Wire/flux combination, nickel-base

Brand Standard AWS Standard EN ISO	Chemical Composition (%) Typical Values	Mechanical Properties Typical Values	Ø (mm)	Approvals	Characteristics and Applications
THERMANIT NICRO 82 / MARATHON 104 SAW solid wire: AWS A5.14: ERNiCr-3 EN ISO 18274: S Ni 6082 (NiCr20Mn3Nb) SAW flux: EN ISO 14174: SA FB 2 AC	Wire C: 0.010 Si: 0.20 Mn: 3.2 Cr: 20.5 Ni: Rem. Nb: 2.6 Fe: < 2.0 Weld metal: C: 0.020 Si: 0.30 Mn: 3.0 Cr: 20.2 Ni: Rem. Nb: 2.4 Fe: < 2.0	UTS: >600 MPa YS: >380 MPa El: >35% CVN Impact: +20°C: >100J	2.4	-	Thermanit Nicro 82 / Marathon 104 is a wire flux combination for submerged arc welding. It can be applied for a large scope of base metals, like stainless and heat resistant steel grades, creep resistant and cryogenic steel grades. Also suitable for dissimilar welding (austenitic to ferritic). The weld metal shows excellent mechanical properties with high hot cracking resistance. It is mainly applied for components in chemical and in petrochemical plants. Marathon 104 is an agglomerated fluoride basic flux for submerged arc welding of stainless and heat resistant steel grades. The weld metal is characterized by high resistance to hot cracking and is recommended for the highest demanding applications.
THERMANIT 625 / MARATHON 444 SAW wire: AWS A5.14: ERNiCrMo-3 EN ISO 18274: S Ni 6625 (NiCr22Mo9Nb) SAW flux: EN ISO 14174: SA FB 2 AC	Wire C: 0.010 Si: 0.10 Mn: 0.1 Cr: 22.0 Mo: 9.0 Ni: Bal. Nb: 3.6 Fe: < 1.0 Weld metal: C: 0.012 Si: 0.16 Mn: 0.2 Cr: 21.8 Mo: 9.0 Ni: Bal. Nb: 3.2 Fe: < 1.0	UTS: ≥ 700 MPa YS: ≥ 420 MPa El: ≥ 40% CVN Impact: +20°C: ≥ 80J -196°C: ≥ 70J	1.6 2.0 2.4	TÜV, DNV GL	Thermanit 625 - Marathon 444 is a wire/flux combination for submerged arc welding. Solid wire of S Ni 6625 (NiCr22Mo9Nb) / ERNiCr-Mo-3 type for joining similar nickel-alloys and dissimilar joints between Ni-alloys with low-alloyed and stainless steels and surfacing on low-alloyed steels. Resistant to scaling up to 1000°C. Service temperature limit max. 500°C in sulfurous atmospheres, otherwise heat resistant up to 900°C. Resistant to stress corrosion cracking. Excellent resistance to general, pitting, crevice and intercrystalline corrosion in chloride containing environments. Good toughness down to –196°C. Creep rupture properties according to matching high temperature steels / alloys. Marathon 444 is an agglomerated fluoride basic welding flux with high basic slag characteristics without Cr-support. The weld metals show excellent mechanical properties with high hot cracking resistance.