# PRODUCT DATA SHEET

## Copper & Copper Alloy Wire

Weld Process: GMAW, GTAW and SAW and Oxy-Fuel Welding Processes

Alloy: ERCuNi  (Alloy 67)   Class  : ERCuNi

Conforms to Certification:   AWS A5.7        ASME SFA 5.7

## Alloy: DMNA067

AWS Chemical Composition Requirements

| | | | |
|---|---|---|---|
| Ni = 31.0 | Mn = 0.75 | P = 0.006 |
| Cu = Balance | Si = 0.10 | Ti = 0.35 |
| Fe = 0.55 | | |

Cu = Remainder    Ni = 29.0 – 32.0

Mn = 1.0 max      P = 0.02

Fe = 0.40 – 0.75  Pb = 0.02

Si = 0.25 max     Ti = 0.20 – 0.50

Other = 0.50 max

Deposited All Weld Metal Properties % (AW)

| | |
|---|---|
| Tensile Strength | 54,000psi |
| Yield Strength | 21,500psi |
| Elongation | 32% |

Deposited Chemical Composition % (Typical)

Deposited Charpy-V-Notch Impact Properties %

Not applicable

Application

ERCuNi (NA67) is used for gas metal and gas tungsten arc welding.  Can also be used by oxy-fuel welding of 70/30, 80/20, and 90/10 copper nickel alloys.  A barrier layer of nickel alloy 610 is recommended prior to overlaying steel with GMAW weld process.

Recommended Welding Parameters for TIG, MIG, and SAW Welding of Nickel Alloys

| Process | Diameter of Wire | Voltage (V) | Amperage (A) | Gas |
|---|---|---|---|---|
| Tig | .035 inches x 36 | 12 -15 | 60 -90 | 100% Argon |
| | .045 inches x 36 | 13 -16 | 80 - 110 | 100% Argon |
| | 1/16 inches x 36 | 14 - 18 | 90 - 130 | 100% Argon |
| | 3/32 inches x 36 | 15 – 20 | 120 -175 | 100% Argon |
| | 1/8 inches x 36 | 15 – 20 | 150 - 220 | 100% Argon |
| MIG | .035 inches | 26 – 29 | 150 – 190 | 75% Argon + 25% Helium |
| | .045 inches | 28 – 32 | 180 – 220 | 75% Argon + 25% Helium |

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| | 1/16 inches | 29 – 33 | 200 - 250 | 75% Argon + 25% Helium |
|---|---|---|---|---|
| SAW | 3/32 inches | 28 – 30 | 275 – 350 | Suitable Flux may be used |
| | 1/8 inches | 29 – 32 | 350 – 450 | Suitable Flux may be used |
| | 5/32 inches | 30 – 33 | 400 – 550 | Suitable Flux may be used |

Note: Other shielding Gases may be used for Mig and Tig welding.  Shielding gases are chosen taking Quality, cost, and Operability into consideration.

Note: Both agglomerated and fused fluxes can be used for submerged arc welding.

Note: The chemical composition of the flux mainly affects the chemistry of the weld metal and consequently its corrosion resistance and mechanical properties.

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