Welding Consumable

# ERNiCr-3
# (Alloy 82)

**Solid Welding Wire or Rod** is used for GTAW, GMAW and SAW processes acc. EN 13479
Technical and mechanical properties acc. AWS 5.14

**Main Applications:**
Used for TIG, MIG and SAW welding of base materials such as ASTM B163, B166, B167 and B168 alloys which have UNS Number N06600. Suitable for applications ranging from cryogenic to high temperatures making this alloy on of the most used in the nickel family. This filler metal can also be used for dissimilar welding applications between various nickel alloys and stainless or carbon steels, as well as for overlay. ERNiCr-3 is ideal for welding in desalination plants because it is formulated to resist pitting corrosion and stress-corrosion cracking in chloride containing environments

**Standard specifications:**

| Alloy name* | Product forms | AWS | | UNS | DIN 1736 |
|---|---|---|---|---|---|
| ERNiCr-3 | MIG/TIG/SAW welding wire or rod | A5.14 | ERNiCr-3 | W06082 | 2.4806 |

Weld metal deposited by ERNiCr-3 has high strength and good corrosion resistance, including oxidation resistance and creep-rupture strength at elevated temperature

**Chemical Composition:**

| | Alloy name | Ni% (min) | Cu% (max) | Ti% (max) | Cr% | Mn% | Fe% (max) | C% (max) | Si% (max) | Nb+Ta% | S % (max) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AWS | ERNiCr-3 | 67 | 0.50 | 0.75 | 18-22 | 2.5-3.5 | 3.0 | 0.10 | 0.5 | 2-3 | 0.015 |
| **VZPS** | ERNiCr-3 | 73 | 0.05 | 0.40 | 20 | 2.8 | 1.5 | 0.04 | 0.1 | 2.4 | 0.01 |

**Mechanical properties:**
Tensile strength: min 550 MPa (80 psi)
Yield strength: 360 MPa (52 psi)
Elongation: min 30%

| Product | Diameter, mm | Length, mm | Packing |
|---|---|---|---|
| Welding wire (MIG) | 0.8, 1.0, 1.2, 1.6, 2.0, 2.4, 2.5, 3.2 | – | S300/K300 |
| Welding rods (TIG) | 2.0, 2.5, 3.2, 4.0, 5.0 | 915 – 1000 | Box |
| Electrode core wire | 2.0, 2.5, 3.20, 3.25, 4.0, 5.0 | 250, 300, 350, 400, 450, 500 | Box |

** Other rods length available

**Condition of Supply:**
Binary Nickel-Iron (Ni-Fe) and Ni based complex welding alloys are supplied in welding rod and wires in standard length or length up to the consumers' request. For normal service conditions, the chemical compositions are available in various Ni contents according to the most of American and European standards.





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