Technical Data Sheet

AMPCO-TRODE® 46

Description and Application
AMPCO-TRODE 46 nickel-aluminum bronze spooled wire, bare rod and coated electrodes were developed for the welding of cast and wrought nickel-aluminum bronze. AMPCO-TRODE 46 is also recommended for weld repairing NiBral boat propellers.

Typical Applications
ship fittings
power plant valves
intake screens
welding AMPCO 45
oil recovery pumps
propeller gear housings
marine propulsion systems
ship propellers
piping systems
welding AMPCO 483

AMPCO-TRODE 46 Coated
Limiting Chemical Composition,
% (deposited weld metal)

Copper*	balance
Aluminum	8.50-9.50
Iron	3.0-6.0
Nickel	4.0-6.0
Manganese	0.50-3.50
Silicon	1.5 max.
Others	0.50 max.

*including silver

Mechanical Properties
(nominal all-weld metal values)

Tensile Strength, ksi	99 (683 MPa)
Yield Strength, ksi	58 (400 MPa)
Elongation, % in 2" (51 mm)	25
Reduction of Area, %	22
BHN (3000kg.)	
1/4" (6.4 mm) deposit	187

Specifications
AWS A5.6 Class E CuNiAl
ASME SFA 5.6 Class E CuNiAl

AMPCO-TRODE 46 Bare
Limiting Chemical Composition,
% (filler metal)

Copper*	balance
Aluminum	8.50-9.50
Iron	3.0-5.0
Nickel	4.0-5.50
Manganese	0.60-3.50
Silicon	0.10 max.
Others	0.50 max.

*including silver

Mechanical Properties
(nominal all-weld metal values)

Tensile Strength, ksi	104 (718 MPa)
Yield Strength, ksi	59 (407 MPa)
Elongation, % in 2" (51 mm)	23
Reduction of Area, %	22
BHN (3000kg.)	
1/4" (6.4 mm) deposit	196

Specifications
AWS A5.7 Class ER CuNiAl
ASME SFA 5.7 Class ER CuNiAl
MIL-E-23765/3AType MIL-CuNiAl