SM-718

AWSA5.14 / ASME SFA5.14 ERNiFeCr-2
JIS Z3334 SNi7718 (NiCr19Fe19Nb5Mo3)

Applications

① Mainly used for welding high-strength aircraft components, liquid rocket components, jet engine parts and nuclear power plants involving cryogenic temperatures.
② Used for welding alloys 718, 706 and X-750`.

Characteristics on Usage

① This is a high-strength, high-temperature resistant and corrosion resistant nickel-chromium alloy.
It is suitable for use at cryogenic temperatures and also for use in air up to 1300℉.
The alloy is readily worked and can be age-hardened.
② Precautions should be taken with high heat input processes to avoid microfissuring.

Typical Chemical Composition of Wire (%)

C	Si	Mn	P	S	Cr	Ni	Mo	Fe	Nb+Ta	Ti
0.04	0.2	0.25	0.004	0.001	19.0	53	3.1	Rem.	5.05	1.0

Typical Mechanical Properties of All-Weld Metal (Shielding Gas: Ar+He)

YS MPa(lbs/in²)	TS MPa(lbs/in²)	EL (%)
630 (91,400)	860 (123,900)	27

Typical Welding Conditions (Pulse)

Dia (mm)	Amp (A)	Vol (V)	Cpm (cm/min)	Gas Flow (ℓ /min)	Shielding Gas
1.2	250	26	30	25	Ar +30% He
1.6	300	29	35		