

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.

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

Typical Applications

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

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

