Inweld 312

AWS A5.9 ER312

Chemical Composition of Inweld 312

Fe	C	Cr	Ni	Mo	Mn	Si	P	S	N	Cu
Balance	0.15	28.0-32.0	8.0-10.5	0.75	1.0-2.5	0.30-0.65	0.03	0.03	---	0.75

Single values are maximum unless otherwise specified.

Description and Applications

Inweld 312 is used on "difficult-to-weld" steels such as air-hardening, medium and high carbon steels, manganese-hard steel, armor steel, spring steel, rail steel, nickel clad steel, tool & die steel and aircraft steel. Inweld 312 is often used as a wear resistant build-up and "buffer" layer in hardfacing applications. When welding similar resistant build-up and "buffer" layer in hardfacing applications. When welding similar cast alloys be sure to limit the weld deposit to only two or three layers. The perfect steel wire to use where the base metal is an unknown grade of steel.

Typical Weld Metal Properties

	AWS Spec
Tensile Strength:	120,000 psi
Yield Strength:	85,000 psi
Elongation:	45%

Recommended Parameters

GMAW (DCEP – Electrode+) short circuit transfer: 98% Argon 2% Oxygen; Spray transfer: Trimix 90% Helium, 7.5% Argon and 2.5% Carbon Dioxide.

Wire Diameter	Voltage	Amperage	Wire Feed IPM
0.030"	24-28	140-180	150-430
0.035"	26-29	160-210	120-400
0.045"	28-32	180-250	100-240
1/16"	29-33	200-280	

GTAW (DCEN – Electrode -) 100% Ar 2% Thoriated, 2% Ceriated or Lanthanum Tungsten Electrode

Wire Diameter	Voltage	Amperage
0.035"	12-15	60-90
0.045"	13-16	80-110
1/16"	14-18	90-130
3/32"	15-20	120-175
1/8"	15-20	150-220

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