

Chromet® 9-B9

TOP FEATURES

- B9 (P91) alloyed steel: Modified 9CrMo designed to weld equivalent "type 91" 9CrMo steels modified with small additions of niobium, vanadium and nitrogen for improved long term creep resistance
- Moisture resistant coatings giving very low weld metal hydrogen levels.
- Specifically designed for high integrity structural service at elevated temperature
- Weld metal chemistry is low in impurity elements allowing it to respect the X Factor (<15ppm) and J-factor (<120ppm)

TYPICAL APPLICATIONS

- Main Steam Piping
- Oil Refineries
- Coal Liquefaction and Gasification Plants
- Power Generation Plants
- Valves and Turbine Casings

CLASSIFICATION

AWS A5.5	E9015-B91 H4
EN ISO 3580-B	E 6216-9C1MV

CURRENT TYPE

DC+/AC

WELDING POSITIONS

All position, except vertical down

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

	C	Mn*	Si	S	P	Cr	Ni*	Mo	Nb	V	N	Cu	Al
Min.	0.08	0.40	not specified	not specified	not specified	8.0	0.20	0.85	0.03	0.15	0.03	not specified	not specified
Max.	0.12	0.75	0.30	0.01	0.01	10.0	0.40	1.20	0.07	0.25	0.07	0.25	0.04
Typical	0.1	0.6	0.25	0.008	0.008	9	0.3	1	0.04	0.2	0.05	0.05	0.01

*Mn+Ni≤1.0%. Nickel is below 0.4% (as parent material) although AWS allows up to 0.8%Ni. See Chromet 9MV-N or Chromet 9MVN+ for variant with 0.4–0.7%Ni conforming to ISO specification.

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Properties after PWHT		Min. *	20 °C	Typical (760 °C / 2h)		650 °C
				550 °C	600 °C	
Tensile strength	(MPa)	620	710	>450	>375	>285
0.2% Proof strength	(MPa)	530	590	>360	>255	>175
Elongation (%)	4d	17	22	-	-	-
	5d	17	20	>15	>17	>21
Reduction of area (%)		not specified	63	>68	>75	>80
Impact ISO-V (J)	+20 °C	not specified	75	-	-	-
Lateral expansion	+20 °C	not specified	1.10	-	-	-
Hardness (HV)		not specified	240	-	-	-

*Minimum strength for parent material is lower than AWS requirement shown.

OUTPUT RANGE

Diameter x Length (mm)	Current range (A)
2.5 x 350	70-100
3.2 x 350	80-130
4.0 x 450	100-170

PACKAGING AND AVAILABLE SIZES

Diameter x Length (mm)	Packaging	Electrodes/pack	Net weight/pack (kg)	Item number
2.5 x 350	CBOX	215	4.5	CH9B9-25-2
3.2 x 350	CBOX	125	4.4	CH9B9-32-2
4.0 x 450	CBOX	81	5.5	CH9B9-40-2

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

Safety Data Sheets (SDS) are available here:



Subject to Change – The information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.eu for any updated information.