

NICROTIG 600

TIG Rods [GTAW]

Nickel alloys

| CLASSIFICATION: | APPROVALS: | APPLICATION: |
|--|------------|---|
| EN ISO 18274-A : S Ni 6082 (NiCr20Mn3Nb) DIN 1733 : SG NiCr20 Nb AWS A-5.14 : ER NiCr-3 | CE, TUV | Power generation industry Constructions & Engineering Petrochemical and chemical industry |

- Nickel based wire used for welding nickel alloys (such as alloy 600 and alloy 601) and for joining austenitic and ferritic steels operating at temperatures exceeding 300°C and for dissimilar joints.
- Connections of nickel alloy steels with austenitic steels, nickel alloys with ferritic steels and austenitic steels with ferritic steels.
- It is used in joints of dissimilar carbon-manganese steels and unalloyed steels.
- High resistance to oxidation at high temperatures. High resistances in sulfur-free atmospheres.
- Resistant to thermal shocks.
- It is not susceptible to brittleness, carbon diffusion at elevated temperatures is significantly inhibited.
- Corrosion resistant, fully austenitic, low coefficient of thermal expansion.

Application

Chemical industry: heaters, condensers, trays. Heat treatment industry: muffs, retorts, baskets, furnace accessories. Nuclear, aviation industry. Reactor vessels and heat exchanger tubes used in the production of vinyl chloride. Process equipment used in the production of chlorinated and fluorinated hydrocarbons. Seals, fans and retort furnace equipment. Roller furnaces and radiant tubes, especially in coal nitriding processes. Linings for barges and road tankers. Production of gasoline stabilizers, phenolic condensers, production of soap, vessels for the production of fatty acids. Industrial chemical evaporators, industrial acid and alkali equipment, afterburner parts and other components used in high temperature, vacuum furnace equipment, alkaline cookers, catalyst regenerators in chemical production. Consumable material for welding dedicated alloys, cryo steel, for welding dissimilar joints, hardfacing.

Base material

| DIN | W.Nr. | ASTM |
|-------------------|--------|----------------|
| NiCr20Ti | 2.4630 | |
| NiCr21TiAl | 2.4631 | |
| NiCr15Fe7TiAl | 2.4669 | |
| NiCr15Fe | 2.4816 | B168-Alloy 600 |
| LC-NiCr15Fe | 2.4817 | Alloy 600L |
| NiCr23Fe | 2.4851 | Alloy 601(H) |
| NiCr6015 | 2.4867 | |
| NiCr8020 | 2.4869 | |
| NiCr10 | 2.4870 | |
| NiCr10Ti | 2.4951 | Alloy 75 |
| 12Ni14 | 1.5637 | |
| X8Ni9 | 1.5662 | |
| 12Ni19 | 1.5680 | |
| X12CrNi 18 9 | 1.6900 | |
| GX8CrNi 18 10 | 1.6901 | |
| X10CrNiTi 18 10 | 1.6903 | |
| X5CrNi 18 10 | 1.6906 | |
| NiCr20TiAl | 2.4952 | Alloy 80A |
| X10NiCrAlTi 32 20 | 1.4876 | Alloy 800/800H |
| X12NiCrSi 36 16 | 1.4864 | 330 |

| | | |
|------------------|--------|----|
| GX40NiCrNb 35 25 | 1.4852 | |
| GX40NiCrSi 35 25 | 1.4857 | HP |

Typical chemical composition %

| | | | | | | |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| C | Si | Mn | Cr | Ni | Nb | Fe |
| 0,02 | 0,20 | 2,8 | 19,5 | >67 | 2,5 | <2,0 |

Typical mechanical properties

| | |
|---|---------------------------------|
| Yield strength Re [N/mm2] | >380 |
| Tensile strength Rm [N/mm2] | >620 |
| Elongation A5 [%] | >35 |
| Impact energy Kv [J] | >90J (20°C) / |
| Shielding gases acc. to EN ISO 14175 | I1 - Ar / I3 - Ar + >0-95% He / |

Welding parameters and packing

| ∅ | Length [mm] | Weight of packet [kg] |
|-----|-------------|-----------------------|
| 1,6 | 1000 / | 5,0 |
| 2,0 | 1000 / | 5,0 |
| 2,4 | 1000 / | 5,0 |
| 3,2 | 1000 / | 5,0 |
| 4,0 | 1000 / | 5,0 |

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