

Cu-based covered electrode

Classification

AWS A5.6 :ECuMnNiAl
 DIN 8555 :E 31-UM-300-CN

Temperature Range

Pressure parts
 Oxidation resistance

General description

It is applied for deposit of high resistant layers on surfaces of hot stamps and extruders which, even under considerable loading, shouldn't leave wear tracks on surfaces of deformable details. Mainly, it is applied in automotive industry (car body stamps, stamps of deep stamping, etc.). Layers are deposit on details made of bronze, as well as of cast and usual steel.

Welding positions



ISO/ASME PA/1G PB/2F PC/2G

Current type

DC electr. +

Chemical composition (w%), typical, all weld metal

Cu	Others
99	1

Mechanical properties, all weld metal

		Condition	0.2% Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	HB	Hardness
Required	DIN 8555	AW				225-275	
Typical values after welding		AW	1180	660	8	300	

Packaging, available sizes and identification

	Diameter (mm)	2.5	3.2	4.0	5.0
	Length (mm)	300	350	350	350
		146	93	83	33
		2.5	2.5	3.2	2.5

Identification Imprint: Elecu® BCu Tip colour:

Elecu® BCu : rev.EN 20

Materials to be welded

W.Nr.	DIN
2.0916	CuAl5
2.0928	G-CuAl9
2.0920	CuAl8
3.0460	CuZn20A2

Calculation data

Size Diam.x length (mm)	Current range type (A)	Current t	Arc time - per electrode at max.current - (s)*	Energy E (kJ)	Dep.rate H (kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal (pcs)	kg Electrodes/ kg weldmetal (1/N)
2.5x300	50-70	DC+						
3.2x350	90-110	DC+						
4.0x350	130-150	DC+						
5.0x450	150-200	DC+						

* stub end = 35 mm

Application advice

Redry for 2h at 250°C. Before welding joints have to be cleaned from oil and cracks.

Recommendations:

- electrode with small declination (10-20°) along-track direction;
- welding with short arc.

For improvement of deposit degasifying the low speed of welding is applicable. Heavy parts (sections are higher than 6 mm) have to be previously heated to 150-250°C.