AWS A5.20 E91T1-B9

AK E91T1-B9

Description: E91T1-B9 is a low alloy steel electrode for flux cored arc welding with external gas shielding. It is designed for single and multiple pass welding of 9Cr-1Mo steels, in all positions. This electrode contains small additions of niobium, vanadium, and nitrogen to improve long term creep properties. E91T1-B9 is used to weld 9Cr-1Mo creep resistant steels, such as A387 Gr 91 plate; A335 P91 and A369- FP91 piping; A199-T91, A200-T91, and A213-T91 tubing; A182-F91 forgings; as well as fittings and castings of similar composition. Typical applications include power plant turbine castings, valves, headers, and piping.

Typical Chemical Compostion(%):

	C	Si	Mn	S	P	Mo	Cr	Ni	V	Nb	N
Requirement	0.08-0.13	0.50	1.2	0.15	0.020	0.85-1.2	8.0-10.5	0.80	0.15-0.3	0.02-0.1	0.02-0.07
Actual Result	0.092	0.21	0.54	0.005	0.016	1.17	8.20	0.24	0.17	0.036	0.022

Typical Mechanical Properties:

	Tensile Strength (MPa)	Yield Stress (MPa)	Elongation (%)	Impact values (J)
Requirement	620-830	≥ 540	≥ 16	≥27J
Actual Result	692	570	21	45 40 42