

MIDALLOY MASTERCOR E91T1-B9 H4 AP FLUX-CORED WIRE

(Formerly MIDALLOY MASTERCOR E9015-B9AP FLUX-CORED WIRE)

CLASSIFICATION

- Meets AWS 5.29 -2005 Class E91T1-B9 H4 / ASME SFA 5.29 Class E91T1-B9 H4 . Prior classified as AWS/SFA 5.29-98 E91T1-G when there was no AWS class for flux-cored types of this alloy group.)

DESCRIPTION

- MIDALLOY MASTERCOR E91T1-B9 H4 AP is an “All Position” flux-cored welding wire particularly suited for pipe-welding.

APPLICATIONS

- For joining applications on higher chromium 9CrMoNb steel (Type P91), ASTM A387 Grade 91.
- These types of steels are used in piping systems where elevated temperatures and pressures are required.
- This alloy offers improved toughness and better creep properties which allow for higher steam temperatures and the use of thinner material.
- Excellent recovery of elements over a variety of parameter and positions.

TYPICAL CHEMISTRY

C	Mn	P	S	Cr	Mo	V
0.10	0.50	0.009	0.010	9.5	1.05	0.20
Cu	Al	B	N	Si	Ni	Cb
0.01	0.006	<.001	0.035	0.25	0.83	0.05

- Mn + Ni ≤1.4
- X factor < 15
- Mn/S>50

TYPICAL MECHANICAL PROPERTIES

TENSILE STRENGTH	105 KSI
YIELD STRENGTH	85 KSI
ELONGATION	20%
ENERGY ABSORPTION FT.-LBS @ 70°F	18 AVG

- Radiographic test to ASTM E142 was acceptable
- Mechanical Properties after PWHT at 1400°F + 0°F, -10°F for 4 hours
- Stress Rupture Properties: The results of the stress rupture tests were acceptable (i.e. within the +/-20% of the P-91 base material when plotted on the Larson-Miller Diagram). Conditions tested temperature 1100F, loads of 25,000 psi and 22,500 psi: also at 1200F, load of 25,000 psi and 15,000 psi.

WELDING PARAMETERS

DIAMETER	1/16”	.045”
SHIELDING GAS	25% CO ₂ / 75% Ar @ 35 CFH	25% CO ₂ / 75% Ar @ 35 CFH
AMPS & VOLTAGE SETTINGS-LOW V-UP	26V / 210 AMPS	24V / 180 AMPS
HIGH	26V / 280 AMPS	26V / 200 AMPS

- Electrode Stickout: 5/8 – 3/4
- Contact tip – slightly below gas nozzle
- DC Reversed Polarity

STANDARD PACKAGING

- 33 lb. spool

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