

Techalloy[®] 2594

AWS ER2594

CONFORMANCES

AWS A5.9 ER2594

UNS S32750

ISO 14343:2009 25 9 4 N L



Techalloy[®] 2594 is a super-duplex grade electrode that provides matching chemistry and mechanical property characteristics to wrought super-duplex alloys such as 2507 and Zeron 100, as well as to super-duplex casting alloys (ATSM A890). The electrode is over-alloyed 2-3% in nickel to provide the optimum ferrite/austenite ratio in the finished weld. This structure results in high tensile and yield strengths and superior resistance to stress corrosion cracking (SCC) and pitting corrosion.

Applications: Process pipework, Pumps and valves, Pressure vessels

DIAMETERS / PACKAGING

Diameter in (mm)		MIG WIRE 33 lb (14.9 kg) Wire Basket	TIG WIRE 10 lb Tube (30 lb. Master Carton)	SAW WIRE 55 lb (25 kg) Coil
0.035	(0.9)	MG2594035667		
0.045	(1.2)	MG2594045667		
1/16	(1.6)		TG2594062638	
3/32	(2.4)		TG2594093638	SA2594093726
1/8	(3.2)		TG2594125638	SA2594125726

DEPOSIT COMPOSITION

	%C	%Cr	%Ni	%Mo	%Mn	%Si
Requirements AWS ER2594	0.03 max.	24.0 - 27.0	8.0 - 10.5	2.5 - 4.5	2.5 max.	1.0 max.
Typical Performance Techalloy® 2594	0.02	24.6	8.6	3.8	0.8	0.3
	%P	%S	%N	%Cu	%W	FN
Requirements AWS ER2594	0.03 max.	0.02 max.	0.20 - 0.30	1.5 max.	1.00 max.	Not Required
Typical Performance Techalloy® 2594	0.02	0.01	0.25	0.01	0.01	30 - 60

TYPICAL OPERATING PROCEDURES

Process	Diameter in (mm)	Voltage (volts)	Amperage	Gas Flow	Gas
MIG	0.035 (0.9) 0.045 (1.2)	26-29 28-32	160-210 180-250	30-50 CFH	Argon + 2-5% CO ₂
TIG	1/16 (1.6) 3/32 (2.4) 1/8 (3.2)		90 - 130 120 - 175 150 - 220	20-40 CFH	100% Argon
SAW	3/32 (2.4) 1/8 (3.2)	28-33 29-32	275-350 350-450		Lincolnweld® P2000

Material Safety Data Sheets (MSDS) are available on our website at www.techalloy.com

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

CUSTOMER ASSISTANCE POLICY

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