensions: Luvata holds the tightest diameter tolerances in the industry, ensuring the best fit with your seal to prevent leakage.

Chemistry: Luvata controls the impurity levels of both the base metal and plating to the lowest possible levels to minimize gassing.

Microstructure: Luvata offers a refined microstructure to provide enhanced formability, dimensional control and improved tool wear. Luvata also offers a non Zinc containing alloy for enhanced weldability. In addition, a high conductivity alloy has been developed for applications where current carrying demands are high.

Luvata Appleton is the world's leading fully-integrated manufacturer of copper-alloy wire. With technical capabilities to provide customers with solutions to improve their performance, Luvata Appleton is recognized as a leader in quality and innovation and is the supplier of choice for demanding wire applications including Alkaline Batteries, Electronics, Ammunition, Welding, Copper Infiltration, Resistance and Cold Heading.

With two manufacturing facilities located in Northeast Wisconsin, Luvata Appleton can provide a wide array of copper alloy wire products and offers over 60 alloys including Brasses, Silicon Bronzes, Tin Bronzes, Low Alloyed Coppers and Nickel-bearing alloys. Wire products are available plated or bare in a wide range of round diameters as well as in flat, square, profiled and serrated shapes.

