DURAMAX 718 Premium Wire

Classification: **ERNiFeCr-2**

AWS A5.14 / ASME SFA5.14

Description:

DURAMAX NA718 is used for welding of alloys 718, 706, and X-750. It is mainly used for welding high-strength aircraft components, and liquid rocket components involving cryogenic temperatures. The weld metal of DMNA718 can be age hardened to higher strengths and has mechanical properties comparable to those of the base metals. The use of high heat input process in GMAW (Mig-Welding) often results in micro-fissuring.

Typical Applications:

Components for liquid fueled rockets, rings, casings and various formed sheet metal parts for aircraft and land-based gas turbine engines, and cryogenic tanks, fasteners and instrumentation parts. Can be also used for cladding and overlay of parts in the oil and gas industry.

All Weld Chemical Composition (%)

C	Mn	Fe	P	S	Si	Cu
0.08 max	0.35 max	Rem	0.015 max	0.015 max	0.35 max	0.30 max
Ni	**Al**	**Ti**	**Cr**	**Nb+Ta**	**Mo**	**TOE**
50.0 - 55.0	0.20 - 0.80	0.65 - 1.15	17.0 - 21.0	4.75 - 5.50	2.80 - 3.30	0.50 max

Mechanical Properties All Weld Metal:

Tensile Strength	Yield Strength	Elongation A (%)	
≥ 1140 MPa	≥ 800 MPa	≥ 25%	Values shown are in Age hardened condition: 1325°F (720°C) for 8 hours, then furnace cool 100°F (55°C) per hour to 1150°F (621°C) and held for 8 hours, then air cooled.

Sizes Available and Weld Parameters:

Process	Size	Volts	AMPS	Speed/Flow	Shielding Gas / Flux
GTAW	0.035	12 - 15	60 - 90	30 - 40 CFH	100% Argon
"	0.045	13 - 16	80 - 110	30 - 40 CFH	
"	1/16	14 - 18	90 - 130	30 - 40 CFH	
"	3/32	15 - 20	120 - 175	30 - 40 CFH	
"	1/8	15 - 20	150 - 220	30 - 40 CFH	
GMAW	0.035	26 - 29	150 - 190	30 - 50 CFH	75% Argon + 25% Helium
"	0.045	28 - 32	180 - 220	30 - 50 CFH	
"	1/16	29 - 33	200 - 250	30 - 50 CFH	
SAW	3/32	28 - 30	270 - 350	10 - 14 IPM	Suitable Flux
"	1/8	29 - 32	350 - 450	10 - 14 IPM	
"	5/32	30 - 33	400 - 550	10 - 14 IPM	

The above information is to be use as a guideline and is taken directly from the manufacturers Technical Data Sheet. If additional information is needed please visit our website: www.duramaxwelding.com