

Classifications

EN ISO 3580-A	AWS A5.5	AWS A5.5M
E CrMo9 1 B 4 2 H5	E9015-B91H4R	E6215-B91H4R

Characteristics and typical fields of application

The basic coated CrMoVNb electrode is specially designed for welding of creep resistant tempered martensitic 9 % Cr steels used for turbine and boiler fabrication in thermal power plants as well as in the chemical industry.

Generally for vertical up welding with very good welding characteristics.

The chemical composition is optimized in order to provide a high creep resistant and ductile weld metal and is characterized by low hydrogen content and low level of trace elements. This electrode is core wire alloyed thus a very homogeneous alloy dispersal is provided.

Base materials

1.4903 – X 10 CrMoVNb 91,
ASTM A199 Gr. T91; A213/213M Gr. T91; A355 Gr. P91 (T91)

Typical analysis of all-weld metal

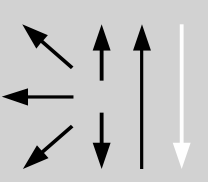
	C	Si	Mn	Cr	Mo	Ni	V	Nb	N
wt-%	0.09	0.2	0.6	9.0	1.1	0.8	0.2	0.05	0.04

Mechanical properties of all-weld metal

Heat-treatment	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
sr (760 °C / 2 h)	550	680	17	47
sr (760 °C / 4 h)	530	620	17	47

Creep rupture properties: According to base metal P91

Operating data

	Polarity:	Electrode identification:	ø mm	L mm	Amps A
	DC (+)	Chromo 9V/9015-B91/E	2.5	250	70 – 100
		CrMo91 B	3.2	350	100 – 145
			4.0	350	140 – 190
			5.0	450	160 – 240

Welding instruction

Materials	Preheating	Postweld heat treatment
200 – 250 °C / 200 – 300 °C	≤ 100 °C	760 °C / 2 h

Re-drying: 300 – 350 °C / 2 h. Not necessary straight from the tin.

Approvals

TÜV (06173), CE