



Stainless Steel BARE WIRE DATA SHEET

exocor 2594

DESCRIPTION

Exocor 2594 is a “superduplex stainless steel”. The sum of the Cr + 3.3 (Mo + 0.5 W) + 16 N, known as the Pitting Resistance Equivalent , is at least 40. This number is a semi-quantitative indicator of resistance to pitting in aqueous chloride-containing environments. It is designed for the welding of superduplex stainless steels UNS S32750 and 32760 (wrought), and UNS J93380, J93404 (cast). It can be also used for the welding of UNS S32550, J93370 and J93372 when not subject to sulfurous or sulfuric acids in service. It can also be used for the welding of carbon and low alloy steels as well as to weld ‘standard’ duplex stainless steel such as UNS S32205 and J92205, especially for root runs in pipe.

Exocor 2594 provides matching chemistry and mechanical property characteristics to wrought superduplex alloys such as 2507 and Zeron 100 as well as superduplex casting alloys. The welding wire is overalloyed 2-3 percent in Nickel to provide the optimum ferrite/austenite ratio in the finished weld. This structure results in high tensile/yield strength and superior resistance to stress corrosion cracking and pitting corrosion.

TYPICAL CHEMICAL VALUES

C	Mn	Si	Fe	Cr	Ni	Cu	Mo	S	P	N
0.02	1.00	1.00	Bal	25.50	9.2	0.50	3.5	0.01	0.025	0.25

WELDING PARAMETERS

PROCESS	SIZE	VOLTS	AMPS	SPEED OF WELDING / GAS FLOW	SHIELDING GAS/FLUX
SAW	.093	29 - 32	300 – 350	30 - 50 IPM	Record IND 24
	.125	29 - 32	400 – 550	30 - 50 IPM	Record IND 24
GMAW	.035	29 - 33	160 – 180	30 - 50 CFH	98% Ar + 2% CO ₂
	.045	29 - 33	180 – 220	30 - 50 CFH	↑ Spray / Pulsed
	.062	29 - 33	210 – 250	30 - 50 CFH	Ar / 15He / 1 CO ₂ ↓
GTAW	.093	32		30 - 40 CFH	100% Ar
	.125	32		30 - 40 CFH	100% Ar

IMPORTANT: 1. Set parameters to obtain a **Heat Input** of **10,000 to 30,000 J/in** by **[H = 60 (I) (V/S)]**
 2. Pre-Heat not required; Maintain Interpass Temperature of 300°F Max.

TYPICAL MECHANICAL PROPERTIES

Tensile Strength: 123,000 PSI 850 MPA
 Yield Strength: 94,000 PSI 650 MPA
 Elongation: 28%
 Impact @ -20°C: > 27 J
 Hardness HRC*: 23-28

CLASSIFICATION

Wire chemistry has been optimized for best performance and conforms to **AWS/SFA 5.9, Class ER2594**. ISO 14343A, Class 25 9 4 N L.