

Exaton 2594

2594 is a covered electrode with rutile-basic coating used for welding of super-duplex (austenitic-ferritic) stainless steels of UNS S32750/S32760 type. The weld metal has especially good properties under severely corrosive conditions. It has excellent stress corrosion cracking resistance in chloride containing media, excellent pitting resistance, high resistance to general corrosion, high resistance to erosion corrosion and corrosion fatigue. Spray transfer gives a bead with a finely rippled surface. There is little spatter and very good slag removal. The electrode has excellent arc stability and fast burn off rate with minimal stub loss. It is also characterized by improved moisture resistance, self-peeling slag, high resistance to porosity and easy post weld finishing. Typical applications include welding of high alloy austenitic-ferritic stainless steels such as UNS S32750 (wrought) and UNS J93404 (cast) and other super-duplex steels, 25% chromium duplex stainless steels with PRE values between 37 and 40, dissimilar joints between duplex and carbon and low-alloy steels, 2205 and corresponding duplex steels where the highest corrosion resistance is required.

Specifications

Classifications	EN ISO 3581-A : E 25 9 4 N L R SFA/AWS A5.4 : E2594-16 Werkstoffnummer : (1.4410)
Approvals	CE : EN 13479 UKCA : EN 13479 VdTÜV : 07378

Approvals are based on factory location. Please contact ESAB for more information.

Welding Current	DC+, AC
Ferrite Content	FN 35-65
Alloy Type	Austenitic-Ferritic CrNiMo
Coating Type	Rutile Basic

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
ISO			
As Welded	730 MPa (106 ksi)	900 MPa (131 ksi)	25 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
ISO		
As Welded	20 °C (68 °F)	70 J (52 ft-lb)
As Welded	-40 °C (-40 °F)	45 J (33 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
0.03	1	0.5	<=0.025	<=0.03	9.5	25	4	0.09	0.25

Typical Weld Metal Analysis %

FN WRC-92	PREN
45	>=42

Deposition Data

Diameter	Current	Voltage	Deposition Efficiency (%)	Burn-off Time /Electrode	Deposition Rate @ 90% I max
2.5 x 300.0 mm (0.098 x 11.8 in.)	55-85 A	22 V	65 %	41 sec	0.9 kg/h (2.0 lbs/h)
3.2 x 350.0 mm (1/8 x 13.8 in.)	70-110 A	22 V	63 %	67 sec	1.1 kg/h (2.4 lbs/h)

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Deposition Data					
Diameter	Current	Voltage	Deposition Efficiency (%)	Burn-off Time /Electrode	Deposition Rate @ 90% I max
4.0 x 350.0 mm (5/32 x 13.8 in.)	110-150 A	22 V	65 %	71 sec	1.4 kg/h (3.1 lbs/h)