

## OK 68.81



OK 68.81 is a high-alloyed electrode which deposits a ferritic-austenitic duplex weld metal with approx. 40% ferrite. It is resistant to stress corrosion and is highly insensitive to dilution. Good scaling resistance up to 1150°C. OK 68.81 is used for joining dissimilar steels, steels with reduced weldability and buffer layers prior to hardfacing. Applications: rolls, forging dies, hot-work tools, dies for plastics and so on.

|                         |  |
|-------------------------|--|
| <b>Classifications:</b> | EN 14700:E Fe11, EN ISO 3581-A:E 29 9 R 3 2, SFA/AWS A5.4:E312-17, Werkstoffnummer :1.4337 |
| <b>Approvals:</b>       | CE EN 13479, Seproz UNA 272580   |

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

|                         |                  |
|-------------------------|------------------|
| <b>Welding Current:</b> | DC+, AC          |
| <b>Ferrite Content:</b> | FN 30 - 50       |
| <b>Alloy Type:</b>      | Stainless duplex |
| <b>Coating Type:</b>    | Acid Rutile      |

### Typical Tensile Properties

| Condition  | Yield Strength | Tensile Strength | Elongation |
|------------|----------------|------------------|------------|
| <b>AWS</b> |                |                  |            |
| As welded  | 610 MPa        | 790 MPa          | 25 %       |

### Typical Charpy V-Notch Properties

| Condition  | Testing Temperature | Impact Value |
|------------|---------------------|--------------|
| <b>AWS</b> |                     |              |
| As welded  | 20 °C               | 30 J         |

### Typical Weld Metal Analysis %

| C    | Mn  | Si  | Ni   | Cr   | Mo   | N    | Ferrite FN |
|------|-----|-----|------|------|------|------|------------|
| 0.13 | 0.9 | 0.7 | 10.2 | 28.9 | 0.04 | 0.09 | 40         |

### Deposition Data

| Diameter     | Current   | Voltage | kg weld metal/<br>kg electrodes | Number of<br>electrodes/kg<br>weld metal | Fusion time<br>per electrode<br>at 90% I max | Deposition<br>rate 90% I max |
|--------------|-----------|---------|---------------------------------|--|--|------------------------------|
| 2.0 x 300 mm | 40-60 A   | 22 V    | 0.64                            | 123                                      | 41 s   | 0.7 kg/h                     |
| 2.5 x 300 mm | 50-85 A   | 24 V    | 0.64                            | 78                                       | 48 s   | 0.9 kg/h                     |
| 3.2 x 350 mm | 60-125 A  | 25 V    | 0.62                            | 42                                       | 65 s   | 1.3 kg/h                     |
| 4.0 x 350 mm | 80-175 A  | 26 V    | 0.62                            | 26                                       | 66 s   | 2.0 kg/h                     |
| 5.0 x 350 mm | 150-240 A | 28 V    | 0.65                            | 17                                       | 68 s   | 3.2 kg/h                     |