

Classifications

EN ISO 12153	AWS A5.34	AWS A5.34M
T Ni 6082 R M21 3	ENiCr3T0-4	TNi 6082-04

Characteristics and typical fields of application

Rutile flux cored welding wire with basic elements, especially designed for down hand and horizontal welding positions. The easy operation and the high rate of deposition of Böhler NIBAS 70/20-FD leads to high productivity, with excellent operating characteristic, self-releasing slag, almost no spatter formation and temper discoloration, smooth weld finish, good side wall wetting and safe penetration. Beside considerable savings in time and money and little demand for cleaning and pickling, Böhler also guarantees a high quality level and a reduction of welding defects. Suitable for high quality weld joints of nickelbase alloys, high temperature and creep resisting materials, scaling resistant and low-temperature steels, dissimilar joints and difficult weld able steel grades. Ferritic-austenitic joints for service temperatures above +300 °C or for applications where a post weld heat treatment is required. Suitable for pressure vessel fabrication for the service temperature range -196 °C to +550 °C, otherwise resistant to scaling up to +1200 °C (S-free atmosphere). Not susceptible to embrittlement, C-diffusion at elevated temperatures largely inhibited. Resistant to thermal shocks, corrosion resistant, fully austenitic, low coefficient of thermal expansion. Out of position weld ability is limited, in special cases pulse arc welding shows advantages.

Base materials

2.4816 Ni Cr 15 Fe, 2.4817 LC-NiCr 15 Fe, Alloy 600, Alloy 600 L

Nickel and nickel alloys, low-temperature steels up to 5 % Ni-steels, unalloyed and alloyed, high-temperature, creep resisting, , high-alloy Cr- and CrNiMo-steels particularly for joint welding of dissimilar steels, and nickel to steel combinations; also recommended for Alloy 800 (H).

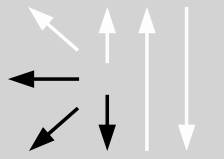
Typical analysis of all-weld metal (wt.-%)

	C	Si	Mn	Cr	Ni	Nb	Fe
wt.-%	0.03	0.4	3.2	19.5	Bal.	2.5	≤ 2.5

Mechanical properties of all-weld metal

Condition	Yield strength R _{p0,2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	-196 °C
u	400 (≥ 360)	650 (≥ 550)	39 (≥ 22)	135	110 (≥ 32)
u untreated, as welded – shielding gas Argon + 20% CO ₂					

Operating data

	Polarity:	Shielding gases:	∅ (mm)	Amps A	Voltage V
	DC (+)	Argon + 15 – 25 % CO ₂	1.2	130 – 260	24 – 36
			1.6	150 – 350	23 – 32

Welding with standard GMAW-facilities possible, slightly trailing torch position (angel appr. 80°), The gas flow should be 15 – 20 l/min

Approvals

TÜV (10298.), CE