



AMA 80-20T

AWS/ASME SFA-5.28

ER90S-B9

Description:

TIG welding wire rod that is 9Cr-1Mo wire modified with niobium (columbium) and vanadium designed to provide strength, toughness, fatigue life, oxidation resistance and corrosion resistance at elevated temperatures.

This welding wire rod is used for welding creep-resistant steels, especially for welding P91/T91 steels in turbines, tanks and thermal equipment. Its weld metal can be serviced in hot hydrogen environment, especially in oil refineries and is suitable for working conditions up to 650 °C for a long time.

Analysis of wire electrode% (typical value):

C	Si	Cr	Mn	Mo	P	S	Ni	V	Nb	N	Al	Mn+Ni
0.07-0.13	0.15-0.5	8-10.5	Max1.2	0.85-1.2	Max0.01	Max0.01	Max0.8	0.15-0.3	0.02-0.1	0.03-0.07	Max0.04	Max1.5

Shielding gas: DIN EN 439-I1 (100% Ar)

Typical Mechanical properties of all-weld metal:

Heat Treatment	Tensile Strength (N/mm ²)	Yield Strength (N/mm ²)	Elongation A5 (%)
T	750	650	19

T = Heat treatment 2 hour at 760°C, furnace cooling to 300°C



Material:

1.4903 X10CrMoVNb9-1 , GX12CrMoVNbN9-1

ASTM A 335 Gr. P91 , A 336 Gr. F91 , A 369 Gr. FP91 , A 387 Gr. 91 , A 213 Gr. T91

Diameter (mm)	Weight (kg)	Length (mm)
1 mm	5	1000 mm
1.2 mm	5	1000 mm
1.6 mm	5	1000 mm
2 mm	5	1000 mm
2.4 mm	5	1000 mm
3.2 mm	5	1000 mm
4 mm	5	1000 mm