

Exaton 2594

2594 is a high alloyed chromium-nickel-molybdenum-nitrogen covered electrode with basic coating for welding of 25%Cr- and superduplex stainless steels. The basic type of electrode combines good welding properties in all positions with high impact strength at low temperatures. The weld metal is characterized by high strength and very good corrosion resistance. Examples are: excellent stress corrosion cracking resistance, excellent pitting resistance in chloride-containing media, high resistance to general corrosion, high resistance to erosion corrosion and corrosion fatigue. 2594 is used for welding of super duplex stainless steels in service temperatures up to 280°C (536°F), where good impact strength at temperatures down to -50°C is required. Common steel types include: ISO 1.4410, 1.4501 and 1.4507; UNS: S32750, S32760, S31260 and S32550. It can also be used as overmatching consumable for 21-23%Cr duplex stainless steels.

| Specifications | |
|------------------------|-----------------------------------------------------------------------------------------|
| Classifications | EN ISO 3581-A : E 25 9 4 N L B SFA/AWS A5.4 : E2594-15 Werkstoffnummer : (1.4410) |
| Approvals | CE : EN 13479 UKCA : EN 13479 |

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

| | |
|------------------------|----------------------------|
| Welding Current | DC+ |
| Ferrite Content | FN 35-55 |
| Alloy Type | Austenitic-Ferritic CrNiMo |
| Coating Type | Basic |

| Typical Tensile Properties | | | |
|----------------------------|---------------------|---------------------|------------|
| Condition | Yield Strength | Tensile Strength | Elongation |
| ISO | | | |
| As Welded | 750 MPa (109 ksi) | 915 MPa (133 ksi) | 26 % |

| Typical Charpy V-Notch Properties | | |
|-----------------------------------|---------------------|-------------------|
| Condition | Testing Temperature | Impact Value |
| ISO | | |
| As Welded | -50 °C (-58 °F) | 45 J (33 ft-lb) |
| As Welded | 20 °C (68 °F) | 85 J (63 ft-lb) |

| Typical Weld Metal Analysis % | | | | | | | | | |
|-------------------------------|-----|-----|---------|--------|----|----|----|------|------|
| C | Mn | Si | S | P | Ni | Cr | Mo | Cu | N |
| 0.03 | 0.8 | 0.6 | <=0.025 | <=0.03 | 10 | 25 | 4 | 0.07 | 0.25 |

| Typical Weld Metal Analysis % | |
|-------------------------------|------------------|
| PRE | FN WRC-92 |
| >=42 | 40 |

| 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.) | 50-80 A | 22 V | 62 % | 50.2 sec | 0.72 kg/h (1.6 lbs/h) |
| 3.2 x 350.0 mm (1/8 x 13.8 in.) | 70-100 A | 23 V | 65 % | 58.67 sec | 1.2 kg/h (2.6 lbs/h) |
| 4.0 x 350.0 mm (5/32 x 13.8 in.) | 100-150 A | | 73 % | | 2.0 kg/h (4.4 lbs/h) |