



A-Trode®

The universal cap electrode for resistance welding of light-to-medium gauge coated and uncoated steels

A-Trode® production

Produced by Luvata's proprietary billet casting process, A-Trode's freedom from oxygen allows us to alloy the copper with the optimum levels of chrome and zirconium. Electrodes are cold headed or machined to suit the required shape.

Luvata has a long history of supplying high quality CuCrZr (A-Trode) electrodes.

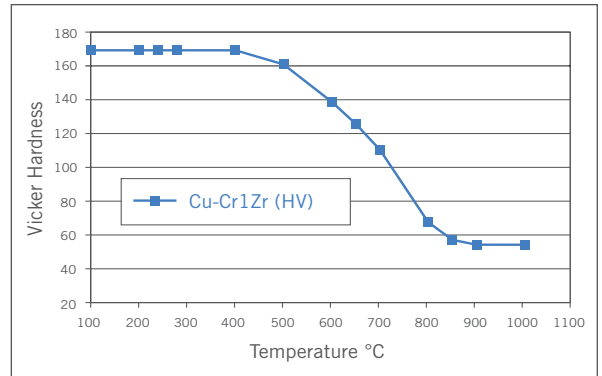


About Luvata

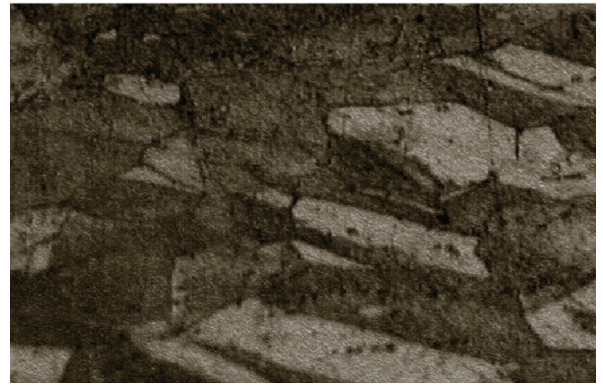
Luvata is a world leader in copper manufacturing and related engineering services. It brings together people, innovation and technology to create solutions in areas such as e-mobility, healthcare, and in electrification & the green transition. The company's success is driven by innovation, lean production and value-added sales, and its vision is to provide copper solutions which benefit people, society and the earth. Employing over 1,400 staff on four continents, Luvata works in partnership with customers such as ABB, CERN and Siemens. Luvata is a group company of Mitsubishi Materials Corporation.

Quality Properties

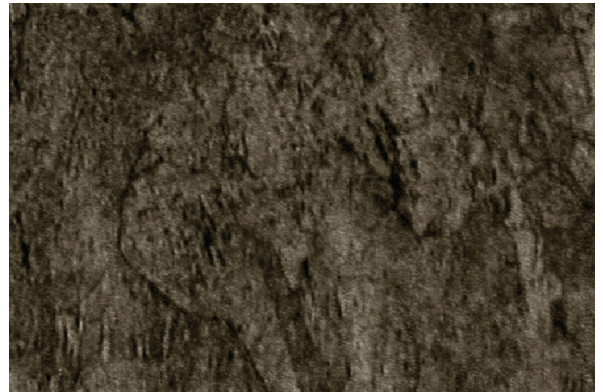
Alloy	C18150 CuCrZr, EN ISO 5182 A2/2, DIN 17666 Wn 2.1293, RWMA Class II		
Physical material properties at 20°C	Mass	8,9g/cm ³	
	Specific heat	376 J/kg.K	
	Thermal conductivity	320 W/m.K	
	Expansion coefficient (20-300°C)	17,0 x 10 ⁻⁶ m/mK	
	Softening temperature	min. 500°C	
Dimensions and tolerances	To ISO 5821 or other standards as required. Special electrodes to customer drawing.		
Packaging	Most items in cartons of 500 pieces.		
Documentation	Acceptance test certificate EN 10204 3.1 possible if desired against a charge.		
Area of application	Male and female resistance welding electrodes Backing dies - series and indirect Seam welding wheels Projection welding electrodes		



A-Trode® metallurgy



Conventional CuCrZr grain structure



Luvata's CuCrZr fine grain structure

Mechanical Properties

Form of supply	Tensile strength [N/mm ²]	0.2% offset yield strength [N/mm ²]	Elongation AS [%]
Electrodes	≥ 490	≥ 430	≥ 15

Physical Properties

Hardness at ambient temperature	Minimum 75 HRB
Conductivity	Minimum 80% IACS

Errors and omissions excepted. Values given are published industry material standards.

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