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Deoxidized Copper Electrode

◆ INTRODUCTION

Aufhauser Deoxidized Copper electrodes are manufactured from deoxidized copper wire to provide the best mechanical and metallurgically sound joints. The deposit is free of porosity and gives a tensile strength similar to that of most commercial copper types. Reactions with hydrogen in oxygen-free copper, and the segregation of copper oxide in tough pitch copper may detract from joint efficiency. Precautions should be taken to minimize dilution effects. Preheats to 700°F may be required.

◆ APPLICATIONS

- Shielded arc welding of deoxidized coppers, oxygen-free coppers, and tough pitch (electrolytic) coppers.
- Repairing or surfacing above mentioned metals, as well as steel and cast iron.
- Clad restoration on copper-clad vessels.

◆ CHEMICAL COMPOSITION

| Copper | Zinc | Tin | Manganese | Iron | Silicon | Nickel | Phosphorus | Aluminum | Lead | Titanium |
|-----------|------|-----|-----------|------|---------|--------|------------|----------|------|----------|
| Remainder | * | * | 0.10 | 0.20 | 0.10 | * | * | 0.10 | 0.02 | --- |

Note: Copper contains Silver. All values are maximum percentage, unless shown in range. Total other elements = .50
 * these elements must be included in total of other elements.

◆ PHYSICAL and MECHANICAL PROPERTIES

| | |
|--------------------------|-----------------------------------|
| Electrical Conductivity: | Excellent |
| Machinability: | Excellent |
| Color: | Copper |
| Current Used: | DC Reverse Polarity (electrode +) |
| Tensile Strength: | 35,000 psi, max. |
| Elongation, in 4 in.: | 35% |
| Rockwell F Hardness: | 20-40 |

◆ SPECIFICATIONS MEET or EXCEED

- AWS A5.6 Class ECu
- ASME SFA5.6

◆ STANDARD SIZES AND DIAMETERS

| Diameters | Lengths | Amperage |
|-----------|---------|----------|
| 3/32 | 12" | 70-90 |
| 1/8 | 14" | 90-120 |
| 5/32 | 14" | 110-140 |
| 3/16 | 14" | 110-140 |

◆ MOST COMMON BASE METALS

| CDA / UNS | DIN |
|-----------|-------|
| C10100 | OF-Cu |
| C11000 | E-Cu |
| C10300 | SE-Cu |
| | SW-Cu |
| C11020 | F-Cu |
| C12200 | SF-Cu |

Copper and its alloys require a relatively high heat input with shortened welding time. Higher preheat temperatures and faster welding rates than for steel are necessary.