



Quality Management System
In accordance with
ISO 9001
Cert # 05-R0925

2594T1-1/4 Flux Cored Wire

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ALLOY DESCRIPTION AND APPLICATION;

2594 T1-1 all-position super duplex stainless steel flux cored electrodes are equivalent to Zeron 100 (UNS S32760) used to weld 25%Cr, 9%Ni, 4% Mo, Cu duplex stainless steels. Typical application is Paper & Pulp, chemical plant/shipbuilding as well as seawater & nuclear plant industries and base metals such as S32900, 2507 (UNS S32750), S32550, S31260(DP-3), S32750, J93380 or other proprietary duplex stainless steels. It has rutile type of flux with a smooth running arc low spatter generation, easy slag removal and good weld soundness that deposits very high tensile strength, with resistance to stress, corrosion, cracking and pitting. It may also be used to weld carbon and low alloy steels to duplex as well as root runs on UNS S32205 & J92250. Welding Shielding gas 100% CO₂ or Ar+20~25% CO₂ Weld metal should have very good resistance to stress corrosion cracking and pitting with an austenite & 40-55 % ferrite matrix.

TYPICAL WELDING PROCEDURES; DCEP

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stickout	CO ₂ (cfh)
0.045	200-450	120-220	24-33	1/2-1"	35-50
1/16"	155-300	150-280	24-33	5/8-1"	35-50

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.
Interpass temperature 300° F max and heat input of 10-30 kJ/in. 75 -80 trailing torch angle

TYPICAL CHEMISTRY (%) & WELD METAL PROPERTIES

Carbon	0.04	0.03	Molybdenum	2.50-4.50	4.10
Manganese	0.50-2.5	0.90	Phosphorus	0.04	0.02
Silicon	1.00	0.54	Sulfur	0.03	0.006
Chromium	24.0-27.0	26.8	Nitrogen	0.20-0.30	0.24
Nickel	8.50-10.5	8.9	Copper	1.5	0.09

Elongation 24%
Tensile Strength (psi) 127,600 psi, 880MPa
YIELD Strength (psi) 103,675 psi, 715MPa

Iron balance and all single values are maximum percentages on the AWS ranges W=1.0 max

AVAILABLE SIZES: TSF 2594T1-1/4 = .045, 1/16"

Other sizes available – please inquire

T0 = flat and horizontal: T1 = all position: -1 is for 100% CO₂; -4 = 75-80 Ar /CO₂



SPECIFICATIONS; ANSI/AWS A5.22 E2594T1-1
ASME SFA 5.22 E2594T1-1

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