

Classifications

EN ISO 18274	AWS A5.14	Mat. No.
S Ni 6082 (NiCr20Mn3Nb)	ERNiCr-3	2.4806

Characteristics and typical fields of application

Stainless; heat resistant; high temperature resistant. Cold toughness at subzero temperatures as low as -269 °C (-452 °F). Good for welding austenitic-ferritic joints. No Cr carbide zone that become 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 / cast steel grades and Ni-base alloys.

Temperature limits: 900 °C max. (1652 °F) for fully stressed welds. Resistant to scaling up to 1000 °C (1832 °F).

Base materials

TÜV-certified parent metals

1.4876 – Alloy 800 - UNS N08800 – X10NiCrAlTi32-20

1.4877 – X5NiCrCeNb32-27

1.4958 – Alloy 800 H – UNS N08810 – X5NiCrAlTi31-20

2.4816 – Alloy 600 – UNS N06600 – NiCr15Fe

2.4817 – Alloy 600 L – UNS N06600 – LC-NiCr15Fe

2.4851 – Alloy 601 – UNS N06601 – NiCr23Fe

Combinations of

1.4539 – X1NiCrMoCu25-20-5; 1.4583 – X10CrNiMoNb18-12

and ferritic boiler steels;

1.5662 – X8Ni9; 1.7380 – 10CrMo9-10

Typical analysis of the TIG rods (wt.-%)

	C	Si	Mn	Cr	Ni	Nb	Fe
wt-%	0.02	0.1	3.0	20.0	> 67.0	2.5	< 2

Structure: Austenite

Mechanische Gütewerte des Schweißgutes

Heat-treatment	Yield strength $R_{p0.2}$	Yield strength $R_{p1.0}$	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact work ISO-V KV J
	MPa	MPa	MPa	%	+20 °C
aw	400	430	620	35	150

Creep rupture properties: According to matching / similar high temperature resistant metals up to 900 °C (1652 °F).

Operating data				
Polarity: DC (-)	Shielding gas: (EN ISO 14175) I1	Marks: ✦ Ni 6082 / ERNiCr-3	ø (mm)	L mm
			1.6	1000
			2.0	1000
			2.4	1000
			3.2	1000
Welding instruction				
Materials	Preheating	Postweld heat treatment		
Unalloyed/low-alloy steels to austenitic CrNi(Mo,N) steels / cast steel grades	Ferritic side: according to parent metal	According to parent metal. Attention must be paid to intercrystalline corrosion resistance and embrittlement in the case of stainless austenitic steels/cast steel grades		
Heat resistant Cr steels	According to parent metal	According to parent metal		
Heat resistant CrNi steels, Ni-base alloys	None	None		
Cryogenic Ni steels	According to parent metal	According to parent metal		
Approvals				
TÜV (01703), DB (43.132.11), DNV, CE				