

SM-2594

CLASSIFICATIONS :

AWS A5.4 E2594-16
ASME SFA A5.4 E2594-16
JIS Z3221 ES2594-16

SMAW ELECTRODE - STAINLESS STEEL

DESCRIPTION

SM-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).

FEATURES

Smoother arc transfer, Easier slag removal, Less Spatter.
Excellent usability in all positions welding including vertical down.
Suitable for butt and fillet welding of thin plates/sheets.
Smooth and bright weld seams, Smoother with a finer ripple bead surface.
Stable arc on AC and DC.

APPLICATIONS

Typical applications include stainless steel piping and vessels in oil and gas industry, refineries, chemical plants. This Electrode for welding 2507 and Zero on 100 Duplex Stainless Steels

CHEMICAL COMPOSITION

| | %C | %Mn | %Si | %P | %S |
|-----------------|------------|-------------|-----------|----------|-----------------|
| Requirements | 0.04 max | 0.5 - 2.0 | 1 max | 0.04 max | 0.03 max |
| Typical Results | 0.02 | 0.76 | 0.7 | 0.02 | 0.01 |
| | %Ni | %Cr | %Mo | %Cu | Nb (Cb) Plus Ta |
| Requirements | 8.0 - 10.5 | 24.0 - 27.0 | 3.5 - 4.5 | 0.75 max | - |
| Typical Results | 8.52 | 25.2 | 4.06 | 0.02 | 0.04 |

MECHANICAL PROPERTIES

| | Tensile Strength, Mpa | Yield Strength, Mpa | Elongation, % |
|-----------------|-----------------------|---------------------|---------------|
| Requirements | 760 min | - | 15 min |
| Typical Results | 900 | | 31 |

OPERATING PROCEDURES

| Polarity | Current (Amps) | | | | |
|----------|----------------|----------|-----------|-----------|-----------|
| | Ø2.0 mm | Ø2.6 mm | Ø3.2 mm | Ø4.0 mm | Ø5.0 mm |
| AC | 50 - 80 | 75 - 115 | 110 - 140 | 160 - 200 | 205 - 260 |
| DC ± | 45 - 75 | 70 - 105 | 100 - 135 | 145 - 180 | 185 - 235 |

WELDING POSITION



NOTE

1. Rebake the electrodes at 250 ~ 300°C for 1 hour and keep it at 100 ~ 150°C prior to use.
2. Use stainless steel wire brush for cleaning of slags
3. Follow the recommended welding parameters to achieve good sound welds