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# Product Data Sheet

## NICKEL ALLOY WIRE DMNA060

**Alloy: ERNiCu-7 (Alloy 60)** **Weld Process: GMAW, GTAW & SAW** **AWS A5.14 / ASME SFA 5.14**

### *Application*

ERNiCu-7 (NA60) is a copper-nickel alloy base wire for GMAW and GTAW welding of Monel alloys 400 and 404. Also used for overlaying steel after first applying Layer of 610 nickel.

### *AWS Chemical Composition Requirements*

| C | Mn | Fe | P | S | Si | Cu | Ni | Al | Ti | Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.15 max | 4.0 max | 2.5 max | 0.02 max | 0.015 max | 1.25 max | Remainder | 62.0 - 69.0 | 1.25 max | 1.5 - 3.0 | 0.50 max |

### *Deposited Chemical Composition % (Typical)*

| C | Mn | Fe | Cu | P | S | Si | Ni | Ti | Al |
|---|---|---|---|---|---|---|---|---|---|
| 0.05 | 3.45 | 0.40 | Balance | 0.008 | 0.002 | 0.77 | 65.9 | 2.25 | 0.10 |

### *Deposited All Weld Metal Properties % (AW)*

| Tensile Strength | Yield Strength | Elongation | Charpy-V-Notch Impact |
|---|---|---|---|
| 76,000psi | 51,000psi | 34.5% | Not applicable |

### *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 |
| | 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 |

### *Notes*

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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