UTP A 6222 Mo

nickel alloys

Classifications

TIG rod

EN ISO 18274	AWS A5.14	Material-No.
S Ni 6625 (NiCr22Mo9Nb)	ER NiCrMo-3	2.4831

Characteristics and field of use

UTP A 6222 Mo has a high nickel content and is suitable for welding high-strength and high-corrosion resistant nickel-base alloys, e.g.

1.4529	X1 NiCrMoCuN25206	UNS N08926
1.4539	X1 NiCrMoCuN25205	UNS N08904
2.4858	NiCr21Mo	UNS N08825
2.4856	NiCr22Mo9Nb	UNS N06625

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. It is highly resistant and tough even at working temperatures up to 1100 °C. It has an extremely good fatigue resistance due to the alloying elements Mo and Nb in the NiCr-matrix. The weld metal is highly resistant to oxidation and is almost immune to stress corrosion cracking. It resists intergranular penetration without having been heat-treated.

Typical analysis in %

C	Si	Cr	Mo	Ni	Nb	Fe
< 0.02	< 0.2	22.0	9.0	balance	3.5	≤ 0.5

Mechanical properties of the weld metal

Yield strength $R_{p0.2}$	*Tensile strength R_m*	*Elongation A*	*Impact strength K_V*	
MPa	*MPa*	*%*	*J [RT]*	*J [-196°C]*
> 460	> 740	> 30	> 100	> 85

Welding instructions

The welding area has to be free from inpurities (oil, paint, grease). Minimize heat input. The interpass temperature should not exceed 150 °C. Heat input < 12 kJ / cm

Approvals

TÜV (No. 03461), DNV GL, ABS

Form of delivery and recommended welding parameters

Rod diameter x length [mm]	*Current type*	*Shielding gas (EN ISO 14175)*	
1.6 x 1000	DC (–)	I 1	R 1
2.0 x 1000	DC (–)	I 1	R 1
2.4 x 1000	DC (–)	I 1	R 1
3.2 x 1000*	DC (–)	I 1	R 1

*available on request