Inweld 347-16

AWS A5.4 E347-16

Chemical Composition of Inweld 347-16

C	Cr	Ni	Mo	Mn	Si	P	S	N	Cu	Fe
0.18-0.25	14.0-17.0	33.0-37.0	0.75	1.0-2.5	0.90	0.04	0.03	---	0.75	Balance

Single values are maximum unless otherwise specified.

Description and Applications

The nominal composition of this weld metal is 19.5% Cr, 10% Ni with Cb (Nb) or Cb (Nb) plus Ta added as a stabilizer. Either of these additions reduces the possibility of intergranular chromium carbide precipitation and thus increases resistance to intergranular corrosion.

These electrodes are usually used for welding chromium-nickel alloys of similar composition stabilized either with columbium (niobium) or titanium. Electrodes depositing titanium as a stablizing element are not commercially available because titanium is not readily transferred across the arc in shielded metal arc welding. Although columbium (niobium) is the stabilizing element usually specified in Type 347 alloys, it should be recognized that tantalum also is present. Tantalum and columbium (niobium) are almost equally effective in stabilizing carbon and in providing high-temperature strength. This specification recognizes the usual commercial practice of reporting columbium (niobium) as the sum of columbium (niobium) plus tantalum. If dilution by the base metal produces a low ferrite or fully austenitic weld metal deposit, crack sensitivity of the weld may increase substantially.

Some applications, especially those involving high-temperature service, are adversely affected if the ferrit content is too high. Consequently, a high ferrite content should not be specified unless tests prove it to be absolutely necessary.

Procedure

Typical Weld Metal Properties

	AWS Spec (ksi)
Tensile Strength:	75,000
Yield Strength:	
Elongation:	30%

Recommended Parameters

SMAW (DCEP & AC)

Wire Diameter	Voltage	Amperage