TIG rods, nickel-base

Brand Standard AWS Standard EN ISO	Chemical Composition (%) Typical Values	Mechanical Properties Typical Values	Ø x L (mm)	Approvals	Characteristics and Applications
THERMANIT NICRO 82 AWS A5.14: ERNiCr-3 EN ISO 18274: S Ni 6082 (NiCr20Mn3Nb)	C: 0.02 Si: 0.1 Mn: 3.0 Cr: 20.0 Ni: >67.0 Nb: 2.5 Fe: <2	UTS: 620 MPa YS: 400 MPa El: 35% CVN Impact: +20°C: 150J -269°C: 32J	1.6 x 1000 2.0 x 1000 2.4 x 1000 3.2 x 1000	TÜV, DB, DNV·GL, CE	Stainless; heat and high temperature resistant. Good toughness at subzero temperatures as low as –269°C (–452°F). Good for welding austenitic ferritic joints. No Cr carbide zone that becomes brittle in the ferrite weld deposit transition zone, even as a result of heat treatments above 300°C (572°F). Good for fabricating tough joints and surfacing with heat resistant Cr and CrNi steels and Ni-alloys.
THERMANIT 625 AWS A5.14: ERNiCrMo-3 EN ISO 18274: S Ni 6625 (NiCr22Mo9Nb)	C: 0.03 Si: 0.1 Mn: 0.1 Cr: 22.0 Mo: 9.0 Ni: Bal. Nb: 3.6 Fe: ≤0.5	UTS: 740 MPa YS: 460 MPa El: 35% CVN Impact: +20°C: 120J -196°C: 100J	1.6 x 1000 2.0 x 1000 2.4 x 1000 3.2 x 1000	TÜV, DB, DNV, CE	High resistance to corrosive environment. Resistant to stress corrosion cracking. Resistant to scaling up to 1000°C (1832°F). Temperature limit: 500°C (932°F) max. in sulphureous atmospheres. High temperature resistant up to 900°C (1652°F). Good toughness at subzero temperatures as low as –196°C (–321°F). For joining and surfacing work with matching / similar corrosion resistant materials as well as on matching and similar heat resistant, high temperature resistant steels and alloys. For joining and surfacing work on cryogenic austenitic CrNi(N) steels / cast steel grades and on cryogenic Ni-steels suitable for quenching and tempering.
UTP A 068 HH AWS A5.14: ER NiCr-3 EN ISO 18274: S Ni 6082 (NiCr20Mn3Nb)	C: < 0.02 Si: < 0.2 Mn: 3.0 Cr: 20.0 Ni: balance Nb: 2.7 Fe: 0.8	UTS: > 640 MPa YS: > 380 MPa El: > 35% CVN impact: 160J -196°C: 80J	1.6 x 1000 2.0 x 1000 2.4 x 1000 3.2 x 1000	TÜV, KTA, ABS, GL, DNV	UTP A 068 HH is predominantly used for joining identical or similar high heat resistant Ni base alloys, heat resistant austenites, and for joining heat resistant austenitic ferritic materials. Also used for joining of high C content 25/35 CrNi cast steel to 1.4859 or 1.4876 for petrochemical installations with service temperatures up to 900°C. The welding deposit is hot cracking resistant and does not tend to embrittlement.
UTP A 6222 Mo AWS A5.14: ER NiCrMo-3 EN ISO 18274: S Ni 6625 (NiCr22Mo9Nb)	C: < 0.02 Si: < 0.2 Cr: 22.0 Mn: 9.0 Ni: balance Nb: 3.5 Fe: 1.0	UTS: >740 MPa YS: >460 MPa El: >30% CVN Impact: >100J -196°C: >85J	1.6 x 1000 2.0 x 1000 2.4 x 1000 3.2 x 1000* * available on request	TÜV, GL, DNV, ABS	UTP A 6222 Mo has a high nickel content and is suitable for welding high strength and high corrosion resistant nickel base alloys. It can be used for joining ferritic steel to austenitic steel as well as for surfacing on steel. It is also possible to weld 9% nickel steels using this wire due to its high yield strength. Its wide range of uses is of particular signifiance in aviation, in chemical industry and in applications involving seawater. The special features of the weld metal of UTP A 6222 Mo include a good creep rupture strength, corrosion resistance, resistance to stress and hot cracking.