

## Electrode for Copper Alloy (TIG Welding)

# H C U - 8 A N T

### ■ Application

Anti scuffing for mold.  
 Welding of parts of pressure equipment, turbine and high pressure valve.  
 Overlaying of sliding abrasion area such as bearing, gear and marine propeller.

### ■ Features

- HCU-8ANT is TIG welding electrode made by special aluminum bronze. The deposited metal shows excellent toughness.
- The deposit metal has very dense  $\alpha + \beta$  phase. This structure shows excellent corrosion resistance and high hardness. These characteristics are suitable for overlaying on drawing area of the mold and sliding abrasion area of the machine.
- The hardness of the weld metal is about HV250 in second layer because of iron dilution. It becomes HV180 in 3rd or higher layer. Its hardness can be increased by work hardening.

### ■ Welding Procedures

- Preheating is not necessary if the aluminum bronze base metal is small and contains low aluminum (less than 9%). If the base metal is large, 150~200°C preheating and inter pass temperature are necessary. If aluminum content is high as well, 370~420°C preheating and interpass temperature are required.
- About 200°C preheating makes multilayer welding easy especially when lower layer bead is cool.

### ■ Typical Chemical Components of the Electrode (%)

Cu	Mn	Fe	Ni	Al
Remain	0.5~2.0	2.0~4.0	0.5~2.0	7.0~10.0

### ■ Typical Mechanical Properties of the Deposited Metal as welded

Tensile Strength N/mm <sup>2</sup> (Kgf/mm <sup>2</sup> )	Elongation (%)	Hardness (HV)
525 (53.6)	35	160~200

### ■ Dimensions

Diameter (mm)	Length (mm)	Minimum Quantity (Kg)
1.6 2.0 2.4 3.2	1,000	5

Equivalent to electrode for shielded metal arc welding: HCU-8AN  
 Equivalent to wire for MIG welding: HCU-8ANS