Alloy: COREWELD 2209 | Class: ER2209

Weld Processes: GMAW • GTAW • SAW (Mig, Tig & Automatic Submerged Arc)

CERTIFIED TO
AWS A5.9
ASME SFA A5.9

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

AWS REQUIREMENT (%)		TYPICAL DEPOSIT (%)	
C	0.03 max	**C**	0.016
Si	0.90 max	**Mo**	2.91
Cr	21.5 – 23.5	**Cr**	22.40
P	0.03 max	**Mn**	1.40
Ni	7.5 – 9.5	**Ni**	8.5
S	0.03 max	**Si**	0.45
Mo	2.5 – 3.5	**P**	0.014
Cu	0.75 max	**S**	0.017
Mn	0.50 – 2.0	**N**	0.18
N	0.08 – 0.20		

Typical for MIG welding with Argon + 2% oxygen and TIG welding with Argon shielding gas. Sub-arc data is dependent on the flux type used.

DEPOSITED ALL WELD METAL PROPERTIES (R.T.) | CHARPY-V-NOTCH IMPACT PROPERTIES

MECHANICAL PROPERTY		CHARPY-V-NOTCH IMPACT
Tensile Strength	105,000 psi	*Not applicable*
Yield Strength	80,500 psi	
Elongation	26%	

APPLICATION

COREWELD 2209 ER2209 is intended to weld duplex stainless steels. It exhibits high tensile strength and resistance to stress and corrosion cracking, and exhibits a low ferrite.

RECOMMENDED WELDING PARAMETERS FOR MIG, TIG & SAW WELDING OF DUPLEX STAINLESS STEEL

PROCESS	WIRE DIAMETER	WIRE DIAMETER (MM)	WIRE FEED	AMPS	VOLTS	SHIELDING GAS	GAS CFH
GMAW — Short Arc Welding (Reversed Polarity)							
	.030 in	0.80	13–26	40–120	16–20	Argon + 2% O_2	25
	.035 in	0.90	13–26	60–140	16–22	Argon + 2% O_2	25
GMAW — Spray Arc Welding (Reversed Polarity)							
	.035 in	0.90	20–39	140–220	24–29	Argon + 2% O_2	38
	.045 in	1.20	16–30	160–260	25–30	Argon + 2% O_2	38
	1/16 in	1.60	10–16	230–350	27–31	Argon + 2% O_2	38
GTAW — Tig Process (DCRP)							
	.035 in	0.90	—	60–90	12–15	Argon 100%	—
	.045 in	1.20	—	80–110	13–16	Argon 100%	—
	1/16 in	1.60	—	90–130	14–16	Argon 100%	—
	3/32 in	2.40	—	120–175	15–20	Argon 100%	—
Submerged Arc Welding (Reverse Polarity Suggested)							
	3/32 in	2.40	—	250–450	28–32	Suitable flux may be used	—
	1/8 in	3.20	—	300–500	29–34	Suitable flux may be used	—
	5/32 in	4.00	—	400–600	30–35	Suitable flux may be used	—
	3/16 in	4.80	—	500–700	30–35	Suitable flux may be used	—

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

METRACORE ALLOYS PVT LTD.
191 Nawsariwala Building, Shop No 7, Ground Floor, 2nd Kumbharwada Main Road, Near Gol Deval Temple, Mumbai – 400004
Email: sales@metracorealloys.com | Contact: +91-9167564557