

INCO-WELD® 312 is a premium stainless steel wire with excellent operator appeal. The alloy is used primarily for welding of dissimilar base materials due to its high ferrite potential, which eliminates cracking tendencies caused by excessive dilution.

*Typical Chemical Analysis (%)

Element	%	AWS Requirement
Carbon (C)	0.04	0.15 max
Chromium (Cr)	29.5	28.0-32.0
Nickel (Ni)	9.5	8.0-10.5
Molybdenum (Mo)	0.2	0.75 max
Manganese (Mn)	1.75	1.0 to 2.5
Silicon (Si)	0.5	0.30-0.65
Phosphorus (P)	0.002	0.03 max
Sulphur (S)	0.001	0.03 max
Copper (Cu)	0.1	0.75 max

*Typical Mechanical Properties

Tensile Strength	115,000 psi
Yield Strength	93,000 psi
Elongation	25%
Ferrite (WRC)	45FN

*Typical GMAW welding Parameters

	Wire Diameter	Amperage	Voltage	Shielding
Short Circuit	.035"	80-160	14-22	90% He + 7½% Ar + 2½ O2
	.045"	110-220	15-23	90% He + 7½% Ar + 2½ O2
	.062"	130-250	16-23	90% He + 7½% Ar + 2½ O2
Spray Transfer	.035"	175-250	23-26	Ar + 2% O2
	.045"	225-325	24-29	Ar + 2% O2
	.062"	300-425	26-30	Ar + 2% O2

Approvals

AWS A5.9 ER312
ASME SFA 5.9

Available Sizes and Packaging

GTAW		GMAW		SAW	
Diameter	Packaging	Diameter	Packaging	Diameter	Packaging
1/16	10 lb. Tubes in	.030	30 lb. Spools/ Wire Baskets	3/32	60 lb. Coils
3/32		.035		1/8	
1/8	1 m Lengths	.045		5/32	
5/32		1/16			

*All information listed is provided as typical values and may differ from actual results due to variations in weld procedures. IAI disclaims any liability resulting from reliance on any of the above values.

Controlled Products Group

Tel. (905) 643-6555
Fax (905) 643-6614
Toll Free 1-800-268-7203