Alloy: COREWELD 622 | Class: ERNiCrMo-10

ERNiCrMo-10 (Alloy 622) • Weld Processes: GMAW, GTAW & SAW

CERTIFIED TO
AWS A5.14
ASME SFA A5.14

AWS CHEMICAL COMPOSITION REQUIREMENTS | DEPOSITED CHEMICAL COMPOSITION % (TYPICAL)

AWS REQUIREMENT (%)		TYPICAL DEPOSIT (%)	
C	0.015 max	**C**	0.008
Cu	0.50 max	**Cr**	21.5
Mn	0.50 max	**Ni**	Balance
Ni	Remainder	**Fe**	3.1
Fe	2.0 – 6.0	**Mo**	13.5
Co	2.5 max	**W**	3.0
P	0.02 max		
Cr	20.0 – 22.5		
S	0.01 max		
Mo	12.5 – 14.5		
Si	0.08 max		
V	0.35 max		
Other	0.50 max		
W	2.5 – 3.5		

DEPOSITED ALL WELD METAL PROPERTIES % (AW) | CHARPY-V-NOTCH IMPACT PROPERTIES %

MECHANICAL PROPERTY		CHARPY-V-NOTCH IMPACT
Tensile Strength	115,000 psi	*Not applicable*
Yield Strength	82,000 psi	
Elongation	38%	

APPLICATION

COREWELD 622 ERNiCrMo-10 is used for welding nickel-chromium-molybdenum base materials to themselves, steel and other nickel base alloys, and for cladding steels. Can be used to weld duplex, super duplex stainless steels.

RECOMMENDED WELDING PARAMETERS FOR TIG, MIG & SAW WELDING OF NICKEL ALLOYS

PROCESS	DIAMETER OF WIRE	DIAMETER OF WIRE (MM)	VOLTAGE (V)	AMPERAGE (A)	GAS
TIG					
	.035 in	0.90	12–15	60–90	100% Argon
	.045 in	1.20	13–16	80–110	100% Argon
	1/16 in	1.60	14–18	90–130	100% Argon
	3/32 in	2.40	15–20	120–175	100% Argon
	1/8 in	3.20	15–20	150–220	100% Argon
MIG					
	.035 in	0.90	26–29	150–190	75% Argon + 25% Helium
	.045 in	1.20	28–32	180–220	75% Argon + 25% Helium
	1/16 in	1.60	29–33	200–250	75% Argon + 25% Helium
SAW					
	3/32 in	2.40	28–30	275–350	Suitable flux may be used
	1/8 in	3.20	29–32	350–450	Suitable flux may be used
	5/32 in	4.00	30–33	400–550	Suitable flux may be used

Note: Other shielding gases may be used for MIG and TIG welding. Shielding gases are chosen taking quality, cost, and operability into consideration.
Note: Both agglomerated and fused fluxes can be used for submerged arc welding.
Note: The chemical composition of the flux mainly affects the chemistry of the weld metal and consequently its corrosion resistance and mechanical properties.

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